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Quod Erat Demonstrandum: From Herodotus' ethnographic journeys to cross-cultural research

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Quod Erat Demonstrandum:
From Herodotus' Ethnographic Journeys to Cross-Cultural Research

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Quod Erat Demonstrandum: From Herodotus' Ethnographic Journeys to Cross- Cultural Research

Introduction and Overview

Contrary to optimistic views, entering the 21st century left many unanswerable questions and brought even more worries. What kind of society are we to face in the next few decades? How can we throw away our industrial-age remains of the 'take, make, waste' linear process? How can we resolve complexity stemming from our affluent, disconnected way of living in a dissipative structure far away from its equilibrium? Is then global similarity a solution? Diversity, amongst other complexity parameters, has been related to dissipation, *but is this so?* How could we *respect* diversity of all kinds in this new era?

A few years ago, the world-famous Greek composer Mikis Theodorakis, in despise of the Greek tendency to haphazardly resort to the ancient 'ancestors' when in need of expressing Greek culture, isolated a single element of cultural identity in Greece, to him a marker of all cultural activities and expression on this land. His basic thought was that each culture bears unique elements which can be traced throughout its history and its evolution. Following Mikis' thoughts, cultural distinctiveness—in any culture—*must* be a product of its cultural inheritance and its roots. The compass for the Chinese, the Arabic, Roman and Greek numerals—and Greek columns of the Poseidon Temple in Sunion cape, the sail-ships uniting the world, old and new, from the Americas to the Oceanic Continent, seem to be such products and are a small part of our sense of cultural distinctiveness and unification, pertaining and *encompassing both contact and diversification.*



Nothing is left to chance; nor was the unending material progress inherited to us, which has recently been described by Senge (1999) as an industrial-age relic to be discarded along with its machine metaphor, leaving space for the 'living system' image (p. 1). Fritjof Capra (2007) can remind us of the 1970's number of techniques and new mathematical language tools devised. Scientists of the time could then understand through those methods the chaotic behavior of non-linear systems as a smoke-screen of an underlying order—some pattern of relationship networks. Then, Systemic Theory journeyed through disciplines to create a set of epistemological principles that may offer answers to the unanswerable questions of western societies in regard to their levels of complexity, nonequilibrium, nonlinearity and diversity. Von Bertalanffy (1968) provided the 'open systems' term, Humberto Maturana (1978) and Francisco Varela (1979) followed with their 'autopoiesis' idea, and Fritjof Capra (2007) stated his three criteria of defining the phenomenon of life—pattern, structure and process. A holistic view of human life as a continuous interaction between ecological-cultural-socioeconomic systems and the individual psycho-social and biological characteristics has to be a fundamental premise in every scientific approach. For many decades Psychology's focus was far from culture-sensitive, but it changed radically in the 1960's to culture-interested.

Klineberg's earlier work, underlining the diversity of human behavior patterns across nations, along with the development of the "hologeistic" research studies (Yale University), and the establishment of the Human Relations Area Files in the 1930s, had set the scene (Segall, Dasen, Berry, & Poortinga, 1993) for Psychology's interest in culture. It is not then by chance that cross-cultural psychology came of age in the era of the 1960s and 1970s, and much more in the

1980s, with cross-cultural theory and research methodology and strategies expanding; these inserted “officially” the need for a global psychology and were developed significantly with two remarkable handbooks: the six volumes “*Handbook of cross-cultural psychology*” (Triandis, Lambert, Berry, Brislin, Draguns, Lonner, & Heron, 1980) and the “*Handbook of cross-cultural human development*” (Munroe, Munroe, & Whiting, 1981). Recent cross-cultural theory and research may compose a fertile ground for promoting a holistic view of human life as a continuous interaction between culture and the individual psycho-social characteristics within a ‘universe’ in which people have to solve common human problems; in such a sense, we could face the ‘similarity’ question. Simultaneously though, the development of indigenous psychologies underline psychology’s deep interest in cultural diversity, as present in the specific cultural views, theories, assumptions and metaphors emerging from people’s daily activities and behaviors. To stress this even further, the term ‘indigenous’ defines mostly ‘traditional world of beliefs and behaviors’ of the non-western type countries, but it also concerns ‘western’ psychology, being an indigenous psychology itself (Berry, Poortinga, Segall, & Dasen, 1992).

How do we then respect diversity in Cross-Cultural Research? Do we simply return to the ‘differences’ quest? Do we explain diversity in terms of non-similarity? What is the framework in our global research projects, the holistic approach or the indigenous one –non-western or western? the cultural, the overall, the pancultural approach? the multilevel approach? Galton can raise his hand at the last rows of the auditorium and ‘proximitize’-‘vessel-communize’ peoples. Pearson and Galton can then look for similarities and diversities in heredity and Spearman can set the basic principles in searching for the structure of constructs across groups, countries, and continents. Has this been enough? *Definitely not*, in such a complex, still ‘take, make, waste’-bound world. Novel, experimental –possibly even precarious– methods have been considered necessary to forward cross-cultural research. *But it has taken some time.*

A proper historic description of the evolution of the methods would not be appropriate here; breakthrough research methods and statistical-metric procedures employed in Cross-Cultural psychology are widely used today with rejoiced outcomes and are very well known. We shall instead briefly refer to just one of these methods, a rather contemporary one, which we consider important in respect to the questions raised earlier on. In this vein, this method, along with its ‘adversary-theories’ in the quest for truth-corroboration, might be one way of addressing our ‘respect for diversity’ issue. Georgas and Berry (1995) managed to show that clusters of countries could statistically and hermeneutically ‘behave’ in a better way than a set of autonomous countries compared under a cross-cultural research scope, as their ecocultural taxonomy might enhance explicitness of their common characteristics without destroying the diversity elements. The idea was ‘half-baked’ a few years (probably decades) ago at that time. Schwartz had already (1992 and earlier) presented his universal value system, which comprised *sets* of values, with peoples endorsing or rejecting these sets of values to a lesser or to a larger extent. Poortinga and Van de Vijver (1987) had already presented their own theses on possible metric reactions to bias in terms of culture, in their attempt to reduce or eliminate cultural effects, *wherever possible*. The Georgas and Berry attempt was an alternative way and it taxonomized countries on external (eco-cultural) factors to take into account both similarities and diversities. Other attempts followed: One of the most well-known ones was the Leung and Bond (2004) approach; they defined their social axioms’ dimensions through homogeneous subsets of the 41 countries involved in their studies. These clusters might share common grounds on social axioms in a clearer sense than the 41 separate counties set. Such ‘clustering’ has also been applied to the individualism-collectivism theory, family values, and personality factors (big-five). Then, other country-clustering attempts have been conducted on exploratory factor analysis information and alternative through multidimensional scaling solutions on such information. These ‘clustering’ techniques can really emphasize two issues mostly: **a)** methodology in Cross-Cultural psychology is not only important, but it is a vital part in this branch of research as it really has pioneered in introducing methods that should be employed also –if not already– in cultural and indigenous psychology research,

b) although different or opposing opinions may of course exist, the clustering idea has initiated attempts towards aggregation paths which are of course related also to the broader methodological practice of multilevel research (Van de Vijver, Van Hemert & Poortinga, 2008).

All such thoughts direct us to one simple –but very interesting– image of today’s Cross-Cultural Research, the image of similarity-differences questioning discipline, which is really a quest for unavoidable homogeneous sets of behavioral characteristics –not necessarily geographical or even eco-cultural– but, definitely *sets*, sharing their background in terms of history and other culture characteristics, and in terms of their current position in human civilization and their future prospects and capabilities.

Cross-cultural research in Greece

Cross-cultural research in Greece was not active until the late eighties. However, the theoretical basis for initiating cross-cultural studies was tempting Greek scientists, as Professor Emeritus of the Illinois University Harry Triandis along with Vasso Vassiliou, Clinical Psychologist-Psychotherapist, had already ‘started the fire’ by involving Greek cultural aspects in their own, earlier, cross-cultural studies (Triandis & Vassiliou, 1967; Triandis & Vassiliou, 1972a, 1972b, Triandis, Vassiliou, & Nassiakou, 1968; Triandis, Vassiliou, Vassiliou, Tanaka, & Shanmugam, 1972). By the 80’s, when cross cultural psychology had come of age with the publication of the first two handbooks on cross-cultural psychology, striking examples for cross-cultural research appeared in Greece with cross-cultural studies and Ph.D. research projects on family values, family function and structure, acculturation and remigration (Georgas, 1989; 1991; 1999; Georgas, Bafiti, Papademou, & Mylonas, 2004; Wechsler, 1997 [Georgas, Paraskevopoulos, Besevegis, & Giannitsas, Trans.]), while a Ph.D. study was conducted in Paris, University Rene Descartes-Paris V, with an emphasis in national and European identity construction in Greece (Chrysochoou, 1999). Two highlights of the above work resulted later in two books: children’s intelligence, a cross-cultural analysis of the WISC-III (Georgas, Weiss, van de Vijver & Saklofske, 2003), and psychological studying of family function and structure in 30 nations (Georgas, Berry, van de Vijver, Kagitcibasi, & Poortinga, 2006), a volume awarded with the Ursula Gielen Global Psychology Book 2007 Award (APA, Division 52).

Meantime, “*Human Behaviour in Global Perspective*” (Segall, Dasen, Berry, & Poortinga, 1990) was the first cross-cultural psychology book to be translated in Greek and edited by James Georgas and a team of collaborators (1993). The next translated book appeared approximately ten years later, originally authored by Peter Smith and Michael Bond (2005), under the title “*Social Psychology across Cultures*” and edited by Antonia Papastylianou. In the fields of cultural and cross-cultural psychiatry, the first book in Greek was published in 2003 by Miltos Livaditis, Neurologist-Psychiatrist and Associate Professor at the Thrace University, under the title “*Culture and Psychiatry*” while two important articles had been published in international journals on personality differences between Greek and English samples by E. Dimitriou and S. Eysenck (Dimitriou & Eysenck, 1978; Eysenck & Dimitriou, 1984). Recently, two more books were edited in the Greek language, in the broader area of Social and Cross-Cultural Psychology: the “*Cultural Diversity: Its Social Psychology*” published by Xenia Chrysochoou (2005) and the “*Cross-Cultural Trips. Repatriation and Psychological Adaptation*” edited by Antonia Papastylianou (2005). An attempt to translate and edit for the Greek scientific community the *Multilevel Analysis of Individuals and cultures*, originally edited by van de Vijver, Poortinga and van Hemert (2008) is also currently in progress. The *present volume*, a succession of the 2006 IACCP Congress in Spetses, is a selection of chapters on cross-cultural theory, methodology and research as presented by distinguished scholars and colleagues. These chapters are certainly a contribution to the ongoing gradual development of cross-cultural psychology in Greece.

The interest exhibited and activities undertaken by the Hellenic Psychological Society in the area of cross-cultural psychology also seem to gradually expand. A Cross-Cultural Psychology Division has been established and activated within the Society (Board of Directors’ unanimous

decision of July 2nd, 2007). This initiative was taken a few months after the 18th International Congress, as we had experienced the Society's members zest and we had sensed even our own need to keep cross-cultural research interests going. Additionally, within 2009, a special issue of the "Psychology" Journal, *the Journal of the Hellenic Psychological Society*, will be published. Under the title "Cross-cultural research: Studies in four continents", the issue will include research studies in the areas of social psychology, clinical intervention and cognitive-behavioral therapy, and research methods and statistical analysis techniques, written by colleagues from Africa, Asia, USA and Europe, all participants in the 18th IACCP International Congress.

The 18th IACCP congress

The approximately 750 presentations of the 18th International IACCP congress in Spetses, of 661 participants from 50 countries of five continents underlined its strong international character. For this international congress, we had the collaboration of the International Union of Psychological Science (IUPsyS), the Hellenic Psychological Society (HPS), the Department of Psychology of the University of Athens, and the Department of Chemistry of the University of Athens. The continuous presence of many interested Greek participants, mainly members of the Hellenic Psychological Society, persuaded us of the cross-cultural research interest exhibited by Greek psychologists and for the necessity of offering chances of promoting such an interest.

Our Spetses Congress (July 2006) was oriented towards the presentation of a set of currently interesting to the international Ψ community cultural and cross-cultural psychology themes on important areas of psychological theory, methodology and research. Its theme "*From Herodotus' ethnographic journeys to Cross-Cultural Research*" portrayed the long and arduous march of cross-cultural theory and research through time, starting from Herodotus' global ethno-psychological thought (*Histories*, around 440 B.C.) and reaching recent scientific exploration among different ethnocultural groups across a variety of nations, based on all fields of psychology.

This congress was heavily marked by two distressing events: just before the Congress, an earthquake hit parts of the Yogyakarta regions and the city itself in Indonesia, and just four months after the congress, Maria Ros passed away.

In May 2006, the city of Yogyakarta and the area around the city were devastated by a strong earthquake claiming thousands of lives and leaving homeless victims in panic. This city was the 16th IACCP's International Congress venue (2002). Following the disaster, a counseling project was organized and funded by IACCP, to provide psychological support to children, along with adult groups. The project was accomplished thanks to the initiative and actions taken by the Department of Psychology of the Sanata Dharma University, in collaboration with other university departments. More than 200 children, along with 120 adults, and 60 primary school teachers took part in the project activities and learned how to cope with psychological traumas and negative feelings.

On December 1st, 2006, four months after the Congress in Spetses, Maria Ros died after an acute illness. "She had passed through the dusk ... Darkness falls from the air".¹ On December 4, James Georgas, President of IACCP at the time, notified all IACCP members of this tragic event through the Association's discussion list. He announced Maria Ros' loss, reminding all of her significant research

¹ J. Joyce (1977). *A Portrait of the Artist as a Young Man*, pp. 210. London: Panther Books (first published in 1917).

contribution in cross-cultural psychology and her valued IACCP Executive Council membership, as a European regional representative. Her passing away was unbelievable news... we still remember Maria's pleasant laughter, warmth, optimism, and vividness.

Overview of the Book

Selected Chapters from the Eighteenth International Congress of the International Association for Cross-Cultural Psychology (IACCP)

The IACCP tradition in respect to Congress Book titles follows an alphabetical destiny. Since the previous Congress Book title started with a “*P*” the 18th Congress Book title had to start with a “*Q*”. It had to be Latin.

As we think that *the answer to the whys and hows during the long lasting journey of Cross-Cultural Psychology is the journey itself*, the Title for this Book of Selected chapters would be no other than “Quod Erat Demonstrandum” (*QED*)..., meaning ‘which had to be proved’; the Congress theme followed, portraying the journey itself: “From Herodotus’ Ethnographic Journeys to Cross-Cultural Research”, a theme emphasizing the process which can by itself prove all truths discovered during these journeys. K. P. Kavafis, a rejoiced Greek poet (1863-1933), has also described –in his own *QED* sense– Ulysses’ return to ‘Ithaca’, suggesting that *it is the journey itself that matters most*.

The volume consists of 40 selected chapters.² Submitted manuscripts were blind peer reviewed by members of the International and the Local Scientific Committees. A total of 96 submissions (under specific restrictions too) were initially received up to the January 2007 deadline. At this point we can only stress all reviewers’ irreplaceable contribution, which was clearly invaluable in our editorial efforts; they provided even step-to-step-guidance to authors whenever necessary, along with their succinct comments and suggestions in accordance to everyone’s attempts to improve the standards of this book. We are truly grateful to all of the reviewers appearing in the front pages of the book, and we deeply thank them all for their work, really looking forward to future collaborations. Eight thematic sections comprise the volume. The first section is composed by four chapters: The Presidential Speech, the W. J. Lonner Distinguished Lecture Series Inaugural Speech, and two Keynote Speeches. The second section refers to past issues, present concerns and future perspectives. Six more sections follow covering specific theoretical, research and application areas in Cross-Cultural Psychology. The specific areas in these sections are: Cognitive Processes; Methodology, Statistics, and Psychometrics; Social Psychology: Attitudes, Values, and Social Axioms; Acculturation Research & Identity; Self-concept & Personal Relationships; and finally, Cross-Cultural Psychology and Community Psychology: Research and Psychological Intervention. A brief overview of all Sections and Chapters follows.

In the first section, *Shalom Schwartz* in his Presidential Speech chapter examines the pace of culture change and its implications for identifying the sources of cultural differences. Prominent explanations of cultural differences and their shortcomings are considered. The characteristics of factors that could provide better causal explanations are then illustrated along with the overall approach by proposing theoretical explanations for national differences in one cultural orientation, embeddedness. This is achieved through hypothesis testing procedures in regard to the causes of cultural embeddedness; during these procedures, empirical evidence from 74 countries is considered and implications for future work on causal sources of culture are discussed. *Gustav Jahoda* in his “W. J. Lonner Distinguished Lecture Series” Inaugural Speech chapter reflects on two IACCP ancestors, William Halse Rivers and Richard Thurnwald. Rivers is considered having been a pioneer who carried out the first systematic and experimental series of studies in a non-western culture, and is thus regarded as the first cross-cultural psychologist. Richard Thurnwald’s work is then outlined as mainly concerned with the higher mental processes, and as exploring the respective Ethno-Psychological differences or –to a lesser extent– universals. Memory, Counting, Experimental drawing, Word associations, and Transmission of reports are

² The views expressed in these 40 chapters are not necessarily the views of the Editors of this volume.

some of Thurnwald's research endeavours presented in this Chapter as a token of Thurnwald's hopes that Ethopsychological research would some day lead to an 'exact cultural psychology'. *Heidi Keller* in her "Cultures of Infancy" chapter argues that cultural systems of shared meanings and shared practices represent adaptations to sociodemographic contexts that change as these contexts change. Developmental pathways regarding self recognition and self regulation, autobiographical memory and theory of mind development are then examined in relation to the two cultural construals of the self and the respective parenting strategies, as expressed within urban middle-class and rural subsistence-based farming families in traditional societies. *Keller* concludes that "Continuity of cultural messages and thus children's experiences are the foundation of developmental pathways". In the final chapter of this section, *John Adamopoulos* describes an approach designed to explain the emergence of the meaning of interpersonal behavior in its triple-fold universality (association, superordination, and intimacy), a universality founded both on contemporary theory and on diachronic literary grounds (Homer, Hesiod, Theophrastus, two medieval European literature pieces and a 1895 Stephen Crane novel). This approach on interpersonal interaction is based on the assumption that social behavior involves the exchange of material and psychological resources, a process guided by a number of natural constraints operating on human interaction. Finally, the proposed approach is associated with various social-psychological phenomena, in a quest to culturally account for them.

The second section is titled *IACCP: Past, Present and 'Electronic Future'*. It is composed by two 'past' chapters, one 'present' chapter and a chapter connecting our 'present' with the 'future' –preferably electronic. Specifically, *Rolando Diaz-Loving* and *Ignacio Lozano* provide a brief review of Rogelio Diaz Guerrero's work along with a very useful reference-list is the extension of the Memorial Symposium held at the Spetses Congress (July, 2006). Rogelio's major contribution to psychology development and cultural research in Mexico is portrayed in this chapter. Next, *John Berry* and *Walter Lonner* present the "IACCP Archives Project". This chapter, based on the Archives Invited Symposium, describes an ambitious and very important attempt to give IACCP's past a readily accessible, dominative place, so that new researchers are guided by the historical facts involved and are facilitated in using the archives components. The working dimensions for this task are presented, namely the Archive components, the key individuals for the initial collection of materials, housing and funding, and possible future steps. *John Adair*, *Yoshi Kashima*, *Maria Regina Maluf* and *Janak Pandey*, providing an overview for a selection of 16 Premier/APA journals of the 80's, 90's and the current decade, investigate the degree in which East and South Asian, Latin American and Caribbean countries are represented in international psychology publications. For this cross-cultural issue of psychological research dissemination –of recent and present importance, they conclude that East Asian psychology appears to have a greater global presence than either Latin American or South Asian psychology do, confirming the global trend toward increasing internationalization of psychological knowledge. *William Gabrenya*, *Nathalie van Meurs* and *Ronald Fischer* refer to the three main goals of the IACCP members – communication, collaboration and community– and how new technologies could enhance the accomplishment of these goals. They highlight challenges posed by presently emerging technologies (internet communication, electronic publications, online readings) and some intriguing opportunities for the future, projecting their thoughts at least up to "the near future of 2018" (e.g. "Wikicultural").

The third section is titled *Cognitive Processes* and deals with different cognitive aspects as studied cross-culturally and as related to cultural representations, concept construction, visuospatial tasks, and spatial-language frames of reference. In the first chapter of this section, *Veronica Benet-Martínez* and *Fiona Lee* are exploring the consequences of biculturalism in respect to cognitive complexity. Cultural representations are of interest, for monocultural (Anglo-Americans) and bicultural (Chinese-American) populations. Multiculturalism is considered a potential benefit source in cognitive terms, as biculturalism affects culture descriptions and

cognitive ability. *Annamária Lammel and Eduardo Márquez* then take the stand to direct our attention to concept construction as exhibited by young adolescents in the Parisian suburbs. They specifically focus on three important aspects in these adolescents' lives, namely violence, religion, and intelligence and they compare the semantic structure networks for adolescents with French parents and adolescents with immigrant parents, with differences observed in concept construction and in semantic organization. The focus is then shifted to neurocognition by *Sylvie Chokron, Seta Kazandjian, and Maria De Agostini*. They review studies that target the role of reading direction on visuospatial tasks and they illustrate their theses on the 'subjective middle in space' using research paradigms of their own with right-to-left readers (Israeli) as compared to left-to-right readers (French). *Pierre Dasen, Nilima Changkakoti, Milena Abbiati, Shanta Niraula, Ramesh Mishra, and Harold Foy* provide evidence from a large-scale cross-cultural research approach on the development of spatial language and cognition. They suggest that a geocentric frame of reference can be effective in very early stages of life –even at 4 years of age– in cultures such as the Nepalese one and that this frame of reference is contrasted to the predominant in western cultures egocentric gesture system, with the geocentric frame used in gestural deixis even without the support of geocentric language. On the same line of exploring the geocentric frame of reference, *Olivier Le Guen* describes in the final chapter of this section a method of analysis for gestural deixis in Yucatec Maya in of México, as compared to a direction-giving task conducted in Paris. He concludes that the Yucatec Maya rely primarily on a geocentric frame of reference in giving spatial indications of directions, showing that their cognitive maps are in accordance with a non-linguistic geocentric frame of reference, contrary to the observed French egocentric orientation.

The fourth section of the Volume is titled "Methodology, Statistics & Psychometrics". The first chapter by *Ronald Fischer, Johnny Fontaine, Fons van de Vijver and Dianne van Hemert* refers to Acquiescent Response Styles in Cross-Cultural Research. A meta-analytical approach is proposed in order to examine the prevalence and nature of acquiescence responding in relation to nation-level indicators. They suggest that acquiescence responding has only a small, but systematic effect on survey responses. *Tobias van Dijk, Femke Datema, Anne-Lieke Piggen, Stephanie Welten, and Fons van de Vijver* are also concerned with response styles and focus on acquiescence and extremity scoring. Using data from the International Social Survey Program (ISSP) they suggest that response styles are domain-dependent in the sense that they are more likely in domains with a high personal relevance than in domains with a low personal relevance. Correlations with ecosocial and other variables are also investigated. *Kostas Mylonas* is then turning to another methodological and statistical threat, namely bias in terms of culture. He proposes a statistical method to reduce such bias in order to arrive to safer factor solutions during cross-cultural comparisons and he illustrates his thesis through combinatorial paradigms with quartets and quintets of countries, as these are derived from an initial analysis for six countries. *Amina Abubakar, Fons van de Vijver, Anneloes van Baar, Patricia Kitsao-Wekulo, and Penny Holding* concentrate on the psychological assessment enhancement in sub-Saharan Africa. They argue that participant consultation in the sub-Saharan countries (focus groups, interviews, participant observation) is a major source of item construction and selection, construct definition and methodological flaws' avoidance and that such practice enhances the validity of psychological assessment in the specific region. *Wenshu Luo and David Watkins* aim at improving the assessment methods and understanding of self-complexity measures. Working with Chinese college students and contradistinguishing Western findings, they employ the Self Complexity Task –a new measure– to account for the average distinction among self-aspects. In parallel to Linville's *H* measure, the authors discuss implications for cross-cultural research. *Sipko Huismans and Wijbrant van Schuur* focus on the Schwartz values in their attempt to take advantage of the value domains' circular structure. The authors propose a method for expressing the value systems of individuals using only one score, suggesting that this score might be independent of response tendencies and cross culturally valid. They also believe that their

method might contribute in solving the “ranking vs. rating values” problem. The method is also illustrated by associating the single value score to a religiosity measure. Finally in this section, *Roges Sages* and *Jonas Lundsten* present Meaning Constitution Analysis and the respective software MCA-Minerva, in accordance to Edmund Husserl’s phenomenological theory and the quest for a dynamic view of the ongoing process of constitution of meaning, an approach encompassing cross-cultural specificities, similarities and differences. Text analysis through this software is viewed as a possible source of accessing and reconstructing the different possible worlds each participant conveys.

The fifth section “Social Psychology: Attitudes, Values & Social Axioms” highlights issues on values, social axioms and attitudes exploration. *Tejinder Billing*, *Rabi Bhagat*, *Annamária Lammel*, and *Karen Moustafa Leonard* along with *17 Country-Collaborators* explore the temporal orientation and its relation with vertical and horizontal individualism and collectivism scores in 14 different national contexts in samples of managers and white-collar workers. Their results show that in the participants’ attitudes towards time, collectivistic cultural orientation tends to predict and create stronger relationships with three facets of temporal orientation, as compared to individualistic orientation. *Isabelle Albert*, *Gisela Trommsdorff* and *Lieke Wisnubrata* examine intergenerational transmission of value orientations-individualism/collectivism and children values, with samples of maternal grandmothers, mothers and their children-adolescents of both sexes, in Germany and Indonesia. As value intergenerational transmission is present in both the German and the Indonesian samples, transmission of individualistic values is higher in the Indonesian sample, although individualism is less highly valued by the Indonesian participants, and vice-versa; for the German participants, individualism is highly valued but less strongly transmitted through generations. *Aikaterini Gari*, *Kostas Mylonas* and *Penny Panagiotopoulou* focusing on the five universal dimensions of social axioms –Social Cynicism, Social Complexity, Reward for Application, Fate Control, and Religiosity, explore the results of some alternative methods of country clustering, based not on the country mean scores on each of the five Social Axioms, but on their factor structure similarity, and specifically on the maximum equivalence with the overall factor structure. *Alice Ramos* and *Jorge Vala*, based on data from the European Social Survey (ESS1) of 9457 individuals, explore the predictors of oppositional attitudes towards immigrants in five European different countries, in regard to their different main policies towards immigrants’ integration. They conclude that trust and belonging to social networks are potential elements of more open attitudes towards immigration, while opposition towards immigration is poorly influenced by county of origin. *Félix Neto* suggests in his research project with Portuguese high school youngsters on attitudes towards immigrants assessed in 1999 and in 2006, that integration is the most preferred option, while exclusion is the least preferred, and that youngsters in Potrugal are more tolerant of and more welcoming to immigrants when they feel that their own place is secure in their own plural society.

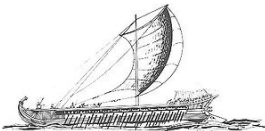
The sixth section comprises three chapters on Acculturation Research & Identity. *Edison Trickett*, *Irena Persky*, and *Susan Ryerson Espino* question the use of proxy measures during acculturation research, analyzing three-generation refugee data, and they suggest that concepts such as psychological distress resulting from the acculturation process may be masked or impossible to identify. They conclude that the lack of interchangeability among proxies calls for further conceptual and metric deconstruction of the acculturation process. *Velichko Valchev* and *Fons van de Vijver* follow with a study on identity in respect to national and European identity and perceptions of participants’ own nation and Europe. Bulgarian and Dutch participants endorsed both identities but were different in the ways they perceive own country and Europe. These findings are in accordance with theories regarding national and supranational identities as compatible. *Rashmi Singla* looks at diasporic processes in respect to young South Asian migrants in Denmark. Using in-depth interviews, the five participants’ diasporic identities involving

ancestral countries and Scandinavian societies are described. Evidence is also provided in respect to the reinterpretation of the self, “others” and home in the diasporic families while the “myth of return” is not evident in the migrants’ narratives.

In the seventh section, *Ulrich Kühnen* argues that the accessibility of either independent or interdependent self-knowledge has a fundamental role for construing the self, although in cross-cultural studies this role cannot directly be tested. For confirming this assumption he reviews a number of studies in the areas of social cognition of the self, the self-construal in relation to value endorsement, attitude formation and attribution processes. *Howard Kaplan*, *Rachel Kaplan*, and *Diane Kaplan* deal with self-esteem and its assessment, suggesting a confluence of self-evaluative statements and measures of subjective distress towards this end. Longitudinal data are presented in support of this thesis through differentiations across multiple sub-cultural groupings in terms of race/ethnicity, age, gender, social class, and generation. *Andrew Szeto*, *Richard Sorrentino*, *Satoru Yasunaga*, *Yasunao Otsubo*, and *John Nezlek* explore the theory of uncertainty orientation as related to cognition and cognitive processes by reviewing research studies that were conducted in Canada, Japan, and China. They focus on the uncertainty self-regulation styles that distinguish uncertainty-oriented individuals from the certainty-oriented ones and they also discuss the uncertainty orientation framework. *Claudia López Becerra*, *Isabel Reyes Lagunes*, and *Sofia Rivera Aragón*, exploring how Mexican adults manage to maintain their friendships, they conclude that the most employed strategies are: “emotional support” consisting of behaviors and expressed feelings which encourage the friends’ self-esteem; “tolerance” which includes unconditional acceptance, offering help and acting to solve conflicts; “closeness” which consists of establishing deep communication and avoiding conflict. *Zuzanna Wiskiewska* and *Pawel Boski* continue on the same theme of friendship contrasting Ecuadorians and Poles. Perception of emotional support and conversational intimacy between friends are the main issues of interest. Poles are shown being more sensitive to how the needs of the self-disclosing partner are served by friends, while Ecuadorians pay more attention to the quality of interaction.

The eighth and last section of the volume “Cross-Cultural Psychology & Community Psychology: Research & Psychological Intervention” includes chapters that highlight some ‘collaboration paths’ for future research and intervention in the fields of community and cross-cultural psychology, namely interdisciplinary collaboration, collaboration between universal and cultural approaches, collaboration between psychology researchers and public policy makers, while the term of community seems to have a central role in most of these collaboration ways. *Gregory Smith*, *Nichea Spillane* and *Agnes Stairs* highlight the careful consideration of both universal and cultural influences on behavior in the study of psychopathology; they use the methods and research findings of cross-cultural psychology to clarify the risk process for three specific disorders –alcoholism, bulimia nervosa and anorexia nervosa. *Richard Roberts* describes three case studies as examples from recent early childhood-intervention programs. The described programs are related to community support for families in different cultural settings, in order to argue that community and cultural psychology share many basic principles and that culture and community context may enhance the effectiveness of intervention programs in diverse populations. *Eric Mankowski*, *Gino Galvez* and *Nancy Glass* argue on the need to adopt an interdisciplinary collaboration between community psychology, which generally lacks an adequate treatment of cultural phenomena, and cross-cultural psychology that often fails to draw on community and participatory methods useful for understanding culture in context. Interdisciplinary similarities and differences are briefly presented through a study of intimate partner violence in a community of Latinos in the United States. *Vassos Gavriel* explores how cross-cultural psychology can develop and form policy responses in a multicultural setting. Through the paradigm of the multicultural society in New Zealand and the public policies under which diversity has been addressed, he supports the necessity for a dialogue among academics,

researchers and policy makers and for developing public policy evaluation research projects. *Penny Panagiotopoulou* and *Aikaterini Gari* explore in six European cultural settings and specifically in six different neighbourhoods in Greece, UK and Ireland, how the social, political, and economic aspect of community life is related to community well-being. They focus on community satisfaction, social interaction and safety, involvement in the community decision making processes and economic life. *Genevieve Nelson*, *Jasmine Green*, *Dennis McInerney*, *Martin Dowson* and *Andrew Schauble* investigate motivational goal orientations, learning and self-regulatory processes of Papua New Guinea students. Their effort is focused on the exploration of the psychological processes that contribute to the students' achievement in the context of a majority and developing culture and the potential development of teaching practices and intervention strategies at school community. Finally, *Thomas Demaria* and *Minna Barrett* describe a structured survey conducted by mail, in 2006 and 2007, with 100 bereaved family members-spouses/partners, parents and siblings following the World Trade Center terrorist attacks of September 11, 2001, an international threat to all children and youth. The aim of the survey is the evaluation of the ongoing needs and the satisfaction with counseling services provided by the innovative counseling program employed effectively in the World Trade Center Family Center (WTC FC). As traumatic events can lead to children's psychological and environment dislocation from ethno-cultural support structures and systems of meaning, the WTC FC, operating as a community center after the disaster, offered relief and psychological support to over 600 bereaved children and 2,200 family members.



Source: <http://en.wikipedia.org/wiki>

«Μούσαις, Χάρισι θύε»

Aikaterini Gari
Kostas Mylonas

April 23, 2009

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Reflections on Two of Our Early Ancestors

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It is a pleasure and privilege for me to pay tribute to Walt Lonner with this chapter,¹ an old friend and comrade-in-arms in the field of cross-cultural psychology. Walt played a very significant part in our own, more recent history. In the early stages of a new approach one finds a few individuals pursuing their interests and ploughing a lonely furrow. But as that interest widens and becomes shared by an increasing number of people, there arises a need to have a focus for the common endeavour; and such a focus is provided by a journal. It is Walt's achievement that he has laid the foundations for our journal, the *Journal of Cross-Cultural Psychology*, and after more than a generation he still remains closely associated with it. All of us owe him a debt of gratitude for having provided us with a forum.

My chapter goes even further back, to the turn of the 20th century. It deals with two individuals who were concerned with what we call cross-cultural psychology long before that expression was coined. They are William Halse Rivers and Richard Thurnwald. The two men were different in their backgrounds and outlooks, and I shall say rather more about Thurnwald. This is not because he was more important –he was not– but because some of you may already have read something about Rivers, while it is most unlikely that you have come across Thurnwald whose psychological work has not been translated.

William Halse Rivers (1864-1922) had studied medicine and worked on the neurophysiology of the senses with Sir Henry Head, later becoming interested in psychiatry and psychology. He became Lecturer in Experimental Psychology at Cambridge University, and was thus thoroughly versed in experimental methods. At that time a Cambridge anthropologist, Alfred Haddon, organised an expedition to Torres Strait, a cluster of islands between northern Australia and Papua New Guinea. He had the then quite novel idea of including psychologists in his team, and invited Rivers, who in turn recruited some of his students, all of whom later gained distinctions. I shall just mention William McDougall, who in due course became professor of psychology at Harvard. The team set out in 1898 and remained in the field for about a year. As a result of his experiences with the Expedition, Rivers later turned to anthropology and also became prominent in this sphere. His career was interrupted during the first world war, when worked as a psychiatrist dealing with shell shock. He then returned to Cambridge where he was active in promoting psychology.

Let me now turn to the psychological investigations in Torres Strait, which were confined to sensory processes and included reaction time, hearing, taste, and the sense of smell. Rivers himself concentrated on various aspects of vision. One topic was visual acuity, an issue then much discussed. At that period there existed a belief Rivers wanted to test: namely that the senses of 'primitives' were much more acute than those of Europeans. For instance, it had been claimed by a traveller that 'savages' could see ships on the horizon long before Europeans. Rivers was able to disprove this, showing that in their environment they were able to make better use of small cues.

¹ *Acknowledgement:* Thanks are due to the Nuffield Foundation for their support in the preparation of this chapter.

His most famous and influential work was with visual illusions. A popular idea at the time was that ‘primitives’, being rather stupid, would be more readily deceived by geometric illusions. Again he was able to disprove this notion. For instance, with regard to the well-known Müller-Lyer illusion, Rivers found his subjects to be *less* susceptible than Europeans. This provided the inspiration for one of the most extensive cross-cultural studies ever attempted, namely that of Segall, Campbell and Herskovits in the late 1950s (Segall et al., 1966). They sought to explain the difference in terms of the so-called ‘carpentered world hypothesis’, whereby our predominantly rectangular environment leads to certain visual inference habits. Numerous other illusion studies followed, reviewed by Deregowski (1980).

Rivers displayed considerable ingenuity in devising new methods. When trying to establish peoples’ colour vocabulary, he created discussion groups in which people had to agree on colour names. He also used what are now called ‘non-reactive’ methods. So in order to find preferences for colours, he systematically observed what colour clothing people were wearing.

Let me now go back and explain another, theoretical reason why Rivers confined himself purely to sensory processes. Rivers noted the fact that the ‘savage’ is an acute observer of nature who has a very detailed knowledge of the flora and fauna in the environment. He went on as follows:

“Minute distinctions of this sort are only possible if the attention is predominantly devoted to objects of sense, and I think there can be little doubt that such exclusive attention is a distinct hindrance to higher mental development. . . If too much energy is expended on the sensory foundations, it is natural that the intellectual superstructure should suffer” (Rivers 1901, p. 44/5).

This explanation of ‘savage’ intellectual inferiority is precisely that put forward by the 19th-century social evolutionist Herbert Spencer, who had argued that if too much energy is devoted to the ‘simpler faculties’, then it is not available to the higher ones. Rivers had been reading Spencer in the course of the voyage to New Guinea, and was persuaded at the time. Subsequently, when he had undertaken anthropological fieldwork and had come into close contact with indigenous peoples, Rivers himself came to repudiate his earlier views; he then wrote: ‘I have been able to detect no essential difference between Melanesian or Toda and those with whom I have been accustomed to mix in the life of our own society.’

Generally, Rivers was a pioneer who carried out the first systematic and experimental series of studies in a non-western culture, and is thus rightly regarded as the first cross-cultural psychologist.

Let me now turn to the other ancestral figure and begin by saying something about his background. Richard Thurnwald (1869-1954) was born in Vienna where he studied law and became interested in the social sciences. In 1897 he went to Bosnia where he carried out research on what we would call acculturation, or adaptation to modernity. He then went to the University of Graz in Austria, where he worked with the prominent sociologist Ludwig Gumplowicz from whom he probably derived a conviction of the key importance of ‘socio-psychic’ phenomena. From Graz he went to Berlin, where he took courses in anthropology and attended lectures on the psychology of ‘primitives’.

In 1905, Thurnwald was selected by the Berlin Ethnographic Museum for a research expedition to what was then a German colony in the Papua-New Guinea area. At the time he had been engaged in drafting a sociological questionnaire, on which he commented ‘*I tried to put psychological questions very much in the foreground, since everything social is in effect something psychological*’. Furthermore he approached Carl Stumpf for advice. Stumpf was the successor of Ebbinghaus in the chair at Berlin. His special field was the psychology of music, and he had founded an institute for collecting recordings of ‘primitive music’ from all over the world. When approached by Thurnwald, Stumpf not only consulted with colleagues, but put the

issue before the Second Congress of Experimental Psychology, in 1906. This resulted in a collection of problems in a wide range of fields of psychology, on which Thurnwald drew. At the end of that year Thurnwald arrived in the Solomon Islands where he worked until returning in 1909. It was in the course of this expedition that he conducted his pioneering ‘ethnopsychological’ studies. After he had returned from the first field trip the collection of psychological research topics suggested at the Congress was published, and he wrote an introduction (Thurnwald, 1912).

Thurnwald went on a second expedition in 1913, that was brought to an untimely end by the outbreak of the first World War. Australia invaded German New Guinea, and he remained marooned there. From his diary, which I was able to consult at the Berlin Ethnological Museum, it appears that he undertook further psychological work during that waiting period, but it was never published. In 1915 he was permitted to travel to California –the USA had not yet entered the war– and later returned to Germany.

Thurnwald’s psychological work was published in 1913 under the title *Ethnopsychological studies*. Unlike the early Rivers he rejected the ‘energy’ theory mentioned above and determined to include in his studies the higher mental processes. In his introduction Thurnwald noted that there are two main directions of research, either aimed at universals or at differences, his own research being mainly concerned with the latter. He explained that, as an anthropologist, his main effort had been devoted to ethnographic issues, so that his psychological research was necessarily secondary. He made it clear that, unlike Rivers, he was mainly concerned with what we would call “the higher mental processes”. I shall now present a selection of some of his studies, which have not been translated from the original German.

Colour names

This topic had been studied extensively by Rivers, and although Thurnwald made no direct mention of Rivers in this connection, there is little doubt that he was inspired by that work. Like Rivers he found that the bulk of colour names were linked to naturally occurring objects (e.g. in our case we have terms like ‘snow-white’ or ‘brick-red’) and were not monolexic (e.g. ‘white’ or ‘red’). In one of his experiments Thurnwald asked his subjects to select and then name the colours of a standard set of wool threads. The first four chosen were black, white, red, and bluish-green. This corresponds well to the evolutionary sequence postulated by Berlin & Kay (1969).

Memory

Having established his subjects’ capacity to discriminate certain colours, he assembled five batches of wool consisting respectively of saturated yellow, green, white, red, and blue. He laid them out in that order and covered them with a black cloth. He then exposed the batches for one minute, covered them, waited another minute, and then asked his subjects to arrange them in the same sequence. Only one individual was able to perform the task correctly. In all but one of the cases blue was positioned correctly, which Thurnwald thought odd, since they had no name for blue. However, it is likely to have been a serial position effect.

Counting

This was an interesting task, recorded in full detail. It is somewhat reminiscent of the course far more sophisticated study undertaken later by Carraher et al. (1985) in Brazil.

Matches and twigs were used in order to ascertain what quantities could be assessed at a glance, and to analyse the modes of calculation. For this purpose the pieces were placed on a table in a single heap or in several distinct groups, and covered before exposure. The task was to name the quantity of items on the table as quickly as possible, and the grouping carried out by the subjects when counting was noted. Here is an example:

The following groups are presented: 5, 5, 5, 4, 5, 5 (=29)

Counts 5 (two of them at once, rapidly)=10

+5 = 15

+4 = 19

[+5 (split into 1 + 4)]

counts 19 + 1 = 20

+ 4 = 24

+ 5 = 29

Certain common tendencies are described, for example that of splitting numbers in order to arrive at tens. Thurnwald explained that this corresponded to the indigenous number system, a system rather like that later described by Lancy (1983) in another part of New Guinea.

It seems that no more than four sticks were ever apprehended simultaneously as a number. For instance, if a group of five sticks was shown, they were either counted individually or split into smaller groups. Where it was possible to reach equal sub-groups, the correct result was reached much more rapidly than when they had to be unequal. Thurnwald observes wryly that the calculations were no great joy for the subjects, who much preferred other 'games'.

Word Associations

For this, curiously, the then standard German word list by Sommer was used. A linguistically competent Methodist missionary acted as interpreter. As might be expected, considerable translation difficulties were encountered. For instance, there was no single equivalent for monolexic 'red'; one vernacular term denoted red-brown earth, while another referred to blood; I have already mentioned the context-bound nature of most colour terms. It is evident that these problems proved in many cases insuperable.

Nevertheless he gave it as his view that 'these experiments on the mechanisms of thinking are particularly valuable'. In fact, although he was evidently not aware of it, the material does contain some clues that can be culled from his summary of response types:

- (i) Mere repetition or circumlocution;
- (ii) the property of a particular object is named, e.g. 'the tree' = bears fruit, or 'the house' = one sleeps in it.

If one assumes that the informants interpreted their task as something like a request for a definition, which is perhaps not unreasonable, then the responses may be compared to those obtained by Luria during the 1930s from unschooled people in Uzbekistan (Luria, 1976). There too the predominant modes of response were either repetition or what we now call a *functional* definition.

Transmission of reports

All subjects were associated with the Mission, four being pupils and one an old man attached to it. The first out of a total of five people was told a story about a journey, which he had to repeat to the second one, and so on to the fifth. The story content was partly indigenous (e.g. 'I saw Duk-Duk dancers') and partly western ('I travelled in a steamer') and consisted of 12 separate elements. The results of this test are described and discussed at considerable length. There is no need to go into details here, and I shall only mention that the younger subjects performed quite well, with an average of about 7 out of 12 correct. The old man failed more or less completely and responded: 'my inside is not capable of retaining what he said.'

Some of you will no doubt have recognized that this experiment was precisely what Bartlett (1932) later called *The Method of Serial Reproduction*. Moreover, there is another suggestive parallel: both Thurnwald and later Bartlett commented that their experiments constituted a model of cultural transmission from one population to another. This is unlikely to

have been a mere coincidence, and therefore presents an intriguing puzzle. Bartlett first embarked on his experiments as early as the first World War, and could have known about Thurnwald's monograph that had appeared one year before. However, Bartlett made no reference to it in his famous book on *Remembering*; and Bartlett was not the kind of person who would have deliberately omitted it. Hence it seems that he must have obtained information from some other source. One can surmise that the connecting link was probably Rivers, who also did fieldwork in New Guinea, and was in contact with Thurnwald; and Bartlett was then a student of Rivers.

Experimental Drawing

Towards the end of the 19th century there arose a considerable interest in the drawings of children and 'primitives', and so it is not surprising that Thurnwald spent a lot of time and effort on it. He took the view that 'what is observed and represented in proper order should be suitable as a criterion for intelligence.' However, he also recognised the unfamiliarity of the task and what we would call problems of sampling. So he abandoned his original aim of comparing the intelligence levels of ethnic groups and treated the drawings as 'indicators of culture', thereby anticipating later developments.

Geometric bodies

He presented such bodies to the subjects who were asked to copy them. Thurnwald suggested that 'the intellectual performance of observation and memory is here so simple that the whole effort can be devoted to the translation from the third to the second dimension, a predominantly intellectual task ...' It would seem that he greatly underestimated the difficulty of such a task for people encountering it for the first time. His descriptions of response types, exemplified in relation to a cube, are shown below:

1. An indicative representation confined to contours. The cube is drawn as a square.
2. A piecemeal descriptive procedure, communicating one's understanding: e.g. the cube is drawn as five squares.
3. A few unsuccessful attempts are made at perspective drawing.

Drawing experiments concerning natural objects

At the outset Thurnwald commented that his predecessors had usually just put a pencil in the subjects' hand asking them to 'draw something', while he specified the objects to be drawn. These included the human form, animals, plants, inanimate objects, boats, dwellings, and landscapes or scenes.

As regards human figures, while some were relatively naturalistic, he pointed out that cultural symbolism in terms of the supernatural or bizarre dance costumes were more often represented. Animals and plants, closely familiar to the subjects, were often quite accurately portrayed. When one compares these drawings done to command with indigenous symbolic representations, the greatly superior skills displayed in the latter are striking. Generally, Thurnwald discussed the drawings at length in the context of the cultural background, providing numerous valuable insights.

The remaining part of the monograph is ethnographic in character, dealing with vernacular languages, every-day life, and the rather favourable position of women. Of psychological interest is an account of child rearing, though dealing mostly with boys. It happens, he writes, that 3-4 year old boys are offered alternatively the mother's breast and a tobacco pipe. Upbringing was very lenient, and he never saw a child being beaten. Lastly, the impact of European culture is discussed.

In the course of his later career Thurnwald wrote extensively on the effects of culture on modes of thought (e.g. Thurnwald, 1922, 1928). This should not be taken to imply that he shared the then prevalent belief in the intellectual inferiority of *Naturvölker* [literally 'natural

peoples]. On the contrary, he was critical of the views of Lévi-Bruhl who had postulated a ‘pre-logical mentality’. Since it is now the fashion to simply dismiss Lévi-Bruhl, it should perhaps be pointed out that Lévi-Bruhl had tried to answer an important question, namely why modes of thought differ across cultures. His answer was wrong, but for a while Lévy-Bruhl influenced even such great figures as Piaget.

Later in life Thurnwald largely abandoned his earlier psychological interests, concentrating on sociology and anthropology. His psychological writings were never translated from German, and he failed to get the recognition he deserved as a pioneer of cross-cultural work.

While Rivers was a brilliant experimenter, that cannot be said of Thurnwald. On the other hand Thurnwald specifically wanted to explore the higher mental processes, and had some original research ideas. He also expressed the hope that ethno-psychological research would in due course lead to an ‘exact cultural psychology’. This chapter celebrates Walt Lonner’s contribution to the move towards such an ideal.

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Causes of Culture: National Differences in Cultural Embeddedness

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What causes national differences in culture? Past attempts to answer this question take insufficient account of how slowly culture changes or of the fact that culture itself influences the social structural, political, and demographic variables identified as causes. Convincing causes of cultural differences must meet three criteria: They should reflect the formative historical experiences of societies, they should not be influenced reciprocally by culture, and theoretically plausible process should explain their impact on culture. I propose and explain causes of national differences in cultural embeddedness, a value orientation that calls upon people to find meaning in life through identifying with their in-group, participating in its shared way of life, and striving toward its shared goals. Analyses of data from 77 cultural groups (74 countries) demonstrate that cultural embeddedness is greater in ethnically heterogeneous societies, with a relatively short history of viable state institutions, whose historically dominant religion was Islam rather than Protestantism or Roman Catholicism. These causal findings are not due to diffusion of culture to nearby countries or colonies. They hold up even when predicting differences in cultural embeddedness among eight world regions or within Eastern and within Western Europe. This research can be a model for investigating causes of various cultural differences among nations and other groups.

Twenty-six centuries ago, Herodotus the famous Greek historian, undertook perilous journeys through mainland Greece, its important islands, and on to Persia, Babylon, Egypt, Phoenicia, Italy, Sicily, and northward all the way to the region known today as Ukraine. He then wrote nine books in which he described the marvelously strange manners and customs he encountered in the lands he visited. Readers of those books and those who heard his public recitations must have wondered: Where do such societal differences in culture come from? That is the question this chapter addresses.

The writers of the Hebrew Bible addressed this same question in the story of the tower of Babel. Their answer provides a first, important clue to the type of explanation I shall propose. In Chapter 11 of “Genesis” we read:

“..And the Lord came down to see the city and the tower that the human creatures had built. And the Lord said, “As one people with one language for all, if this is what they have begun to do, nothing they plot will elude them. Come let us go down and baffle their language there so that they will not understand each other’s language.”
And the Lord scattered them from there over all the earth”(verses 6-8).

In these verses, the Bible attributes the development of multiple cultures to language differences that do not allow groups to communicate with one another. People can communicate effectively within their own group but not across group lines, so they grow apart into ethnic groups. Each develops unique ways of thinking, believing, acting, and understanding reality.

Different groups develop their own cultural heritage in response to their unique historical experiences. This heritage changes slowly, so cultural elements can persist over hundreds of years. If we are to explain cultural differences, then, we must look for explanatory variables that reflect long-term historical experience. Most attempts to explain cultural differences in the field of cross-cultural psychology have focused mistakenly, in my view, on relatively recent societal experiences. They have overemphasized the causal impact of societal characteristics like recent levels of socio-economic development, political systems, and birth

rates. But such social structural and demographic factors –which are not themselves part of culture– are involved in mutually causal relations with culture.

This chapter examines the pace of culture change and its implications for identifying the sources of cultural differences. I then discuss some prominent explanations of cultural differences and identify problems with these explanations. Next, I clarify the characteristics of factors that could provide better causal explanations. I then illustrate this approach by proposing theoretical explanations for national differences in one cultural orientation, embeddedness. I develop and test a set of hypotheses about the causes of cultural embeddedness, using data from 74 countries (77 cultural groups). Finally, I discuss implications of this approach for future work on causal sources of culture.

Cultural Value Orientations

I view culture as the rich complex of meanings, beliefs, practices, symbols, norms, and values prevalent among people in a society. The prevailing value emphases in a society may be the most central feature of culture (Hofstede, 1980; Inglehart, 1977; Schwartz, 1999; Weber, 1958; Williams, 1958). These value emphases express shared conceptions of what is good and desirable in the culture, the cultural ideals. Cultural value emphases shape and justify individual and group beliefs, actions, and goals. Institutional arrangements and policies, norms, and everyday practices express underlying cultural value emphases in societies. For example, a cultural value emphasis on obedience and security may promote and be reflected in an autocratic political system, a punitive legal system, and in authoritarian child rearing practices.

Each cultural group has its own set of cultural value emphases. I postulate that these emphases evolve as societies confront a set of basic and inevitable issues or problems that arise in regulating human activity (cf. Kluckhohn & Strodtbeck, 1961). People must recognize these problems, plan responses to them, and motivate one another to cope with them. Over time, in each society, implicit, preferred ways to respond to these basic issues evolve and express themselves in the institutions, beliefs, and practices of the society. I refer to the normative grounding of these preferred responses as ‘cultural value orientations’.

To build my theory of cultural value orientations I asked: What alternative, value-based, normative responses might evolve to guide responses to three prominent issues that all societies confront? Responses to each issue identify a dimension on which cultures differ from one another. Opposing cultural value orientations form the poles of these dimensions. These polar orientations are Weberian ideal-types; the cultures of particular groups are located between the poles of the dimensions. I defined each dimension and its polar cultural value orientations on a priori theoretical grounds. The cultural value orientation whose sources this chapter investigates is *embeddedness*.

The embeddedness orientation is one alternative response to the issue of the nature of relations and boundaries between the person and the group: To what extent are people autonomous vs. embedded in their groups? In autonomy cultures, the preferred response is to view people as autonomous, bounded entities who should cultivate and express their own preferences, feelings, ideas, and abilities, and find meaning in their own uniqueness. In embeddedness cultures, the preferred response is to view people as entities embedded in the collectivity. Meaning in life is expected to come largely through identifying with the group, participating in its shared way of life, and striving toward its shared goals. Embedded cultures emphasize maintaining the status quo and restraining actions that might disrupt in-group solidarity or the traditional order.

Based on the conceptual definition of each cultural orientation, I specified a set of basic values that express that orientation and might therefore serve as markers of its importance in a society. I selected these values from the 45 (later 46) value items demonstrated to have relatively equivalent meanings across cultures (Schwartz, 1992, 1994, 2005). For the embeddedness orientation, I chose the following 11 value items as potential markers: *social*

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order, respect for tradition, family security, national security, politeness, self-discipline, forgiving, obedience, honoring parents and elders, devout, and wisdom. A multidimensional scaling analysis of the intercorrelations among the 46 value items, using 195 samples from 70 countries as units of observation and sample means as input, revealed that these items do indeed form a set (Schwartz, 2006). This set also included moderate, clean, protecting my public image, and reciprocation of favors. In the current study, the mean importance of these 15 values in a country measures its cultural embeddedness orientation. Egypt and Yemen are especially high on embeddedness; Switzerland and Austria are especially low.

Associations of national scores on embeddedness with various other country characteristics provide a richer sense of the meaningfulness of this cultural orientation. The following correlations are based on analyses across at least 72 countries and all are greater than $|r| = .50$ ($p < .001$, 2-tailed). Embeddedness correlates positively with national levels of family size, household size, birth rates, corruption in business, and opposition to homosexuality and divorce. Embeddedness correlates negatively with national levels of life expectancy, democracy, rule of law, government effectiveness, women's equality, and public expenditures on health, unemployment, and social security benefits. All of these correlations are significant even controlling country affluence with which embeddedness correlates negatively.

Change in Cultural Values

My goal is to identify factors that constitute historical causes of contemporary national differences in cultural embeddedness. Such factors should not be involved in reciprocal causal relations with embeddedness. Rather they should be exogenous factors, factors whose variation is independent of current or recent national levels of embeddedness. How far back in time need we go in order to identify such exogenous causes? To answer that question we need a sense of the pace of change in cultural values. Three historical case studies of culture change provide an initial perspective on the pace of culture change.

Kohn and Schooler (1983) theorized that the experience of serfdom promotes conformity values and constrains autonomy values. They studied value differences among ethnic groups in America whose ancestors came from European countries in which there never was serfdom or in which it ended some time between 1600 and 1861. They confirmed the hypothesis that the more recent the release of the peasantry in a country from serfdom, the less autonomous the values of the ethnic group in America that had emigrated from that country. Moghaddam and Crystal (1997) traced the value-based norms that govern authority relations and the treatment of women in 20th century Iran and Japan even farther back. They found the roots of these current norms in pre-Islamic times (1500 years earlier) in Iran and in the early Tokugawa era (400 years earlier) in Japan. Putnam (1993) traced the success of democracy in different regions of Italy to cultural roots beginning in the 12th century. These cases suggest that cultural elements can persist for centuries.

Empirical analyses of cultural value orientations across countries have examined the extent to which national differences change or remain stable. Inglehart and Baker (2000) studied change in the scores on two value dimensions of 38 countries that participated in the World Values Survey (WVS). Over an average interval of nine years, national scores on 'traditional vs. secular rational values' correlated .91 and scores on 'survival' vs. 'self-expression values' correlated .94. Welzel, Inglehart, and Klingemann (2003) studied change in 'emancipative values' (values that emphasize human choice). National scores for 50 countries from the WVS in 1990 correlated .95 with scores in 1995. Between 1995 and 2000, national scores for 27 countries correlated .94. I examined change in the embeddedness cultural orientation in 21 countries over an average interval of seven years. Several of the countries had undergone major social change during the 1988-99 period of the study (China, Hong Kong, Poland, Hungary) and many of the samples were not very well-matched across the two times. Nonetheless, the correlation was .90. In sum, cultural differences are quite stable: The relative positions of countries on cultural value orientations change very slowly.

Causal Explanations of Cultural Differences

The slow change in cultural differences has clear implications for potential causal explanations. The major causes of cultural differences are unlikely to be found in current or recent aspects of the social structure or of other characteristics of societies. Georgas, van de Vijver, and Berry (2004) sought to understand differences in the value emphases of countries using what they call ecosocial indices. These included sets of variables from the economy, ecology, education, mass communication, population, and religion domains. From the perspective of this chapter, their analyses entailed examining relations of social structural, demographic, and one type of cultural factor (religion) to the core cultural variable of value orientations. They found that national scores on various value dimensions related systematically to the cluster membership of countries based on the ecosocial indices. Some value dimensions were measured in about 1970, others in about 1992. The two strongest and most consistent predictors of ten different value dimensions were an affluence factor, based on data from 1987 to 1989, and the current majority religion in the country.

Can these two variables be viewed as causes of cultural differences? The observed pace of culture change precludes treating as causal contextual variables measured at approximately the same time as the cultural value orientations. Only if the relative affluence of countries and their majority religion have been stable for many decades or, perhaps, centuries, would this be justified. This is apparently not the case for affluence. Using gross domestic product per capita (GDPpc) as an index of affluence, only 43% of the 1990 variance in GDPpc was shared with 1913 GDPpc across 44 countries. Between 1950 and 1990, 49% of the GDPpc variance was shared across 48 countries.¹ The dominant religion has not changed in most countries during the last century. Nonetheless, there are cases where the current majority religion differs from the historical religion that would have influenced cultural value development many decades ago. A few examples: Roman Catholicism is now the majority religion in the Netherlands, historically, it was a Protestant country. Fiji is currently predominantly Christian, historically, traditional beliefs dominated. Such beliefs also dominated in several African countries where Islam or Christianity is now the majority religion.

Gouveia and Ros (2000) specifically examined economic and social characteristics of countries that might explain variation in the embeddedness cultural orientation, among others. The major predictors of higher embeddedness that they identified were higher birthrates, fewer elderly, and lower affluence. These findings were based on data from 17 countries measured only a few years earlier than the embeddedness indexes. Thus, we can have little confidence that they point to causes.

Inglehart and Baker (2000) explicitly sought to understand causes of national differences on their two cultural value dimensions. They too found that a measure of affluence and the dominant religion were significant predictors. Their analyses identified the percentage of the labor force employed in industry and in services and the experience of communist rule as additional causes. Sensitive to the issue of slow change in cultural value orientations, they used the historical religious heritage of each country to measure religion and they took measures of their other variables from some 15 years prior to the values data. Historical religious heritage and the effect of communist rule over 40 years may be appropriate, but measuring the other variables with a time lag of only 15 years is probably too short to identify causes of culture. Because culture may well change more slowly than these presumed causes, at least part of the association between them may reflect the earlier influence of culture.

What is a sufficient time lag to identify causes of culture? The major cross-national studies of culture based their estimates of cultural value orientations on aggregated data from samples with an average age between 35 and 40. Most theories of value development and

¹ Sources: *World Bank Development Report 1992* and Maddison, A. (1995). *Monitoring the World Economy, 1820-1992*. Paris: OECD Development Centre.

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cultural transmission postulate that the critical period of value formation is in the mid-teens (e.g., Inglehart, 1997). This suggests that causal variables should be measured at least 20 years earlier. A second requisite for persuasive causal variables is that they be exogenous to culture. That is: (1) Their measurement must clearly precede the measurement of culture; (2) There must be plausible mechanisms that link them to the level of the cultural variable; and (3) The cultural variable they presumably cause must not influence them.

Reciprocal causality probably links cultural value orientations to many of the variables suggested as their cause. Although country affluence influences culture, for example, it is influenced by cultural embeddedness vs. autonomy. The 1995 autonomy/embeddedness score in 64 countries explains 19% of the *change* in GDPpc between 1950 and 2004.² A plausible explanation is that cultural autonomy promotes growth because, as economies become more industrialized or move into services, they require increased creativity, innovation, and independence. Cultural embeddedness may restrain such change because it emphasizes conformity and maintenance of traditional patterns.

The level of democracy in countries may also influence culture, but this influence too is reciprocal. Autonomy/embeddedness and the egalitarianism/hierarchy scores in 64 countries in 1995 explain 34% of the *change* in level of democracy between 1972 and 2002.³ Both autonomy and egalitarianism promote and legitimize the granting of civil rights and political influence to individual citizens because they assume individuals are capable of responsible decision-making. Hierarchy and embeddedness promote and legitimize preserving the concentration of power in the hands of leaders and viewing citizens as unfit for socially responsible, independent decision-making. The bottom line is that the search for truly exogenous causes of culture must be wary of reciprocal influences.⁴

Causes of Cultural Embeddedness Orientation

This chapter presents data on three probable causes of national differences in the cultural embeddedness orientation. There are doubtless other causes as well. However, these variables meet the criteria for plausible endogenous causes and each contributes uniquely and significantly to our understanding of why contemporary countries differ as they do.

Religion. The first potential cause of national differences in cultural embeddedness is the historically dominant religion in each country, the religion of the majority during the formative period of the state. For this purpose, I used the dominant religion during the 19th century. If the country emerged later (e.g., Israel, India, Pakistan), I used the historically dominant religion of the population that formed that state. I created dummy variables for six religions: Roman Catholicism, Protestantism, Eastern Orthodoxy, Islam, Eastern (combining Hindu and Buddhist), and Traditional Beliefs. The analyses contrasted each religion with all of the others, including Judaism for which there was only one country.

I hypothesized that particular religions promote embeddedness and others weaken it. Specifically, Islam should promote embeddedness because, although all religions tend to tie the individual to the community, Islam is likely to do so especially strongly (Lewis, Lambton, & Holt, 1977). In Islam, religious law governs all behavior, emphasizing group solidarity and downplaying the importance of the individual. It builds a sense of shared communal fate through recalling a once glorious past in which it ruled much of the civilized world, and it seeks to unite the faithful in the struggle to recover that glory. It emphasizes the values of its in-group in contrast to the dominant Western world whose values it rejects.

² This is based on predicting the residual variance in 2004 GDPpc not explained by 1950 GDPpc.

³ This is based on predicting the residual variance in 2002 democratization not explained by 1972 democratization.

⁴ Schwartz (2007) reports analyses that show the reciprocal influence between cultural values and family size as well.

In contrast, both Catholicism and Protestantism should weaken embeddedness compared with other religions. Throughout the ‘dark ages’, church scholars preserved intellectual traditions that were rooted in Greek and Jewish sources and that stressed the centrality of the individual and challenged accepted scientific and social views. Building on these sources, Western Christianity and, later, Protestantism in particular, emphasized individual salvation, autonomy, and moral responsibility (Woodhead, 2004). From the 19th century on, churches developed social institutions that took responsibility for many functions formerly left to extended primary groups such as health care, schools, and social welfare. From late in the century, social convictions nurtured by Western Christianity were the underpinning of ideologies that held the state responsible, through its institutions, to provide for and protect the individual, thereby reducing individuals’ dependence on their in-groups. These ideologies took political form in the development of Christian Democratic parties across Europe and Latin America which promoted social welfare policies that dramatically changed the status quo of societal organization (Fogarty, 1957; Mainwaring & Scully, 2003).

Ethnic Heterogeneity. I hypothesized that greater ethnic heterogeneity leads to a stronger emphasis on cultural embeddedness. Ethnic heterogeneity is greater the larger the number of different ethnic groups in a country and the more equal their size. The greater the number and numerical equality of ethnic groups, the more salient ethnicity is likely to be everyday life. High salience of ethnic divisions encourages identification with one’s own ethnic in-group, self-definition in terms of ethnic group membership, sharing in and identifying with in-group goals, reliance on the in-group as the main source of meaning, protection, and reciprocal provision of goods and resources, and conformity to the authority of the in-group in defining desirable life styles. These are the emphases of an embeddedness culture.

I measured ethnic heterogeneity with the Alesina et al. (2003) index of ethnic fractionalization. This index measures the probability that any two randomly selected people from a country will belong to different groups. The reasoning regarding relations of ethnic heterogeneity to embeddedness applies in part to linguistic and religious heterogeneity too. Because ethnicity captures the sharpest group divisions across the full set of countries, however, I limit my analyses to ethnicity heterogeneity. Uganda is the country highest in ethnic heterogeneity, South Korea is the lowest.

The heterogeneity data are largely from the early to mid-1990s. This would be a problem if there have been substantial shifts in the ethnic composition of countries over the previous 30 plus years, or changes in the definitions of ethnic groups. It would raise the possibility of reciprocal influence between ethnic heterogeneity and cultural embeddedness. Based on historical analyses and correlations with earlier measures of fractionalization, however, Alesina et al. (2003) conclude that “ethnic fractionalization displays tremendous time persistence.” Moreover, cultural embeddedness is conducive to opposing immigration by foreign ethnic groups (Schwartz, 2007). Hence, past reciprocal influence would favor a negative association between ethnic heterogeneity and cultural embeddedness, the opposite of my causal hypothesis.

State Antiquity. The embeddedness cultural value orientation encourages and legitimizes identification with the extended primary group, conformity to its expectations, and maintenance of its traditions. These normative expectations are likely to be taken for granted when social conditions make the individual highly dependent on the in-group to supply life’s material, social, and emotional resources. These conditions change with the emergence of the state. The development of secondary institutions in the wider society (e.g., formal governments, schools, courts, hospitals, armies, large corporations) reduces the importance of extended family groups. These groups become less critical bases of communal action and sources of protection and provision for the individual. Instead, there is encouragement for recruiting individuals into positions in society based on their individual skills and interests. These changes weaken the

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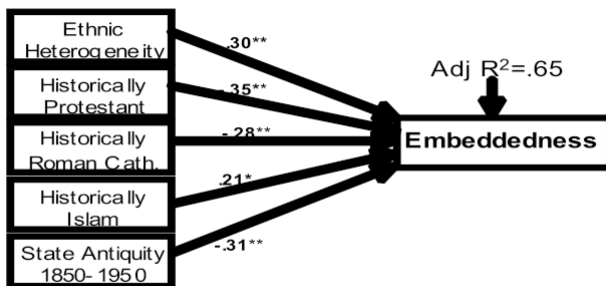
cultural embeddedness value orientation and promote the autonomy orientation that legitimizes and promotes pursuit of individual talents, interests, and preferences.

The longer a viable state has existed in the territory that currently constitutes a country, the more opportunity there has been for secondary institutions that free the individual from dependence on extended family groups to develop and become effective. For every 50 year interval from the year 0 to 1950, Putterman's (2004) 'state antiquity' index measures the extent to which territories were governed in a manner that encouraged development of formal modes of self-government and secondary institutions. The index reflects (a) the existence of a government above the tribal level during the interval, (b) whether the government was indigenous or externally imposed, and (c) the proportion of the territory of the modern country that it controlled. I used the state antiquity index covering the 1850-1950 period as a potential cause of (lower) cultural embeddedness.⁵

Empirical Analyses

I assessed the causes of cultural embeddedness with data from 77 cultural groups in 74 countries. These countries include approximately 80% of the world's population and are located on every inhabited continent. I treated French-speaking and English-speaking Canada, Jewish and Arab Israel, and East and West Germany as separate cultural groups. The geographical distribution of cultural groups is as follows: 9 Sub-Saharan Africa, 7 North Africa and Middle East, 6 East Asia, 6 South-East Asia, 3 North America, 9 Latin America, 17 East Europe, 17 West Europe, 3 Oceania. The median year of data gathering was 1995, with 80% between 1991 and 1998. For 58 groups, data were obtained from elementary and high school teachers and from university undergraduate students. I averaged the embeddedness scores of the teacher and student samples for a group score. In the 18 cases where only one or the other type of sample was available, I estimated the score of the missing sample by regression and then averaged the two scores.

To test the hypotheses, I regressed the cultural embeddedness orientation scores on their five postulated causes. Figure 1 presents the results of this analysis. Together, the five predictors explain 65% of the variance in cultural embeddedness.



* $p < .01$, ** $p < .001$, 2-tailed

Figure 1. Causes of Cultural Embeddedness across 77 Cultural Groups: Betas.

Each makes a unique, significant contribution. Cultural embeddedness is greater in countries with more ethnically heterogeneous populations and in countries where Islam is the historically dominant religion. Cultural embeddedness is weaker in countries where Western Christianity (Protestant or Roman Catholic) dominated during their formative years and in

⁵ Data available at http://www.econ.brown.edu/fac/Louis_Putterman/antiquity%20index.htm. I used version 3.

countries whose history of state building was less likely to encourage development of formal modes of self-government and secondary institutions during the century from 1850 to 1950.

Possible Problems with the Causal Analysis

Ignoring Affluence. Might the causal explanations confirmed by the regression be overestimates? Country affluence relates reciprocally to cultural embeddedness, hence, it is not purely exogenous. Nonetheless, affluence might have some causal influence that the analysis attributes to the other causes. To estimate the maximum possible causal impact of affluence, I regressed cultural embeddedness on GDPpc in 1985 (the latest year prior to measuring embeddedness for which affluence data is available for all countries). This maximum estimate assumes that affluence causes cultural embeddedness with no reciprocal causality, contrary to what we know. The analysis attributed a maximum of 36% of the variance in cultural embeddedness to GDPpc. This compares with 65% for the exogenous causes.

I then asked: Does affluence explain any variance in cultural embeddedness that the five exogenous causes do not already explain? In a hierarchical regression, I entered the five exogenous causes first, followed by GDPpc. GDPpc added only 7% to the explained variance. Some of this added variance reflects the influence of embeddedness on affluence. Hence, it appears that affluence itself is best seen as a very weak cause of cultural embeddedness. Even after affluence is included as a predictor, the five exogenous causes contribute significantly, all $p < .01$.

Galton's Problem. Galton pointed out that cultural and institutional features of a population often diffuse to other societies, creating non-independence among units of analysis (Naroll, 1973). This causes a problem for regression analyses using countries as the unit of analysis because the inferential statistics assume independence among the countries. The current analyses may therefore overestimate the statistical significance of the findings and may even misidentify some causes.

Diffusion is especially likely among geographically proximate countries or countries that share a common colonial experience. Because of their more frequent contact, nearby societies are more likely to influence one another's values, norms, practices, institutions, religion, and language and even to impose them on one another, as colonial regimes often do. The diffusion of culture through trade and migration can also occur more easily over short distances. Studies that examine the cultural values of many countries point to the importance of diffusion. They conclude that the world is composed of cultural regions, characterized in large part by geographical proximity (e.g., Hofstede, 2001; Inglehart & Baker, 2000; Schwartz, 2006). Georgas et al. (2004) suggested that one way to reduce Galton's problem is to analyze clusters of countries that form cultural regions rather than to analyze single countries. The following analyses utilize cultural regions to take into account the diffusion of culture across countries.

Mapping countries on the seven cultural value orientations in my theory revealed eight culturally distinct world regions (Schwartz, 2006). The question is whether the causal factors we have identified explain regional differences in cultural embeddedness. That is: With regions rather than countries as the unit of analysis, is the pattern of association between the postulated causes and cultural embeddedness still the same? For each region, I computed the mean score on state antiquity and on ethnic fractionalization and the proportion of countries in the region for which each religion was historically dominant. With only eight regions, a regression including five predictors is not feasible. I therefore report correlations with the mean cultural embeddedness score across the eight regions. Table 1 reveals strong correlations in the expected direction for each postulated cause. This confirms the robustness of the findings with 77 cultural groups. It supports the inference that interdependence among groups due to diffusion did not produce misleading findings.

Table 1. Correlations of Causal Factors with Cultural Embeddedness across Eight Cultural Regions*Causal Predictors*

	<i>r</i>	one-tailed probability
Mean State Antiquity		-.78
	<.02	
Mean Ethnic Heterogeneity		.69
	<.05	
Mean Proportion Historically Protestant		-.67
	<.05	
Mean Proportion Historically Roman Catholic		-.50
	=.10	
Mean Proportion Historically Muslim		.66
	<.05	

A second way to assess the causal influence of the proposed factors, relatively free of the influence of diffusion, is to neutralize the effects of diffusion by studying the causes of variation in cultural embeddedness across the countries within cultural regions. The 17 countries in the East European region and 17 in the West European cultural region sufficed to permit separate regressions assessing the effects of the postulated causal variables within each of these regions.

Within the East European region, the postulated causes account for 64% of the variance in cultural embeddedness. Cultural embeddedness is weaker in countries lower in state antiquity during the preceding century ($p < .01$) and in countries whose historically dominant religion is Roman Catholicism ($p < .01$) or Protestantism ($p < .02$) (contrasted with Eastern Orthodox and Muslim). Ethnic heterogeneity does not contribute significantly. Within the West European region, the postulated causes account for 66% of the variance in cultural embeddedness. Cultural embeddedness is also weaker in countries lower in state antiquity ($p < .01$) and where Protestantism ($p < .02$) and Roman Catholicism ($p < .10$) were the dominant religions (contrasted with the Orthodox populations, i.e., Greeks and Greek Cypriots). Again, ethnic heterogeneity does not add significantly.

To check whether the weakness of ethnic heterogeneity as a predictor in these two regions suggests that it is not a robust cause, I compared its correlations with cultural embeddedness in each of the eight regions. This comparison revealed that the correlations are

particularly weak in East and West Europe and much higher ($r > .54$) in four of the regions. The latter correlations, together with the strong predictive power of ethnic heterogeneity at the regional level, support the robustness of ethnic heterogeneity as a causal factor. In sum, this second assessment of the causes of cultural embeddedness, which controlled effects of diffusion, reinforces the conclusions from the analyses that used 77 countries and cultural groups as the unit of analysis.

Conclusions

This chapter is an initial step toward identifying likely causes of national differences in cultural value orientations. I have brought evidence to show that basic cultural elements like value orientations change slowly over decades and perhaps centuries. Moreover, the relative positions of countries on these orientations are quite stable over considerable periods. Consequently, when seeking the causes of cultural value differences, it is necessary to examine factors in the historical past of societies, not recent social structural, political, or demographic variables. To qualify as persuasive causes rather than mere correlates, these factors must meet three criteria: (1) They must refer to a variable that predates the measurement of culture by at least several decades; (2) There must be a convincing theoretical rationale for how they affect the level of the cultural variable; and (3) They must not be subject to reciprocal influence by the cultural variable itself.

The measures of affluence and other indexes of socio-economic development (e.g., literacy, division of labor) and of current or recent political and demographic variables that many researchers have related to culture do not meet one or more of these criteria. Many of these factors were measured too recently and/or are reciprocally influenced by cultural value orientations. I have proposed three types of causes that do meet the three criteria. They explain a substantial proportion of the variability in cultural embeddedness orientations across 77 cultural groups (74 countries). I have explicated how high state antiquity, low ethnic heterogeneity, and being rooted in Western Christianity rather than in Islam all reduce the need for individuals to depend on the extended ingroup. These factors thereby undermine the legitimacy of the normative expectations of cultural embeddedness and the functional advantages of this orientation for organizing daily life.

Future research should seek convincing causes of national differences in other cultural value orientations such as those of Hofstede, Inglehart, and my other six cultural orientations. The approach of this chapter can provide a model. The diffusion of cultural elements to nearby countries or to colonies poses a challenge to those who undertake this task. As we have seen, however, this challenge is not an insurmountable. To understand why the cultures of countries, ethnic groups, or other cultural units differ from one another, as Herodotus and daily observation attest, is a fascinating and exciting goal.

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Cultures of Infancy. The Foundation of Developmental Pathways

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Development can be understood as a series of universal developmental tasks that pattern the human life span. These developmental tasks evolved during the history of humankind, mainly to solve recurring adaptive problems. They are functionally related to each other in the sense that the solution of earlier tasks influences the solution of later developmental tasks. Thus developmental and biographical continuity emerge. The resulting developmental pathways, however, are not conceived of as being absolutely determined by the earlier influences. Developmental pathways are informed by earlier as well as concurrent influences. Plasticity, yet not unlimited, characterizes developmental pathways as well as continuity.

Humans are equipped with a universal repertoire of behavioural predispositions in order to solve the developmental tasks. These predispositions are activated during focal developmental phases, when the solution of the developmental task becomes central for developmental progress. The solution must be contextually sensitive so that locally defined competencies result as a pattern that is adaptive in this context. In line with these considerations, different conceptions of competence and intelligence have been documented (Atran, Medin, & Ross, 2005; Keller, 2007; Sternberg & Grigorenko, 2004). These conceptions of competence are rooted in cultural models of the self.

Two prototypical models of the self can be differentiated being adaptive for two extremely different contexts, the model of independence and the model of interdependence (Kağıtçıbaşı, 1996; Markus & Kitayama, 1991).

The model of independence conceives of the self as the centre of mental states and personal qualities. This essentialist self is stable across time and situations. Personal autonomy and separateness from others are the basic anchors of the independent self construal. Individuals tend to self maximization and self expression. This conception of the self is adaptive in an urban environment that is characterized through anonymous encounters and competition even between familiar individuals including family members.

The model of interdependence conceives of the self as part of a social system, mainly the family. The self construal is context sensitive and fluid. Relatedness and heteronomy are the basic anchors of the interdependent self. Individuals strive for harmony and accept hierarchy and role-based authority. This conception of the self is adaptive in rural face-to-face societies that are characterized through cooperation and conformity.

Both conceptions of the self can be characterized as relating to different economic and sociodemographic parameters. Urban middle-class families following the model of independence have a high level of formal education, start family formation in their earlier to mid thirties and have only few children (the national mean values for Germany and Greece are e.g. 1.3 which means that the figures for middle-class members only is even smaller).

Rural farmers living in traditional villages generally have a low level of formal school experience and associated with that a rather low economic standard of living. They start family foundation rather early, for women mainly in their late teens and have comparably more children, who, however, do not all survive.

The different economic and sociodemographic parameters model the reproductive life strategy and thus the parenting styles for raising children. Based on these parenting styles, children construct and co-construct their first representation of the self which in the following course of development orchestrates the consequent developmental tasks (Keller, 2007).

In the following paragraphs, first parenting strategies are described that support the two cultural construals of the self. Then major developmental tasks of the following developmental phases will be characterized briefly: self recognition and self regulation at the end of the second year, the development of the autobiographical memory with about 3 years, and the development of a theory of mind with about 4 years of age.

Cultural Conceptions of Parenting Strategies

Parenting represents a significant cultural activity. It can be regarded as the major mechanism for the transmission of cultural values and practices from one generation to the next. The socialization of children into the cultural scripts of the social environment is a major task and responsibility of families (LeVine, 1977). Socialization is enculturation through participation in everyday activities embodying goals, values, beliefs, and emotions of the participating individuals. Socialization thus comprises conscious and intentional as well as unconscious and intuitive practices.

Our conceptualization of parenting strategies is based on Whiting's (1977) model of ecocultural research (Figure 1).

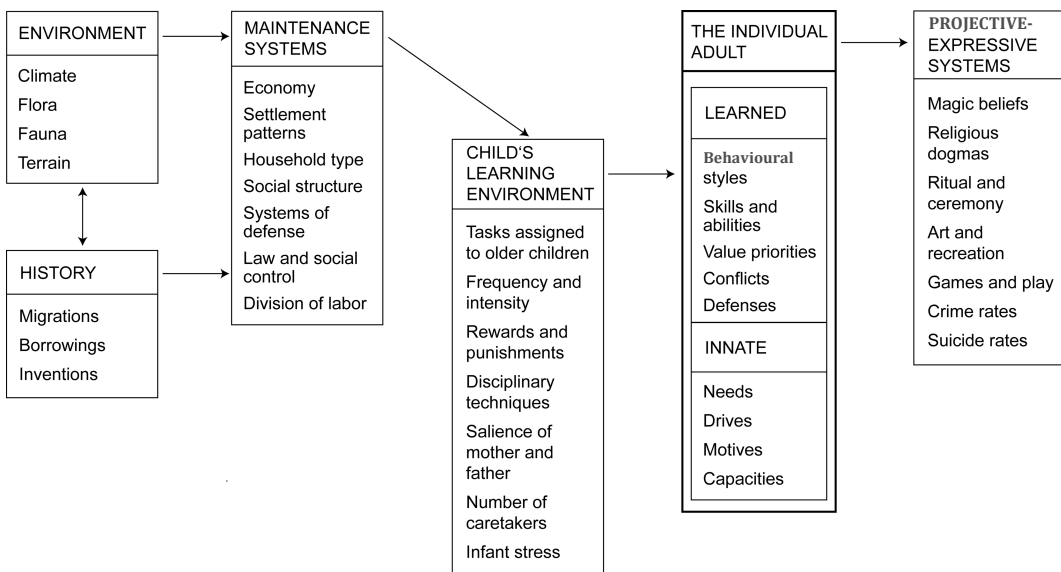


Figure 1. The Model of Ecocultural Research (Whiting, 1977).

This model is encompassing in that it starts with the parameters of the physical environment, like climate and terrain, which interact with the history of humans living in that physical environment. Particular economic and social systems develop which define children's learning environment which eventually shapes adult psychology and behaviour. Thus, the model combines evolutionary as well as cultural conceptions of development (Keller, 2003). This model informed our conceptualization of parenting strategies (Figure 2).

In line with this model, we assume that the physical environmental structure defines population parameters which in turn inform particular socioeconomic structures. The aggregate of these different levels is represented in cultural models, specifying the roles of autonomy and relatedness as adaptive strategies within particular environments. Cultural models specify parenting strategies, as composed from socialization goals, parenting ethnotheories, and

behavioural strategies. Parenting strategies are thus nested into the connotative space of cultural models.

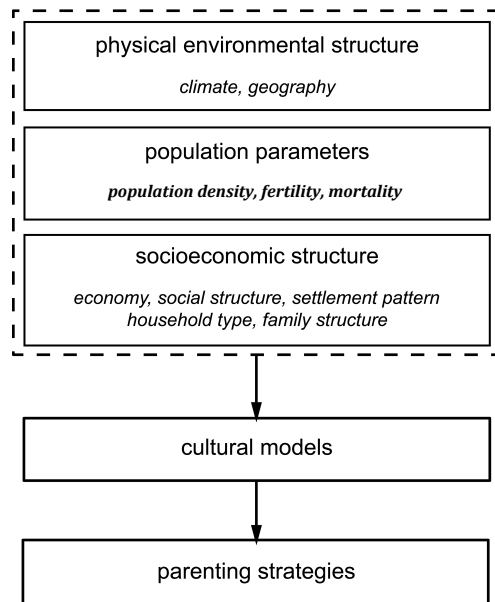


Figure 2. The Ecoculture of Parenting (Keller, 2007).

The cultural models of independence and interdependence can be understood as filters for the selection of adequate parenting beliefs and practices.

The First Integrative Developmental Task: Relationship Formation

The formation of primary relationships can be considered the first integrative developmental task that human infants must master. Due to their extreme helplessness (*altriciality*), infants are vitally dependent upon a caregiving environment that provides nutrition, hygiene, protection, and social interaction. Nevertheless, infants are born with behavioural predispositions that elicit and foster caregiving behaviours from their social environments, as well as the capacity for learning. With the particular physical appearance of babyhood (*Kindchenschema*, Lorenz, 1969 [1943]), they attract attention and release positive emotions. They are particularly prepared for social interaction. They prefer the human face over other perceptual displays and behave differently towards people as compared with objects. They process meaningful language units from their linguistic environment, are sensitive to stimulation, and experience relief when comforted. Based on their active participation in social interactions they construct their social matrix and their conception of themselves within this matrix (Keller, 2003; Keller & Greenfield, 2000).

However, the design is not perfect at birth. For example, newborns can see, but vision is still imperfect inasmuch as convergence and acuity are not yet fully developed, vision and movement are not yet coordinated, and the memory span lasts only about one second. Therefore, infants need a special co-designed caregiving environment. For this reason also, caregivers are endowed with behavioural dispositions to care for and to interact with babies. Humans from about the age of two to three years display parenting skills which enable them to perceive and process communicative cues from babies and to respond to them in appropriate ways. These behavioural predispositions are shaped by the cultural environment into adaptive parenting

strategies. Cultural processes are intrinsically intertwined with evolved developmental tasks, so that development constitutes the interface between biology and culture (Keller, 2003, 2007).

The Independent Parenting Strategy

Middle-class families in the Western world want their children to become autonomous and independent, develop self confidence and self esteem as early as possible. From birth on, children are treated as quasi equal partners with the responsibility to mainly rely on themselves. In dialogical communication structures, already infants' wishes and preferences are acknowledged with the consequence that parenting is child-centered. A Los Angeles mother of 35 years with a first baby son at the age of three months develops her ethnotheory in an interview:

“I was trying to play with him but he was more interested in looking in the mirror, let him look in the mirror....let him explore....yeah ...versus trying to distract the baby....”

Besides focusing on autonomy, the ability of being able to spend time alone is another major topic. A 36 years old mother of a three months old daughter from Berlin explains her ethnotheory in an interview as follows:

(M = Mother; I = Interviewer)

M: In the end, it is important that the baby also plays by herself.

I: Yeah

M: I leave her consciously alone sometimes, so that she is not always distracted or that somebody plays with her

I: Hm

M: Has...moments for herself. I find this ideal.

I: Yeah, why is it important, that she is alone sometimes?

M: Yes, the baby can simply concentrate on her toys. Sometimes I deliberately put a toy into her bed, so that she can play with it.

These beliefs and ideas, that we call ethnotheories in order to emphasize their cultural nature, are translated into particular behavioural strategies; caregiver and infant spend time exclusively with each other. Face-to-face contact is the central communicative channel during the early months of life. Babies spend a considerable amount of time lying on their backs and mother or father bending over them, looking, talking, and mirroring the baby's signals. Parents basically respond contingently to infants behavioural cues, i.e. in a time window faster than a second. This intuitive regulation matches the memory span of the infant during the first months and allows the baby to link the own behaviour with that of the interactional partner and thus experience causality (Keller, Kärtner, Borke, Yovsi, & Kleis, 2005). Besides face-to-face exchange and eye contact, object play and toys are the second important domain of parenting as expressed in the interview examples. This parenting strategy is distal, in that the distant senses are the major avenue of building emotional bonds between caregiver and infant.

Examples from conversations of Euro-American mothers from Los Angeles interacting with their three months old babies are:

“Want to look at mommy for a second or are you busy? Busy huh? Yes...”

“Okay, should I read another little book to you, in Greek?”

“What are you looking for? What are you looking for, darling? Do you need this instead?”

“I am going to leave you alone so you can play all by yourself”

It is obvious that the mothers address their babies as mental beings with needs, preferences, and wishes that need to be taken serious. They confirm the self worth of the baby and transmit a positive and self maximizing picture:

“Look at those strong legs.....Look, how big that big boy is?....Super baby, super baby...Look at that...Look at that big boy..”

The independent parenting strategy represents a consistent model across cultures. This means that the interaction format of Euro-American, German or Greek middle-class families is similar, although there are also differences. These differences, however, modulate different aspects of independence, which are all substantially different from an interdependent parenting strategy.

The Interdependent Parenting Strategy

Rural, subsistence-based families in traditional villages place major emphasis on their children's relatedness with their families from birth on. Being respectful to parents and elders and live harmonious relationships are central topics on the socialization agenda. The self is fluid in order to navigate along different expectations with respect to social obligations. Agency is defined interdependent (Kitayama, 2002). Personal autonomy is not evaluated and separateness is unthinkable. These ideas and socialization goals are represented in parenting ethnotheories specifying children as novices from birth on who need to be trained and controlled. Parenting is parent-centered, because parents best know what is good for their children, so that there is no need to explore their wishes. Children are gifts from gods and represent the links to the ancestors. Health and growth are the primary targets of parental care, breastfeeding and body contact the primary components of parenting (Keller, 2007). Whereas in the independent strategy it is the optimization of positive emotionality, the avoidance of negative emotionality is it here, since negative emotions may indicate problems with health and growth (Keller, 2003).

An 80 years old illiterate farmer from rural Gujarat in India with 5 daughters and numerous grandchildren expresses the following opinion in an interview:

(GM = grandmother; I = interviewer)

I: Yes, so do you feel breastfeeding is essential?

GM: Yes, breastfeeding has to be done.

I: Why do you feel so?

GM: If [a baby] cries, breastfeeding have to be done and have to be carried.

I: So breastfeeding is essential?

GM: Yes.

I: So, what is the benefit of breastfeeding?

GM: Breastfeeding has to be done.

I: Yes, so

GM: He cries, so breastfeeding.

I: He doesn't cry, then not breastfed?

GM: He cries, so make happy by carrying.

I: No, but what I am asking, is don't cry, then not breastfed?

GM: If don't cry, don't cry, so sleeps, then why breastfed?

I: So breastfeeding is to calm the crying child?

GM: Yes.

Health and growth are the guidelines for all parenting behaviours. Accordingly also objects and toys are assumed to serve these goals as a 39 years old Nso farmer, mother of 5 children, explains:

I: Why is it good to give a rattle to the child?

M: It makes the child to play and not cry again.

I: What happens when a child cries?

M: When he is crying too much, he can be ill.

The ethnotheories are expressed in interactional behaviours through extensive body contact, body stimulation, and the continuous monitoring of negative infant signals. Babies are always in close bodily proximity with others. The Nso babies spend most of their earliest weeks wrapped on the mothers' body, also when she does household chores or works on the farmland. Also the Gujarati babies experience co-occurring care. They are nursed when their mother is washing vegetables or cooking meals. This parenting strategy does not allow extensive face-to-face contact and exclusive dyadic attention. The conversations are brief, utilizing vocalizations more than verbal messages. Mainly social topics are addressed. The following example reports 2 minutes of conversations between a Nso farming mother interacting with her three months old baby.

Nso mother (39 years old, farmer, 8 children):

I: Why is that one good?

M: Because she is lifting the child up as they are playing and he is feeling fine.

I: Why is it good to be lifting the baby up like that?

M: So that the baby should become lighter.

I: Okay and what again? Have you seen how she is lifting

M: Yes.

I: Why is it good to be lifting the child and laughing with him like that? What happens to the baby when the mother is playing and laughing with him?

M: The baby will be feeling fine.

A mother from LA (37 years old, teacher, three months old daughter) explains the following in an interview:

I: So what is important about um their- their health, yeah, well

M: For the health of the baby, the intelligence, you know, bonding also is important, you know- like some people, you know train the baby to take a bottle, which I am in the process of doing, but- a lot of people do it so they can give it to somebody else the baby to feed the baby. But I think it's- it's really important in the beginning, in the first months of the baby's life for you to feed the baby, the mother to establish that bond. Especially in the first year of the baby's life.

I: Hm

M: So it's for physical needs, intellectual needs, emotional needs, social- you know, everything.

I: Ok, good. Here- I'll show you the next four ones.

M: Ok

I: Which one would you choose next?

M: Next, uh- I guess I would have to choose- I would choose this one.

I: Ok- why did you choose this one?

M: Uh- it looks like she is probably burping the baby <laughs> just- comes right after feeding the baby. It's very important because the baby becomes rid of gas, because if they don't they can feel falsely full and not get enough nutrition. Um- she could also be just holding the baby and soothing the baby, rubbing the baby's back which is important- something that you do all day, makes the baby feel good

I: Why is it important to-

M: Well, just as a matter, in other words, there is like five- five things you're supposed to do. You're supposed to- um- soothe your baby, um- so that you can create the environment that the baby had inside you for nine months. So: the baby being close to you, um, having physical contact, um, smoothing the baby, like that it sounds like when the baby was inside you. So that why I think especially in the beginning, they really need that contact, you know, to feel, you know, loved and, and safe, and again if she is burping for comfort and also not to- so that the baby can eat more, that's why you have to burp the baby in between the feedings.

Also the interdependent parenting strategy represents a consistent cultural script that has even narrower boundaries than the independent script. The intracultural variability among the Nso and the Gujarati farmers is substantially lower than among the Western middle-class families (Lamm & Keller, 2007).

Autonomous Relational Strategies

The two cultural models that we have discussed so far, the model of independence and the model of interdependence, can be regarded as prototypes, because they are not only substantially different from each other, in many respects they are exclusive of each other. This is e.g. visible in the fact, that what is the cultural norm in one model represents a pathological condition in the other: mother-infant symbiosis as the standard relational format in the rural villagers is a reason to refer to a family counseling in Western middle-class families. However, since independence and interdependence, autonomy and relatedness resp. are considered to represent independent dimensions, different combinations or mixtures can be conceived of (Kağitçibaşı, 1996). There are multiple possibilities for testing the co-occurrence of autonomy and relatedness in one cultural model. Kağitçibaşı (2007) has conceptualized this model for urban educated middle-class families in traditionally interdependent societies, like e.g., Turkey. We have included middle-class families from Delhi, India, Beijing, China, or San Jose, Costa Rica in our research design (Keller, 2007). Another possibility to test this model are historical or generational comparisons (Keller & Lamm, 2005; Lamm, Keller, Yovsi, & Chaudhary, 2008). In fact analyses confirm that there are multiple ways of combining the dimensions of autonomy and relatedness, not only in quantitative terms but also in terms of quality and meaning.

A 32 years old mother of two children from Delhi describes the role of body contact for caring for a three months old baby in an interview:

“Yes, it does. I am not saying that one should always be cuddling; there are lines to be drawn. Not always you should be cuddling the child, but there are times when the cuddling has to be there. Especially in the night when you are sleeping, saying to the child that I love you. That kind of thing makes a lot of difference to the child. Whenever you are lying down in the bed, cuddling with the child. For both me and my husband, make it a point that at least in a day two or three times, we have a nice hug with the children, a nice kiss and I love you types so that the child is feeling happy and she also feels good and she has also started doing it as a regular thing so...”

Obviously and in line with the dimension of relatedness, body contact is important to this mother, but not as a pervasive context of care as it is in the interdependent model. If this difference can still be interpreted as a quantitative difference, the following example addressing eye contact from the perspective of a 22 years old mother of a three months old baby girl from Delhi certainly describes qualitative changes of meaning:

“Both mother and child are complacent seeing each other happy so I think that this is okay, there is no need for the mother –I mean at this particular point the mother is just smiling at the baby and the baby is responding back smiling but the mother

is not creating any activity [so] that the child can talk, she is just holding the baby.”

However, eye contact is considered important, as an exclusive dyadic activity but also as a context for stimulation. Thus components of the model of independence and the model of interdependence are combined. Eye contact as the pattern of mutual gaze and concentration on the subtle signals during eye contact as so characteristic of Western middle-class mothers is not what the Delhi mother has in mind when she talks about eye contact. This change in meaning indeed establishes a new pattern of parenting.

The early social experiences help the infant to construct and co-construct an early and basic concept of self. Assuming contextual continuity, which is the most frequent environmental condition, it can be concluded that the early experiences lay the foundation for the solution of the next developmental tasks.

The Integrative Developmental Tasks of the Second Year: Self Recognition and Social Regulation

Approximately between 15 and 18 months of age, children begin to recognize themselves in the mirror (Bard, Myowa-Yamokoshi, Tomonaga, Tanaka, Costall, & Matsuzawa, 2005; Lewis & Brooks-Gunn, 1979). The self referential behaviour of a child in the “Rouge” test (the child is marked with rouge in the face without noticing it and without being able to detect it by peripheral vision) is regarded as expression of self knowledge. This should indicate a categorical self concept, i.e. a self that has boundaries and serves as the basis of action, communication, and emotion. It is assumed that the behaviour during the rouge test is independent from prior experiences with mirrors or shiny surfaces.

Social regulation concerns the abilities of a child to follow social rules and conventions and respect the normative framework of their family’s daily life (Kopp, 2001). Social regulation is expressed as compliance to requests, the delay of actions, and the modulation of emotions.

It can be assumed that early socialization experiences influence the timing of self recognition and social regulation. Autonomy promoting socialization strategies related to the cultural model of independence should accelerate self recognition whereas relatedness promoting socialization strategies related to the cultural model of interdependence should accelerate the timing of social regulation. The experience of socialization strategies related to the cultural model of autonomous relatedness should result in the acceleration of both self recognition as well as social regulation. These assumptions could be confirmed with longitudinal analyses of Greek middle-class families from Athens (model of independence), Cameroonian Nso farming families (model of interdependence), and Costa Rican middle-class families from San Jose (model of autonomous relatedness) (Keller, Yovsi, Borke, Kärtner, Jensen, & Papaligoura, 2004).

The Achievements of the Third Year of Life: The Emergence of the Autobiographical Memory

One’s autobiographical history is central for the self development (Ross, 1989). With about three years of age, a reliable memory for daily events develops (Fivush & Nelson, 2004). The capability to store experiences in a narrative structure emerges when language development allows the child to participate in conversations about past events with family members (Mullen, 1994). Cross-cultural studies have revealed that cultural environments differ markedly with respect to the onset of autobiographical memories. East-Asian children report their first autobiographical memories up to 17 months later than Euro-American children. The differences in onset are related to differences in mode and expression of autobiographical memories. An early onset is associated with an extended volume, specificity of memories, emotional elaborateness, and self reference. A later onset is associated with a skeletal volume, routine

memories that are emotional inexpressive. The content centers on relations and social norms and values (Han, Leichtman, & Wang, 1998). Cultural differences in the narrative embodiment of past events are thus consistent with the narrative environment from infancy on. The differences reflect the inclination to the cultural models of independence and interdependence and autonomous relatedness. The following examples are brief excerpts of mother-infant conversations about past events, which is the standard method to assess autobiographical memory in small children.

A German (middle-class) mother-child interaction representing the cultural model of independence, concentrates on a birthday party:

M: Where did you see the dogs yesterday?

C: I saw them on a birthday party.

M: On a birthday party, exactly! How did you like the birthday party?

C: It was nice -First I had been a little bit afraid but than I've pet them.

M: Yeah, I'm really proud of you!

The mother refers to the agency of her daughter and asks for her evaluations ("how did you like the birthday party?") and emotionally appraises the child ("I'm really proud of you"). The child has already acquired the same conversational style with personal judgments ("it was nice") and agency with respect to emotions ("I had been a little bit afraid") and action ("I have pet them").

A Cameroonian Nso farmer, representing the cultural model of interdependence, talks with her same-aged daughter about a visit to a church service:

M: Do you remember when we went to church yesterday?

C: Mhm

M: We went to church, not so? And after the ceremony, we went to Mi's mother's compound to eat what?

C: I don't know.

M: No. Say it correctly. We ate puff-puff and rice, not so. And what was Amina's mother telling you?

C: That... that I should listen.

In line with her cultural script, this mother refers to co-agency ("we went to church", "we went to Mi's mother"; "we ate puff-puff and rice"). She emphasizes social contexts (church service) and encounters ("visit to Mi", "Amina's mother"). She repeats what she says ("we went to church") and gives clear instructions to the child ("say it correctly"). The child's style is skeletal ("Mhm"; "I don't know"), repetitive, and normative ("that I should listen"). Also the communal character of child rearing becomes obvious here, when also Amina's mother instructs our target child.

The San José middle-class mother, representing the cultural model of autonomous relatedness, finally talks with her three years old son about a wedding:

M: David, do you remember when we went to celebrate auntie Sandra's and uncle Jorge's wedding? Did you like it there?

C: Yes.

M: And how did we celebrate it?

C: I don't know.

M: What did we do at the wedding?

C: I was dancing.

M: You were dancing, right.

The San José mother nicely demonstrates that she combines autonomy and relatedness expressing narrative elements to a much larger degree than the mothers in the two previous

examples. She uses co-agency (“we went to celebrate”, “how did we celebrate”) but she also uses agency with respect to preferences (“did you like it”) and action (“you were dancing”). She refers to other people (auntie and uncle) and uses elaborations (“do you remember”) to stimulate the child to actively participate in the conversation. Also the child uses both codes, is unspecific (“I don’t know”) and agentic (“I was dancing”) at the same time.

These are only very brief examples that nevertheless are representative of the different conversation styles.

Overall, these examples demonstrate that the development of the autobiographical memory as the narrative structure of the self is localized in everyday conversations that reflect cultural codes consistent through the different developmental stages.

Further Steps in Self Development: The “Theory of Mind”

The last step in the development of a core conception of the self consists in the conviction that humans are mental beings, whose behaviour is based on mental states and processes. This implies the understanding that needs, beliefs, and emotions differ from person to person. Wellman and Miller (2008) summarize “...that beliefs and desires are (a) prototypical inner psychological states, not overt behaviors, (b) frame a conception of persons as intentional agents, and (c) along with related constructs such as perceptions and emotions, provide explanations of human action and life.” The understanding of false beliefs is regarded as a central component of children’s “theory of mind”, since it demonstrates the existence of symbolic representations (Dennett, 1983).

The acquisition of a theory of mind represents a universal developmental task (Keller & Chasiotis, 2006). However, it is more and more recognized that different sociocultural environments also prompt different architectures for the theory of mind. Empirical studies have demonstrated that social class and number of siblings, especially older ones, influence the timing of the understanding of false beliefs, even if language competence is controlled (Ruffman, Perner, Naito, Parkin, & Clements, 1998).

On the other hand, the socioeconomic situation of a family and the number of siblings in a family are building blocks for sociodemographic contexts that are associated different cultural models of the self. Different parental strategies associated with these models influence the development of the theory of mind. An elaborated narrative environment, the discussion of mental states in everyday situations, and fantasy play accelerate the early emergence of the theory of mind. Similar to the early development of the autobiographical memory, a maternal narrative style focusing on autonomy is crucial for the early development of a theory of mind (Ruffman, Slade, & Crowe, 2002). Accordingly, Japanese children who are raised with more reference to relatedness develop the understanding of false beliefs later than Western children (Naito, 2003).

In a cross-sectional cross-cultural study, Chasiotis, Kiessling, Hofer, and Campos (2006) tested the occurrence of a theory of mind with children that can be associated with the three cultural models: German, Costa Rican and Cameroonian children. The theory of mind was assessed with a battery of different tasks; age, gender, sibling status, language understanding of the children and mother’s education were controlled. The results are summarized in Figure 3.

The results confirm the assumptions that the German and the Costa Rican children give significantly more correct answers than the Cameroonian children.

Also data from our longitudinal studies confirm significant differences between German middle-class children and Cameroonian Nso farmers’ children (Figure 4).

These differences are also informed by the nature of the task that has been developed in Western laboratories, based on Western worldviews. It would be very important to develop tasks assessing theory of mind that also take interdependent world views into account.

Nevertheless, the cultural analysis of universal developmental tasks clearly demonstrates that developmental pathways are informed by broader cultural models that negotiate the dimensions of autonomy and relatedness differently.

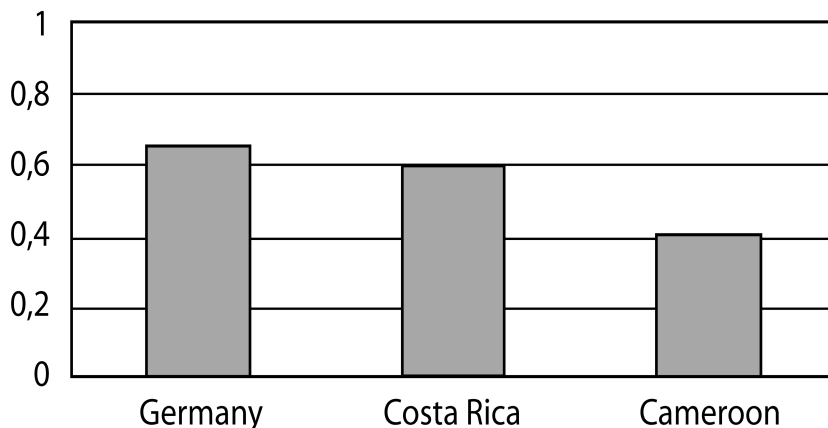


Figure 3. False Belief Tasks in German, Costa Rican, and Cameroonian children.

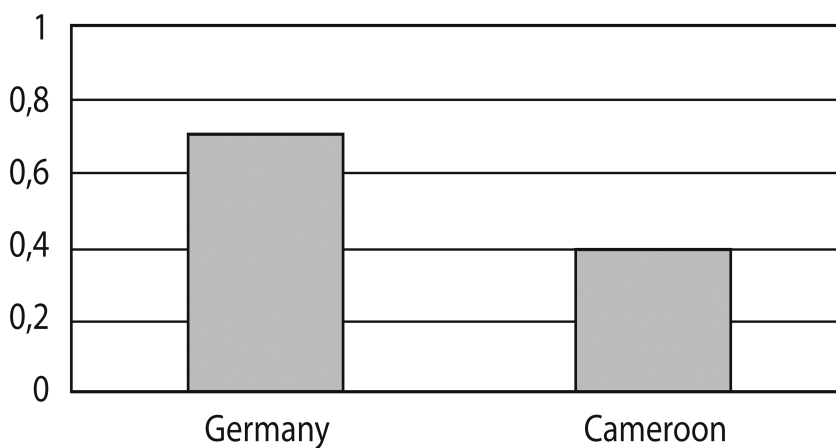


Figure 4. False Belief Task in German Middle-Class and Cameroonian Nso farmers' children.

Instantiations of the Self

So far, we have dealt with developmental milestones that children have to master as part of their developmental pathway to the competent self. A logical next question is not only to ask how children understand others, but also how they see and perceive themselves. One avenue to the analysis of self perception are children's drawings. The current and past literature on children's drawing consists largely of developmental studies relating the way formal elements change with increasing age and the ways children use visual forms to symbolically represent themselves and the world around them. Thus, children's drawings of themselves can also be understood as a materialized way to express the cultural concept of the self. In a cross-sectional project, we analyzed Cameroonian Nso and German children's drawings of themselves (Keller & Rübeling, in press). All children were assessed in kindergartens; familiarity with paper and pencil as well as the act of drawing was given. The analysis of the self drawings in two conditions (self alone and self in family) revealed that the developmental sequences of drawings from scribble to tadpole to figurative/conventional drawing occurred at comparable ages (Figure 5).

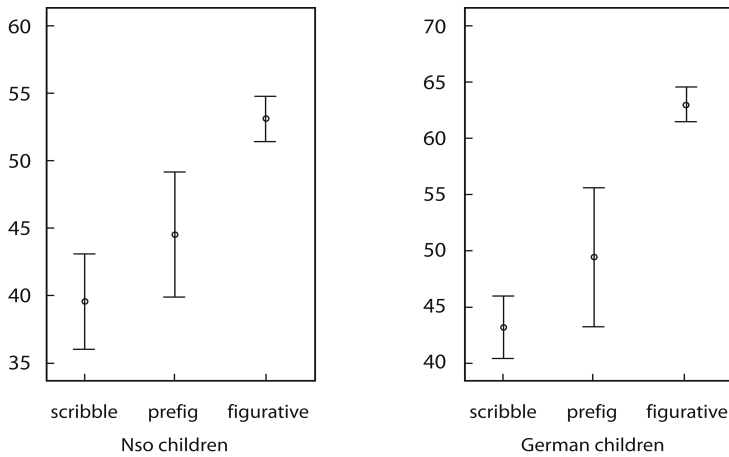


Figure 5. Drawing Stage and Age in Months (y axis).

There was however a very robust cultural difference: the height of the drawing. Figures 6 & 7 demonstrate that the German children drew themselves significantly higher than the Nso children, irrespective of the condition and the drawing stage (alone or with family) (Figure 6).

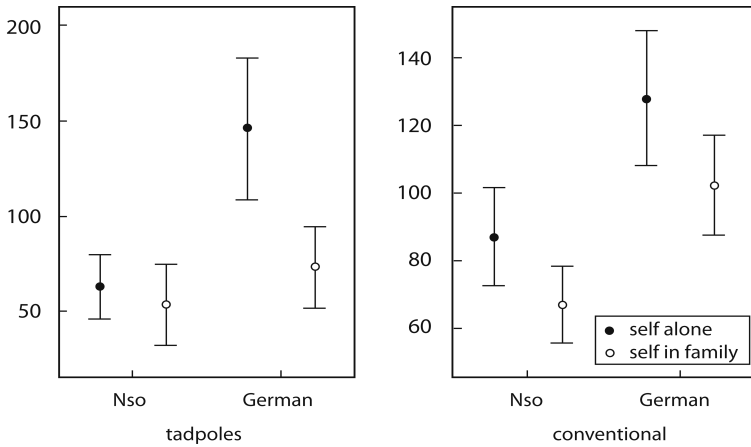


Figure 6. Drawings of the Self-Height.

The following Figures (7a, 7b, 7c, & 7d) exemplify these differences.

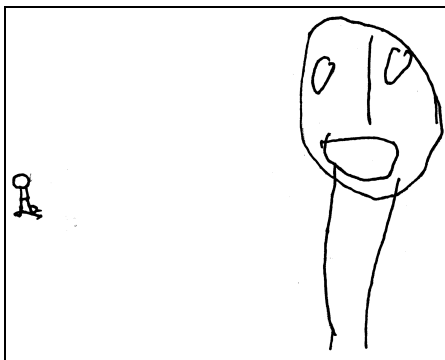


Figure 7a. Tadpole – Alone.

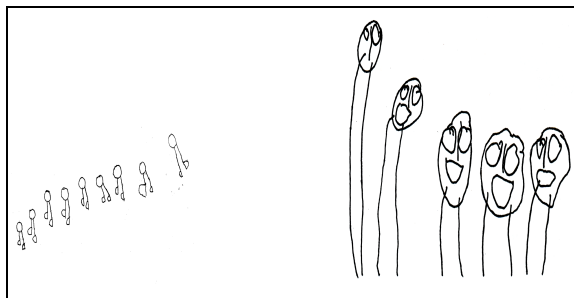


Figure 7b. Tadpole – in Family.

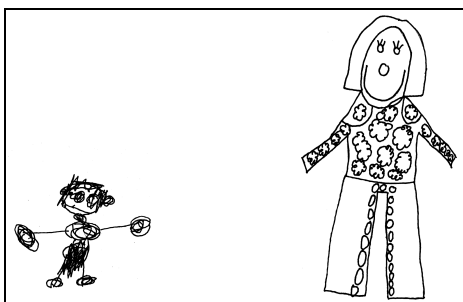


Figure 7c. Figurative – Alone.

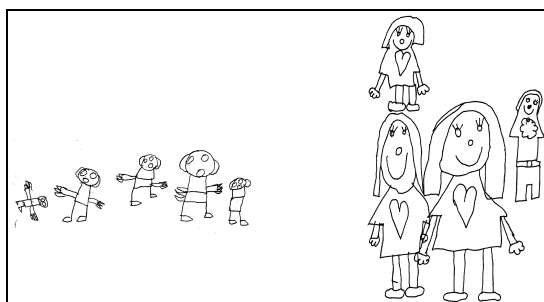


Figure 7d. Figurative – in Family.

Height can certainly be regarded as an instantiation of the self. It can be assumed that the larger the self drawing, the more room the child occupies, the higher the self worth as an individual. Although this conclusion is still speculative, the results are in line with the different pathways of self development.

Conclusion

The argument that has been developed in this chapter is that cultural systems of shared meanings and shared practices represent adaptations to sociodemographic contexts that change as these contexts change. Two prototypical contexts were described: urban middle-class families with a high level of formal education and rural subsistence-based farming families in traditional societies. Both contexts are represented in different psychologies and thus different conceptions of the self. The urban middle-class context is associated with the cultural model of independence with autonomy as the leading value system. The rural farming context is associated with the cultural model of interdependence with relatedness as the leading value system. We have presented a third avenue, where autonomy and relatedness can form multiple alliances as adaptations to urban middle-class families from traditional societies.

Early social experiences lay the foundation for the definition of a particular self that informs the solution of the following developmental tasks. “Lessons learned in infancy establish a pattern of experience that makes child rearing all the more effective when these are continuous with lessons learned later” (Quinn, 2003, p. 154). Continuity of cultural messages and thus children’s experiences are therefore the foundation of developmental pathways.

Constancy of child rearing environments is expressed as continuity of parenting styles. Contextual continuity is thus an important avenue of cultural learning and constructing the self. This does not exclude, however, that children are able to process contextual discontinuity and to learn messages referring to different cultural models.

The existence of different pathways of development changes the unitary conception of psychological development as advertised in textbooks. It supports the conception of development as the cultural-specific solution of universal developmental tasks. However, much research in different cultural contexts within and across national boundaries is needed in order to aim at a universal developmental science.

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From Homer to the 21st Century: Charting the Emergence of the Structure of Interpersonal Meaning

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During the last quarter of the 20th century, cross-cultural research established that the meaning of interpersonal behavior can be described in terms of a universal structure that includes, among others, the notions of association (affiliation), superordination (dominance), and intimacy. While researchers generally agree on most of these universal dimensions, little is known about their origins –the whys and the wherefores of these structures. An approach designed to explain the emergence of the meaning of interpersonal behavior is the focus of this chapter. This approach is based on the assumption that social behavior involves the exchange of material and psychological resources, a process guided by a number of natural constraints operating on human interaction. The chapter outlines this theoretical system and discusses the emergence of the primary features of meaning over long periods of time. It reviews formal analyses of information gleaned from literary documents of different historical periods and cultures, including the works of Homer, Hesiod, and Theophrastus, as well as other sources (e.g., medieval European literature). It concludes with a discussion of how this approach can account for various social-psychological phenomena and can lead to the development of a useful theory of culture for psychology.

In keeping with the theme of the 2006 IACCP Congress in Greece, “*From Herodotus’ Ethnographic Journeys to Cross-Cultural Research*” –a theme that looks for the roots of cross-cultural psychology by reaching back into the time of Herodotus around 500 B.C.E.– this chapter will present a summary of some 20 years of inquiry into the structure of social behavior as it unfolded through time. The work has been both fascinating and frustrating to this author. It has been fascinating because it has yielded a few glimpses of how human beings have understood their social world over a period of some 2,000 years. It has been frustrating because progress in this line of research is agonizingly slow, full of difficulties associated with ancient languages, translation, and the recording of behavior descriptions. Nevertheless, the possibility of understanding the emergence of social meaning through time is an exciting goal in the analysis of interpersonal interaction.

The chapter will begin with an introduction to the search for the basic elements of social meaning. It will then introduce the notion of psychological universals, and, in particular, universals that emerge over long periods of time. Next, it will summarize some research that utilizes historical and literary sources to explore such universals of social meaning, and will conclude with a brief description of a model that accounts for the emergence of the basic elements of social meaning over time.

Interpersonal Structure and Culture

The analysis of the structure of interpersonal behavior –the fundamental dimensions of meaning along which social behavior varies– has been a central theme in cross-cultural psychology for many years. The reason for this centrality is obvious: *interpersonal* behavior accounts for the vast majority of human daily activity. Thus, it is easy to think of human behavior and culture as constituting each other (e.g., Miller, 1997). For example, it is impossible to talk about conformity behavior without some reference to cultural norms just as much as it is impossible to talk about the cultural pattern of individualism without some notion of competitive interaction.

Early Research on the Dimensions of Social Behavior

The search for the dimensions of social behavior was made a central psychological enterprise in the 1960s by Triandis and culminated in the landmark studies reported in the *Analysis of Subjective Culture* (Triandis, 1972). Work on the problem continued in a number of cultures over the following years. The typical –but by no means exclusive– methodology employed was some variant of Triandis’ (1972) “behavioral differential” technique, which involved judgments by individual members of various cultures of the likelihood that they would perform various behaviors in different social contexts (e.g., Adamopoulos, 1982b). These judgments were analyzed using factor analytic techniques in order to extract underlying dimensions of meaning.

By the 1980s a fairly large number of such cross-cultural studies were available, and cross-cultural psychologists felt confident enough to conclude that there exist a few pancultural dimensions of interpersonal meaning, which may possibly correspond in part to Osgood’s factors of affective meaning (*EVALUATION*, *POTENCY*, and *ACTIVITY*; Osgood, May, & Miron, 1975). The dimensions, which capture much of the meaning of social interaction in different cultures, have been labeled: (a) *ASSOCIATION-DISSOCIATION* (affiliation); (b) *SUPERORDINATION-SUBORDINATION* (dominance); and (c) *INTIMACY-FORMALITY* (Triandis, 1994).

These three dimensions are by no means the only ones to be found either within or across cultures. Rather, the contention is that much of the time, people around the world, regardless of cultural, linguistic, or educational background, understand social behavior as communicating primarily the presence or absence of affiliative needs, the desire to dominate another or to be submissive to another’s authority, and the need for interpersonal closeness or distance. This assertion acquires even greater legitimacy when it is made in the context of similar research findings in other psychological domains –from the study of parent-child interactions to the interpersonal domain of personality (see Lonner, 1980).

Psychological Universals

With such overwhelming empirical evidence from a relatively large number of studies, it was not difficult for psychologists to start calling these three dimensions of social meaning “psychological universals” (Triandis, 1978). Eventually, Lonner (1980) incorporated this label in the title of his contribution to the first edition of the *Handbook of Cross-Cultural Psychology*.

Exactly what *is* a psychological universal? A clear answer to this question cannot be easily provided. For example, it is exceptionally difficult to determine on the basis of any formal criteria how many cultures must be studied before a claim for universality can be made convincingly. Should some strict Popperian criterion of falsification be applied, such that finding even one culture where a particular meaning dimension cannot be established unambiguously challenges the universal status of that dimension?

Unfortunately, the situation is even more complicated than that. It has been suggested elsewhere (e.g., Adamopoulos, 1988, 1991, 2009) that an additional criterion for universality is necessary: relative *continuity through time*. In other words, in order to claim that a particular dimension of social meaning is a human universal it must somehow be shown that it emerged and evolved through time. For example, the constructs “dominance” or “intimacy” may have changed considerably over the past 2,000 years, but some notion that humans had a need for control or interpersonal closeness must surely be evident in human records if we are to think of these constructs as “psychological universals,” or, even more specifically, as “diachronic universals” (Adamopoulos & Bontempo, 1986; Lonner, 1980). Furthermore, to the extent that it would be desirable for this type of construct to be of some use to psychologists beyond the level of description, it needs to be *explained*: why has it been around for such a long time in human history? The remainder of this chapter will summarize efforts to address these two issues: (a) the

diachronic nature of potential “universals” of social behavior, and (b) the explanation of their emergence through long time periods.

The Search for Diachronic Universals

The method employed to explore diachronicity in the series of studies summarized in this chapter depends upon locating literary sources that describe interpersonal interaction in considerable detail in various cultures and historical periods. Such interaction is recorded—always taking note of the social context within which it happens—and the data are analyzed in the same fashion that responses to the behavioral differential are analyzed. In the typical case, the columns of the data matrix in these analyses consist of behaviors and the rows consist of social relationships or social situations in which the behaviors occur. The analyses yield dimensions of interpersonal meaning that reflect the notions available to people in a particular culture during a particular historical period. The findings summarized in this chapter come from a variety of literary sources described in Table 1.

Table 1. Description of Literary Sources of Interpersonal Interaction

LITERARY SOURCE	APPROXIMATE DATE	AUTHOR	CONTENT
Iliad	ca. 8 th century B.C.E.	Homer	Epic poem about Trojan War
Odyssey	ca. 8 th century B.C.E.	Homer	Epic poem about the long journey home of Odysseus, king of Ithaka, after the fall of Troy
Theogony	ca. 700 B.C.E.	Hesiod	Hymn detailing the origins of the Greek gods and their struggle to control the cosmos
Character Sketches	372-287 B.C.E.	Theophrastus	Negative and rather comic descriptions of the “typical” Athenian social behavior of various personality “types”
Beowulf	ca. 8 th century C.E.		Old English poem about the monster-slaying hero Beowulf
Song of Roland	ca. 1100 C.E.		Oldest of the Old French epics about the adventures of the knight Roland and Charlemagne’s rearguard when they were attacked by the Saracens
Red Badge of Courage	1895	Stephen Crane	Novel about the adventures of a young recruit during the American Civil War

Analyses of text samples from the sources listed in Table 1 revealed that, despite textual complexities and differences in emphases, historical periods, and culture and language, a number of consistencies in the basic meaning of social interaction are present (cf., Adamopoulos, 1982a, 1991, 2009; Adamopoulos & Bontempo, 1986). Table 2 below provides examples of the meaning of specific behaviors in these literary works.

Table 2. Examples of Similarity and Variability in the Meaning of Social Behaviors Through Time

ILIAD	ODYSSEY	THEOGONY	CHARACTER SKETCHES	BEOWULF	SONG OF ROLAND	RED BADGE OF COURAGE
<i>ASSOCIATION</i>						
heal protect advise	request appeal greet	talk to help take care of	not make trivial remarks to	help accompany appeal	offer gift grant request inquire	help praise brag
<i>DISSOCIATION</i>						
attack threaten withdraw from	attack threaten insult	be angry with not honor lie to	show bad manners to insult, cheat	attack wound withdraw from	scorn kill insult	leave hit command
<i>SUPERORDINATION</i>						
advise reprimand help	advise encourage help	reward offer gift to command	insult show contempt express opinion	praise offer gift to promise	encourage offer gift to command	hit praise command
<i>SUBORDINATION</i>						
suggest justify self praise	serve greet obey	not tame not kill not defeat	compliment praise groom	appeal to greet pay homage to	request offer services to suggest	listen to answer obey
<i>RITUALIZED INTERACTION (FORMALITY?)</i>						
boast agree with appeal		glorify be angry with punish	boast show off		promise kiss accept honor	inform justify self greet
<i>INTIMACY (?)</i>						
	embrace recount sympathize with	make love with fight with tame	compliment praise groom			

Even this partial and rather cursory review of several investigations indicates a substantial and even impressive convergence of findings. It appears that, despite substantial differences in the meanings of *specific* behaviors, there is support for the proposal that the three dimensions identified earlier are psychological universals. The fact that there exist these basic similarities in human social meaning systems across cultures and historical periods can be both unimpressive

and intriguing at the same time. On the one hand, there is the possibility that little has changed in the basic structure of human interpersonal meaning systems in the course of the past 2,000-3,000 years. On the other hand, this seemingly unexciting finding raises the puzzling question of why these particular meaning systems emerged in the first place and have remained so remarkably stable over such a long period of time.

The convergence appears to be obvious in the case of the dimensions of association and dominance. Many of the specific behaviors that define these two factors in analyses of historical documents are the same that define the two dimensions in analyses of data from modern times. The case of intimacy is much more intriguing and puzzling (e.g., Adamopoulos, 1991, 2004). For example, personal and close interactions between individuals are plentiful in most ancient documents—even when war and destruction are the main themes—but a clear dimension of intimacy does not emerge in the analyses. Rather, intimacy appears entwined with other psychological dimensions, like dominance or association (for a more extensive discussion of these issues see Adamopoulos, 2002, and Adamopoulos & Lonner, 1994).

It is possible to challenge the meaningfulness of these results on methodological grounds. For example, some analyses relied primarily on translations instead of the original documents, and the labeling of the derived dimensions may ultimately allow the introduction of bias—in short, one may see similarities where one wants to see them. In order to examine the meaningfulness (reasonableness) of the results, seven behaviors that were common across four of the epics were selected. The dimensions were matched for content (e.g., “association,” “superordination,”) *a priori*. Congruence coefficients measuring factor similarity were then computed for matched factors (Adamopoulos, 1991). Mean coefficients for the four epics appear in Table 3. While by no means perfect, the relationships among factors matched conceptually in advance were stronger for epics that were written approximately in the same time period. In other words, the implication that social meanings emerged over time in some orderly fashion seems quite plausible considering these results. Furthermore, when we look at congruence for *specific* dimensions of meaning in the same set of data, we find the highest congruence for the association-dissociation dimension (.81), and lower congruence for superordination-subordination and ritualized interaction/formality (congruence coefficients of .51 and .56, respectively). A plausible explanation is that the notion of affiliation preceded historically the other meanings, and thus had more time to develop and emerge as a clear structure.

Table 3. Mean Congruence Coefficients for Pairs of Matched Factors in Four Epic Poems

Epic	Iliad	Odyssey	Beowulf
Odyssey	.83		
Beowulf	.73	.67	
Song of Roland	.39	.33	.76

Finally, the correlation of congruence coefficients for each pair of epics with the approximate time difference between the epics is $-.75, p < .05$ (Adamopoulos, 1991), suggesting that social meanings may indeed have evolved and changed over long periods of time.

The Diachronic Emergence of Interpersonal Structure

Once universality of constructs is established, it is important to ask why it is that the particular meanings emerged and became stable through human history. Osgood (1969) addressed a similar problem associated with the ubiquity of the dimensions of implicative meaning that he and his colleagues investigated over the years (i.e., Evaluation, Potency, and Activity). He argued in favor of an answer predicated upon the survival value of the three concepts. Osgood speculated that it must have been very important for early humans to be able to distinguish friend from foe, or a powerful and fast from a weak and slow adversary. A similar

assumption can be made in order to explain the universality of the dimensions of social behavior (e.g., Adamopoulos, 2002). However, it is also necessary to describe a more complex process of the evolution of interpersonal structure in order to account for such ideas as intimacy and interpersonal closeness, formal relationships, and social dominance, among others.

A family of models that describe the emergence of social meanings has been proposed (Adamopoulos, 1984, 1991, 1999). These models are based on the fundamental notion that all human interpersonal interaction is a process involving the exchange of physical and psychological resources essential to survival. There are a number of basic assumptions behind these models:

1. The purpose of all human exchange is to secure resources necessary for survival within a particular ecological niche.
2. Several classes of constraints (and/or affordances) operate on this exchange process.
3. Constraints become differentiated over time into elements.
4. The elements become integrated into psychological constructs that represent meanings people attribute to the world around them.

In the early versions of these models, it was assumed that the basic constraints that operate on any interpersonal exchange are:

1. *Exchange Mode*: A resource is either given to or denied (withheld from) another person.

2. *Interpersonal Orientation*: A resource is offered to or withheld from a person whose identity and relationship to the actor is either critical or unimportant to the satisfactory completion of the exchange. Thus, the orientation of the exchange is either target-specific or target-general. For example, love and commitment cannot be communicated very easily to a stranger; the specific relationship between the actor and the recipient of the action is essential to their expression. On the other hand, the particular relationship between a customer and a bank teller is presumably of little significance to the successful completion of a monetary transaction.

3. *Resource Type*: Resources exchanged during interpersonal interaction can be either material (concrete) or symbolic (abstract). A considerable amount of cross-cultural research has found that most human exchanges involve a limited number of resource classes. Foa and Foa (1974, 1980) have proposed that *material* resources include goods and services, whereas *symbolic* resources include information and status. Money and love are two classes of resources often characterized by a combination of *both* symbolic and material attributes.

Over long periods of time, the integration of the elements of the constraints described above results in the formation of particular social meanings, which are typically identified as interpersonal dimensions in relevant research. For example, the denying of symbolic resources (e.g., denying a person the resource of status) in an exchange where the orientation is target-specific results in the emergence of the meaning of *SUPERORDINATION* or dominance. Giving someone a material resource (e.g., touching) also in the context of a target-specific relationship involves the concept of *INTIMACY*.

One of the early versions of the model appears in Figure 1. It defines theoretically most social meanings usually identified as universal, including *ASSOCIATION* (giving of resources to another person), *SUBORDINATION* (giving symbolic resources within a target-specific relationship), and *FORMALITY* (exchanging symbolic resources in the context of target-general relationships). The model also identifies and brings to prominence the concept of *TRADING* (the exchange of material resources within a target-general relationship). This concept was frequently neglected or not identified in empirical studies of interpersonal structure, presumably because trading exchanges became a specialized class of behaviors in recent human history and are the focus of a limited number of psychological investigations.

Exchange Mode	GIVING				DENYING			
Interpersonal Orientation	TARGET SPECIFIC		TARGET GENERAL		TARGET GENERAL		TARGET SPECIFIC	
Resource Type	MATERIAL	SYMBOLIC	SYMBOLIC	MATERIAL	MATERIAL	SYMBOLIC	SYMBOLIC	MATERIAL
INTERPERSONAL MEANING	INTIMACY	SUB-ORDINATION	FORMALITY	TRADING	TRADING	FORMALITY	SUPER-ORDINATION	INTIMACY
	ASSOCIATION				DISSOCIATION			

Figure 1. The emergence of interpersonal meaning (adapted from Adamopoulos, 1991).

It should be noted that, according to this model, *ASSOCIATION* and *DISSOCIATION* are the simplest of interpersonal meanings, involving the giving or denying of any resource, respectively. Findings reported earlier, which indicate that these two concepts have the clearest structure in ancient literary sources, support the idea that the notion of affiliation emerged fairly early in human history. The dimension of *INTIMACY* has both negative and positive components, according to the model. This is also supported by research findings. For example, in Hesiod's *Theogony* the behaviors "make love with" and "fight with" have similar meanings as they occur in very similar contexts (e.g., in close relationships). In Homer's *Odyssey* the behaviors "embrace" and "command" have similar, though not identical, meanings because they occur in the context of close relationships (e.g., father-to-son or husband-to-wife; Adamopoulos & Bontempo, 1986). Finally, in Theophrastus' *Character Sketches* "groom" and "be frightened by" appear in the same behavioral dimension (Adamopoulos, 2009). Similar findings regarding the dual (positive and negative) aspect of *INTIMACY* have been obtained with other research paradigms. For example, Adamopoulos (1982b) found that "hitting" had connotations of intimacy and proximity in analyses of behavior likelihood ratings obtained from American college students (for a related argument see Benjamin, 1974). Finally, both *SUPERORDINATION* and *SUBORDINATION* involve highly symbolic exchanges of status but are distinguishable from each other in that the former involves resource denial whereas the latter involves the giving of status. This theoretical distinction has also been supported by research findings that show a relationship between dominant and dissociative behaviors. For example, both analyses of respondents' behavior likelihood ratings and literary text analyses have found that behaviors like "criticize," "advise," "shout at," and "quarrel with" are often correlated (e.g., Adamopoulos, 1982a, 1982b).

The above discussion of the relationships among behavioral dimensions provides strong empirical support for another major feature of the model depicted in Figure 1. As the structure clearly indicates, complex relationships exist among various behavioral dimensions, even though

in the past they have been conceptualized at times as orthogonal. To summarize the most significant of these relationships, *SUBORDINATION* and *ASSOCIATION* are correlated dimensions, as are *SUPERORDINATION* and *DISSOCIATION*. *INTIMACY* can be correlated with both *ASSOCIATION* and *DISSOCIATION* because it can be characterized by both positive (affiliative) and negative (dissociative) features.

Recent extensions of the model

Variations of this model can be used to account for a number of related phenomena of interest to cross-cultural psychologists. For example, the process of constructing behavior in any given context is controlled by who the beneficiary of the behavior is –the *self* or the *other* (Adamopoulos, 1999). The model can then be used to provide a way of representing the meaning of any interpersonal behavior. Thus, “telling your partner that you love him/her” may be represented as “giving material and target-specific resources for the benefit of the other.” Similarly, “seeking sexual gratification from your partner” may be represented as “giving a material and target-specific resource for the benefit of the self.” What emerges ultimately is a kind of “grammar” of interpersonal meaning features that can be used to understand a variety of cross-cultural processes and systems. For example, individualism and collectivism can be understood as cultural syndromes that involve the construction of behavior emphasizing the self or the other, respectively, as its beneficiaries. Specifically, horizontal individualism (e.g., Triandis, 1995) can be thought of as a cultural pattern involving self-focused exchanges with generalized others, whereas vertical individualism involves specific others. Similarly, horizontal collectivism involves other-focused exchanges with generalized others, whereas vertical collectivism can be conceptualized as involving other-focused exchanges with specific others (Adamopoulos, 1999).

Conceptual convergences among a number of other cross-cultural theories and this family of models (e.g., the theory of sociality by Fiske, 1990 or the values theory of Schwartz, 1992) have been discussed in detail elsewhere (Adamopoulos, 1999). Briefly, Fiske’s four elemental forms of exchange can be easily mapped onto the model. Thus, “equality matching” is characterized by self-focused and target-general exchanges, “market pricing” is characterized primarily by self-focused and target-specific exchanges, “authority ranking” can be described as involving other-focused and target-specific exchanges, and “communal sharing” as involving other-focused and target-general exchanges. Schwartz’s values system can also be mapped onto extensions of the model described earlier. For example, values like “hedonism” and “achievement” involve self-focused exchanges of symbolic resources, whereas the values of “benevolence” and “universalism” involve other-focused exchanges toward generalized others. Unfortunately, there exists no systematic effort to explore the extent to which these conceptual convergences are supported by empirical observation. Such an effort would greatly facilitate the development of a theory of culture for psychology that is widely shared, has broad appeal, and can facilitate the prediction and explanation of a range of psychological phenomena.

Conclusion

The approach outlined in this chapter constitutes an attempt to build a culturally sensitive theory of interpersonal meaning systems with universal aspirations. The universal character of the theory is theoretically evident in its assumptions about the emergence of social meaning over long periods of time and across different cultures, and empirically supported by the finding of impressive convergence in interpersonal structures across cultures and historical periods. The theory is culturally sensitive in that it is responsive to the fact that different types of resources may be available or emphasized in various cultures. Resources can guide the emergence of particular meaning structures in specific cultural contexts and can be critical in the utilization of the model to form different predictions about meaning systems for different cultures.

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**IACCP: PAST, PRESENT, AND ‘ELECTRONIC
FUTURE’**

Rogelio Díaz-Guerrero: A Legacy of Psychological Creation and Research

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Rogelio Díaz-Guerrero's journey began in 1918, born into a large (13 brothers and sisters) and very typical and traditional Mexican family in his homeland, Guadalajara. In search of the keys to understand human behavior, he moved to Mexico City immediately after finishing high school, where he studied medicine whilst taking psychology and chemistry classes at the National Autonomous University of Mexico (UNAM). During this stage of his life, he was a student to a series of distinguished and prominent Mexican professors and thinkers: Enrique Aragon, Ezequiel Chavez, Guillermo Davila, Oswaldo Robles, Antonio Caso, Samuel Ramos and Jose Gaos. Finishing his years in medical school, he received a scholarship for post graduate studies at the University of Iowa, where he completed masters and doctoral studies in neuropsychiatry and psychology, being lectured by renowned psychiatrists such as Jacques Gottlieb and Paul Huston, eminent neurologists like Van Epps and Adolph Sahs, and pioneers in psychology such as Kenneth Spence, Kurt Lewin and Robert Sears.

Díaz-Guerrero's psychological research runs over with originality, accuracy, consistency, culture and longevity. It's through his work that he becomes the pioneer and guide of Mexican psychology and an icon to Latin American psychology decade after decade. His medical formative bias became obvious in his first publications in the 1940's, where he shows his interest in the relationship between biological variables and behavior. Some of his articles include "*Electroencephalic study of sleep in manic-depressive patients in comparison with normal subject*" and "*The role of endocrine glands in neuromuscular development and regeneration*". Moving into the 1950's, his traditional upbringing, his international education and his Australian-American wife set the basis for his inclusion of culture in the understanding of mental health. In this stage, his publications centered on the conceptualization and operationalization of psychological variables rooted in culture, such is the case of his work on anthropo-cultural values, which served as the immediate successors of the historic-socio-cultural premises, which he postulates a decade later as the operationalization of culture through norms and believes. During this decade, Díaz-Guerrero published papers regarding the "*Determination of the degree of personal and social mental health in the urban Mexican*", and "*Neurosis and the Mexican family structure*".

In the 1960's, Díaz-Guerrero's interest in the socio-cultural basis of behavior flourishes and crystallizes together with a fructiferous and long friendship with Wayne Holtzman with whom he authors, among other publications, the book "Personality development in two cultures" which appears simultaneously in Spanish and in English. Among his major contributions of this decade are requiring the definition of cultural concepts in a valid, reliable and culturally appropriate manner and the need for creating objective measuring instruments. He further aspires for a generalized interest in psychological research throughout cultures, which he urges using his own inquiries as examples and sets the stage for future indigenous psychologies through the discovery of idiosyncratic characteristics of the Mexican population. During this decade's work, one can perceive the fundamental difference between his approach to the study of the Mexican's psychology, which appears very similar to Wundt's Folk Psychology, and the restrictive view derived from orthodox behaviorism prevalent in experimental social psychology. Díaz-Guerrero pointed out that the difference dwells in the emphasis given to culture as the basis for the development of individual attributes and behavior patterns. Together with his students he indicates

that the culture in which an individual develops will specify the foundations, structure, and acceptable and desirable norms of behavior. Hence, the socio-culture can be defined as a system of thoughts and ideas that offer a hierarchy of habits, needs and values, and guide interpersonal relationships; they stipulate the type of cultural, interrelated premises (norms, roles, etc.) that govern the roles that must be carried out, and the rules for the interaction of each individual for each role. In other words, the wheres, the whens, the whos and the hows of behavior. Díaz-Guerrero and Peck (1963) pointed out that these socio-cultural norms are a guide to how we should behave within the family, the group, society and any institutional superstructure. In addition, the directions of these norms also affect the development of one's personality, one's goals in life, one's coping style, one's perception of humanity, of gender and what is masculinity and femininity, etc. It becomes clear from his research that our behavior, development, attitudes, beliefs, values and our self in general, will depend on the socio-cultural context in which we grow and develop. In other words, the way we think, the things we think about, the way we relate to friends and strangers, our tastes and our way of life, are being formed as each and every one of us interacts with our parents, our families, our neighbors, our schoolmates and our environment.

Díaz-Guerrero's work on the psychology of the Mexican conceptually crystallizes the aspiration toward a scientific and cultural psychology, and additionally offers valid and reliable operationalizations that result in culturally relevant and interpretable data. The journey begins, with no doubt, with the historic-psycho-socio-cultural premises. The study of the norms proposed, developed, studied, and described by Díaz-Guerrero that regulate behavior in the Mexican culture, specify that the socio-culture in which an individual grows and develops is the foundation for the formation of national character, and delimits the acceptable behavior norms and rules in human interaction. In this way, social conduct is partially determined and directed depending of the level in which each person adopts and believes their cultural dictates.

The second step, after specifying that the socio-cultural ecosystem serves as the ontological ground in which individuals learn the correct ways of interaction with their world, was the operationalization of the Mexican premises. A historic-socio-cultural premise is a simple or complex affirmation that provides a group with the base behind the logic of understanding and guiding their world. Díaz-Guerrero extracted premises from proverbs, sayings and other ways of popular communication. After carrying out careful content analysis based on the obtained representations, the crucial role of the family in traditional Mexican culture became evident. The cultural traditions, values, beliefs and actions immerse in these premises indicate the correct way to behave in different interpersonal relationships. In sum, two prepositions describing the traditional Mexican family appear: the power and supremacy of the father, and the love and the absolute and necessary sacrifice of the mother. Built upon these two cardinal premises, over 80% of wide population segments in the 50's and 60's reported high degrees of adherence to them, and indicated that they served as an important guide in their lives.

Psychometric analysis of the answers given to the normative affirmation inventory, offer a variety of statistically robust, conceptually clear, and theatrically congruent factors. First of all, there is a central dimension of traditionalism named affiliative- obedience vs. active self-affirmation, which stipulates that children and youngsters must always obey their parents and that everyone should love their mother and respect their father. This means, that children must always show their regard to their parents, who in return must protect and care for them. In regards to this structure, it must be made clear that in Mexican culture, there is a rigid hierarchical disposition that awards respect and power to those at the top of the pyramid, in contrast with other cultures where respect is shown to those perceived as equals (Díaz-Guerrero & Peck, 1963). The traditional factor is complemented with a gender dimension, with "machismo" and abnegation-virginity at the axis. This orientation is derived from the degree of attachment to statements such as "men are more intelligent than women", "docile women are better", "men must be the heads of the household" and "women must remain virgin until marriage". It is worth saying that abnegation mirrors the belief that the group and its needs supersede those of individual. It's in this way that it

is fundamental to satisfy the needs of others before one's own. In other words, self-modification coping styles are preferred over self-affirmation as guides of interaction mechanisms. Lastly, the relevance of the status-quo and the cultural rigidity grows out of the acceptance of the role that men and women carry out in the family. This is reflected in proverbs such as "women must be faithful to their husbands", "the majority of daughters would like to be like their mothers", "women must always be protected", "young women must never go out alone at night" and for the children "when parents are strict, children grow up being good".

In sum, it is considered that Mexican society is built upon a hierarchical structure based on the respect for others, particularly parents and kin (Díaz-Guerrero & Peck, 1967). The internalization of these premises produces abnegation, a cardinal trait in Mexican culture, which is sustained as true by Mexican men and women who believe that satisfying others needs is more important than satisfying their own. Derived from abnegation, a vertical hierarchy in the culture is produced, built on power, affection and obedience, evident in the way that authority is exercised within the family ("a child must always obey and respect his/her parents") (Díaz-Guerrero & Peck, 1963). Some of the more relevant publications in the 60's refer to the "*The historic-socio-cultural premises*" and the "*The philosophy of life*", in which the passive and active syndromes are described and are the predecessors of the epic book "*The development of personality in two cultures*" in 1975 and which also appears in articles on the development of the project (1964), and *Respect and values* (1963, 1967).

In the 70's, the ideal of integrating cross-cultural psychological perspectives into main stream psychology began to consolidate. Keeping in mind the need of majority countries to work out solutions to substantial problems related with educational, social, economic and individual development, Díaz-Guerrero and his collaborators research and publish profusely in applied areas. A few examples of these lines of study are the "Study in eight countries on occupational values in children and young adults when faced with violence" (1973), or the work done in collaboration with Osgood on the semantic differential as a methodological technique to describe the semiotics of language in articles pondering on the "*Pancultural study of meaning*". Other projects dwelled on the pertinence and effect of educational programs in general, such as "*Sexual differences in the development of the Mexican student's personality*", or in specific, through television, like the case of the *Formative Research of Sesame Street*. With the same orientation, but with the objective of expanding knowledge on the psychology of the Mexican, he published a seminal paper in *American Psychologist* on this theme (1977), in which he added a novel gender perspective in the context of the study of personality and culture. As an epilogue to the seventy's, Díaz-Guerrero coordinated a series of projects from which he postulated a transdisciplinary and cultural conception in "*Towards a historic-bio-psycho-socio-cultural theory on human behavior*" (1977).

The 80's found Díaz-Guerrero mounted on several decades of solid and robust inter-cultural and intra-cultural findings that focused him in working on an unedited theory in Latin-American psychology. Besides leaving a clear theory on the psychology of the Mexican, to which he added the study of masses (1984a) and health (1984b), he also re-interpreted and re-directed the research toward adapting psychology from a socio-cultural perspective. The synthesis gave way to incorporating a structuralism vision to the functionalist study of the characterizations of human beings according to their sex in papers on the "*Roles, personality and the status of women*" in. Following the course of integrating behavioral and cultural psychology, Díaz-Guerrero communicated the need to incorporate the effect of contextual and cultural niches in which human beings develop into psychological studies, as is evident in his "*The cultural ecosystem and life quality*", and "*The culture counter culture approach*". However, his conjectures were summarized in the theoretical and methodological creation and delimitation of a new branch in psychology, *Ethnopsychology* (1991).

Díaz-Guerrero's accumulation of work by the 1990's showed three new clear tendencies. In the first, he continues his hard work characterizing and differentiating the effect of culture on visible psychological variables in "*The subjective worlds of Mexicans and North Americans*"

(1993), and “*The effects of culture on national identity*” (1991). The second wave took him to establish the basic precepts of “*Mexican Ethnopsychology*” (1992, 1993, 1994, 1995, 1996, 1998), and the revision of the changes time had on delimited phenomenon reported in “*The new philosophy of life*” and in the study of “abnegation” (1993). The third current shows his interest in cross-cultural findings that indicate that values depend on the degree of satisfaction, difficulty and intensity of needs, described in “*Human values and needs: the missing link*” (1995).

The determining work that defines Díaz-Guerrero precisely in the new millennium is his book “*Under the claws of culture*” (2002). In it, he reports longitudinal and cross-sectional data spanning 50 years on the processes of socialization and enculturation responsible for the maintenance of structures that work for the permanency of the socio-cultural premises. In fact, he expands on the small effects that political, economic and social changes have had on the way Mexicans think and act when it comes to the realms of family, male-female interactions and the interaction of parents and their children. The book consolidates a life’s work dedicated to psychological research. None the less, as was typical of Díaz-Guerrero, who could easily trick us as to his retirement with his recurrent “life, you owe me nothing, we are in peace”, he continued expanding new horizons until his last breaths. In fact, he had already begun an investigation on the impact of culture on cognitive, political and economic development. Honoring his work and his life can only be done by continuing his work with the same insistence, creativity, passion, and accuracy. As a corollary to this small homage, allow me to add a few of Díaz-Guerrero’s typical expressions and afterward, an extended selection of his publications. His laughter was without a doubt a distinctive characteristic, as well as “ay caramba”, “very well, it seems like everything is going very well”, and the very Mexican “life is hard sometimes”.

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The IACCP Archives Project

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In July 2006 a workshop featuring a suggested IACCP Archives Project was part of the programme at the IACCP international congress in Spetses, Greece. About 25 highly interested people attended it. An informal meeting was held about a week later. John Berry and Walt Lonner, and several senior members of IACCP, were active participants in both sessions. Everyone involved so far has enthusiastically endorsed the basic idea of establishing the Archives and finding a permanent home for them. We also will need to develop some procedures for possible uses of the various components that the archives may contain.

Background

Recently there has been growing interest in compiling, storing, and analyzing a large amount of archival material, most of which has been central to the growth and influence of cross-cultural psychology that has been accumulating for years. This initiative has been referred to it as the International Association for Cross-Cultural Psychology (IACCP) Archives Project. At present, the project is associated only with IACCP, which was founded in 1972. However, it is likely that other culturally-oriented groups or centres would be interested in being associated with the project. Exactly what would or could be done with the resulting material is up to those who are interested in it. We, and many others, believe that this is about the best time possible to put together the archives before they are discarded, forgotten, or lost and before many of the people who played important roles in developing various kinds of material are no longer able to help.

Substantial e-mail exchange regarding this project has been increasing. Most of the correspondence has involved, either directly or indirectly, Berry and Lonner. Both are charter members of IACCP. They are the only two psychologists who have been to all 19 international IACCP conferences (and most regional IACCP conferences as well). They have been deeply and continually involved with various facets of cross-cultural psychology for about forty years.

Components of the Archives

An obvious question about the Archives is what will be included. While this question cannot be answered definitively at present, the major components of such an effort would include the following:

IACCP-Related Material

1. Minutes of all IACCP standing committees and ad hoc committees.
2. All relevant material associated with the organization of all IACCP conferences (international and regional) as well as several collaborative meetings.
3. Copies of all conference scientific programmes and published proceedings and selected material that went into preparing them.
4. Copies of all IACCP's *Cross-Cultural Social Psychology Newsletter* (now titled *Cross-Cultural Psychology Bulletin*).
5. Relevant material that was instrumental leading up to the inauguration of the *Journal of Cross-Cultural Psychology* in 1970, as well as all available important historical letters and documents that have accumulated since JCCP was first conceptualized.

6. All material related to the history, organization and implementation of the Advanced Research and Training Symposia (ARTS) that have been run by IACCP in association with the International Union of Psychological Science (IUPsyS) and the International Association of Applied Psychology (IAAP).

Non-IACCP-Related Material

1. Copies of directories that preceded the founding of IACCP (Berry, *International Journal of Psychology*, 1968, 1969) and those published by WWU (Berry & Lonner, 1970, 1973).
2. Correspondence with those who were associated with key books in the area. These include the six-volume *Handbook of cross-cultural psychology* (1980), edited by Harry Triandis et al. and the three-volume second edition in 1997, edited by John Berry et al.
3. Correspondence with many of those involved with the approximately 25 books that appeared as part of the Cross-Cultural Research and Methodology series published by Sage between 1975-2000 (Lonner and Berry, series co-editors).
4. Core journal articles, book chapters, keynote talks, and other works that helped shape cross-cultural psychological research.
5. A potentially massive collection of syllabi prepared for courses in cross-cultural psychology at both the undergraduate and graduate levels. Anyone who has taught such courses has developed syllabi; it would be extraordinarily useful to share them in some systematic manner.
6. An annotated bibliography of several dozen books that are regarded as influential contributions to the development of cross-cultural psychology.
7. Other written material that may be viewed as appropriate.

Other Materials

Oral histories (interviews, videos, audiotapes) of major figures involved in the development of cross-cultural psychology. This could include the following:

1. Biographies/autobiographies of major figures involved in the development of cross-cultural psychology.
2. Artifacts from field research (notes, scale and test development, research plans, summaries of grant requests, working papers, monographs, etc.)
3. Article(s) or book(s) on the development of the field and/or major aspects of its development.

Individuals Who Are Considered to be Key in the Initial Collection of Material

It was agreed that initial requests for material would be sent to the following: IACCP Past Officers: Presidents, Secretaries-General, Treasurers, Committee Chairs, Conference Organizers. Editors: Current and previous *JCCP* Editors and Associate Editors; current and previous Editors of the *CCPB*. Members: Selected IACCP members who are identified as playing key roles over the years.

Non-IACCP

Numerous individuals representing various culture-oriented psychological perspectives (e.g., cultural psychology, indigenous psychology, psychological anthropology) would be excellent sources for providing relevant material. Examples include the Society for Cross-Cultural Research (which has been associated with the journal *Cross-Cultural Research*) and the International Academy of Intercultural Research (associated with the journal *International Journal of Intercultural Relations*). The extent to which non-IACCP material will be included would depend on the resources available at the institution housing the archives.

Possible Location of the Archives

It is believed that the location, or repository, of the Archives should be a reasonably accessible university or college that has shown significant interest in cross-cultural psychology

and which may have sufficient faculty and staff to maintain the Archives. Several universities have been involved in various ways with activities that are consistent with the functions of IACCP. Some of these universities have specific cross-cultural curricula and faculty who are dedicated to these orientations. Because these efforts have been recognized internationally as either key institutions in the development of cross-cultural psychology or as prominent in sustaining the tradition, they are considered to be obvious potential candidates as repositories for the Archives. All members of IACCP are in a position to recommend suitable sites for the Archives. It is also possible, but perhaps not optimally desirable, for two or more institutions or units to share the work of collecting the material and developing creative uses of them. Clearly, the institution which gains enough confidence in housing the archives will enhance, or initiate, its reputation in the area.

Funding

It is not known how much it would cost to collect, store, and maintain the Archives. The exact amount would, of course, depend on the nature of the effort, the degree of cooperation that is experienced, the resources of the sponsoring institution(s), and so forth. For example, the institution holding the Archives may only be in a position to store the materials, and to accomplish limited goals because of costs and available personnel. However, WWU's sale of the JCCP copyright to Sage Publications provides handsome and continuing financial resources to both WWU and IACCP. Because of this, it is quite logical to assume that underwriting the Archives project would be an excellent way to use part of the funds that accrue to WWU and IACCP through royalties from JCCP. Other resources include various potential funds from a wide assortment of granting agencies in many countries.

Future Steps to be Taken

A proposal has been sent to the current IACCP president requesting formal support for the Archives project. Approval in principle has been granted by the IACCP's Executive Council (EC). As noted above, we are now seeking offers to house the Archives. The EC will select the site, decide on the sources of funding, and decide which components of the Archives are most important. The EC would appoint an Archives Manager and Board. The Manager and Board would have considerable latitude in getting the entire project off the ground, announcing it, and inviting people from throughout the world to cooperate. During 2009, an open call for offers to acquire, house and manage the Archives will be issued in the *Cross-Cultural Psychology Bulletin*. We are inviting all interested persons and institutions to come forward, and offer their ideas and support. The various offers and options will be discussed during the international congress of IACCP in Australia 2010.

Beyond Indigenization: International Dissemination of Research by Majority-World Psychologists

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Analyses of the affiliations of authors of articles published in targeted samples of North American and international journals revealed trends toward increasing international publication by psychologists from countries outside the U.S., i.e., from countries in the rest of the world (ROW). Relatively few of these ROW publications came from psychologists from developing countries. Because developing countries are most numerous and represent the majority of the people in the world, their contribution to the world of psychology is important. Following a summary presentation of data for each journal for psychologists from East Asia, Latin America and the Caribbean, and South Asia (primarily India), the factors differentially deterring or promoting international publication within each region are discussed.¹ Consideration of the extent to which research contributions are differentially influenced by the national economy, national language, and the state of discipline development raise questions and provide insights into the international dissemination of majority-world research.

Although psychological science has been dominated for many years by research and researchers from the United States, psychology aspires to become a world-wide discipline. For this to occur psychological science must take root in many countries with each contributing to the knowledge base. This is a difficult challenge. The majority of the countries in the world are comprised of what have been called low-income or developing countries, which in turn represent the majority of the people in the world. Each of these “majority-world” countries has their own culture and traditions, often quite different from those found in the cultures of the US and Western Europe where psychology originated. Yet, if psychological science is to become truly international, it is important for the discipline to be culturally adapted or indigenized, and for psychologists from each country to make their research known and to contribute to the broader world of psychology. This chapter examines the data for the international dissemination of psychological research particularly from majority-world countries, and the factors facilitating and impeding its progress.

According to the conceptual model guiding this research (Adair, 2004; 2006) global publication emanating from each country is seen to be a consequence of the development of

¹ This is a collaboratively written chapter based on the papers presented in the symposium Beyond Indigenization: International Dissemination of Research by Majority-World Psychologists, J. G. Adair (Chair), at the International Congress of Cross-Cultural Psychology, Spetses, Greece, July, 2006. Although sections of this article were based on the paper presentations by each of the co-authors, the complete final text was reviewed and agreed upon by all authors.

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individual researchers and of the national discipline of psychology. The process begins with the developmental experiences of individual researchers. Individuals proceed from supervised research training to thesis work, followed by independent research produced on their first academic appointment, and ultimately to research accomplishments as mature investigators. The stepwise accumulation of a critical mass of such researchers within a country shapes the national development of the discipline which cumulatively leads to the spread of psychology around the world.

Discipline development. The discipline of psychology within a country also follows a developmental pathway, typically beginning with (a) someone trained abroad who returns with the imported discipline that (b) becomes implanted as an academic department within universities. As the imported discipline is (c) transformed to make it culturally appropriate, the process called indigenization, the discipline is also (d) shaped into a self-sustaining autochthonous or independent discipline. This developmental process is described in detail and illustrated within representative countries in Adair (2006). As psychology has spread around the world proponents for its indigenization have emerged within each country: most notably in Mexico (Diaz-Guerrero, 1975); India, (Sinha, 1986); the Philippines (Enriquez, 1977); and Taiwan (Yang, 1997). These psychologists and most disciplines in majority-world countries have focused on the processes and goals of indigenization, and to some extent on its autochthonization.

Internationalization. Motivated by research and publishing accomplishments within their country individual researchers seek to advance their work by publishing at the next level, that is, in prestigious English-language journals outside their country. These dynamics move the researcher and the discipline through three further stages of activity and development, a process Adair (2004) calls internationalization. (1) **International presence and visibility:** Publications in journals of the global psychology community and presentations at international congresses make the researcher known and bring the local discipline international visibility as a place where psychology has a presence. By identifying the countries in which psychology has an international presence Adair, Coêlho, and Luna (2002) have provided an answer to the question: "How international is psychology"? (2) **International participation and collaboration:** International presentations and publications bring recognition to the researcher as a representative of his/her country and their further participation in international research. International research activity, especially for newer and smaller national communities, will be driven by international collaborative research support of colleagues from other countries. (3) **International research contributors:** Frequent publications abroad lead to the recognition of the national discipline as a contributor to the development of psychology as a truly international discipline. Contributions especially within APA/premier journals additionally influence the shape and direction of the discipline.

The ultimate goal of internationalization is a research discipline that is no longer geographically imbalanced by a disproportionate weighting of U.S. psychology compared to the rest of the world. Its attainment concludes the developmental path begun with the imported discipline and new psychologists learning how to conduct psychological research. The seemingly marginal participant in the new discipline over time becomes a substantive contributor to an increasing international knowledge base. In this chapter we assess and consider the internationalization of psychology, with primary attention to its progress in majority-world countries.

Method

To assess the internationalization of psychology, Adair (2006) developed a database of authorship affiliations by country for all articles published in journals purposely selected to broadly represent the discipline. A selection of 16 Premier/APA journals that are among those most widely cited within four broad specialty areas were initially surveyed (Adair, 2004). As

expected authors from rest of the world (ROW, i.e., all countries except for the USA) publishing in these 16 journals primarily came from developed-world countries, with only an occasional “majority-world” publication.

To provide an opportunity for authorship from a broader range of countries, five journals published by international associations or intended for an international audience, and four less-frequently cited or low-impact journals were also sampled. Presumably these latter journals are more receptive to research that is different from that typically accepted by APA journals.

Data for each of the journals over the first three years within each of the past three decades: 1980s, 1990s, 2000s (3 years was used as a more stable measure for each decade) showed decided trends toward increasing publication by psychologists from around the world (ROW) compared to previous substantial proportions of US authorship in these journals (Adair, 2004). Indeed, the percentages of ROW authors in some APA journals increased so substantially (50% to 100% increases over the 1990s), that it was decided to collect an additional 3 years of data (2003-2005) for a current assessment of the internationalization of journal publication. The focus of this chapter is on the current data for the 25 journals listed below.

Premier/APA Journals

Journal of Experimental Psychology (JEP): General*
 JEP: Human Perception and Performance*
 JEP: Animal Behavior*
 JEP: Learning, Memory, & Cognition
 Developmental Psychology
 Child Development
 Psychology and Aging
 Journal of Experimental Child Psychology*
 Journal of Personality and Social Psychology
 Personality and Social Psychology Bulletin
 Journal of Personality
 Journal of Experimental Social Psychology*
 Journal of Abnormal Psychology
 Health Psychology
 Journal of Consulting and Clinical Psychology
 Journal of Abnormal Child Psychology

International Journals

International Journal of Psychology*
 International Journal of Behavior Development*
 Journal of Cross-Cultural Psychology*
 Applied Psychology*
 Behavior Research and Therapy*

Low-Impact Journals

Perceptual and Motor Skills*
 Social Behavior and Personality*
 Journal of Social Psychology*
 Psychological Reports

(Note: * indicates journals with more current articles by ROW authors than by US authors).

Results

The distribution of the authorship of publications of each journal type indicated a substantial shift toward a more international psychology. Although U.S. psychologists continued to dominate first-authorships within APA/premier journals (65.9%), they first-authored less than half (46.5%) of the publications in Low-impact journals, and proportionally fewer (35.3%) in International journals. Indeed, Western European psychologists (36.7%) had a greater percentage of first-authored articles in international journals than U.S. psychologists. Majority-world psychologists rarely published in APA/Premier journals (0.85%), and first-authored an only slightly increased share of publications in Low-impact (8.35%) and International journals (13.40%)

Increased internationalization was confirmed by a greater percentage of ROW than US first-authored articles in 12 of the 25 journals surveyed (those asterisked among the sampled journals). Although the distribution of ROW-authored articles were greatest, as expected, within international and low-impact journals, ROW first-authorships were greater than for US authors in five of the APA/Premier journals. A quick scan of these journals revealed a tendency for greater ROW publication to emerge in journals publishing research using the experimental

paradigm, thus suggesting that ROW authors having mastered US psychology, rather than in Low-impact journals where they might be seen as bringing something entirely different to US journals.

Rest of the world's publications came primarily from Western Europe (52%), especially from the UK, Germany and Netherlands. Next in frequency were publications from Canada (15%), with substantial percentages from Australia and New Zealand (8%), East Asia (11%), and the Middle East (8%), primarily Israel. Within Low-Impact journals, majority-world countries contributed 13% of the articles, with an additional 1% from authors based in Eastern European countries. These latter data suggest the need to reconsider the international publication and possibly some of the factors influencing national development of the discipline in many Eastern European countries as more comparable to that of majority-world countries than to their Western European neighbors.

International collaborations. The conceptual model proposed that internationalization would be advanced through collaborations with psychologists from other countries especially in countries where the discipline is new. Within larger countries or those in which the discipline is well-established there would be much less need for and hence fewer international collaborations. The extent of international collaborations, assessed by multiple-authored publications in which the authors for each article were from two or more countries, are reported in Table 1 by country and region. As predicted, international collaborations first-authored by psychologists from Western Europe were most frequent across all types of journals. Psychologists from the USA on the other hand, were less inclined to pursue international collaboration in all types of journals and in Low-impact journals their data (23.30) were even surpassed by the data for Majority-World psychologists (23.10), when the latter were combined with those of East European authors (0.50).

Table 1. International collaborations by country and region

Region/Country	APA/Premier	International	Low Impact
Western Europe	38.74	37.37	30.10
U. S. A.	36.30	25.79	23.30
Canada	11.51	11.58	6.80
Other Dlpd Wld*	10.43	11.58	10.68
Majority-Wld**	2.59	11.58	23.10
Eastern Europe	0.32	1.05	0.50

*Australia, New Zealand, Japan, and Israel

** Remainder of East Asia & Middle East, South and Southeast Asia, Africa, Latin America

In the remainder of this chapter we focus on the publication and international collaboration rates followed by interpretations and explanations of data trends for countries from three specific regions that were represented within the symposium (East Asia; South Asia, and Latin America/Caribbean).

East Asia. Most of the research published by East Asian psychologists (Table 2) appeared in Low-impact journals: especially Japan (87.5%), Taiwan (82%) and Korea (67%). Only Hong Kong published evenly (37.5%) in both international and low-impact journals. The other striking observation from these data was that Japan (other than its prolific publications in low-impact journals) was not an outlier, i.e., comparable to the other countries in the region in publication rates for international and APA/Premier journals. East Asian countries, especially China, Hong Kong, and Japan, were engaged in the largest number of international collaborations (see Table 4) mostly led by North American psychologists, but a number also led

by the host country and by psychologists from other countries. Unlike Latin America and the Caribbean, there was some intra-regional collaboration among East Asian psychologists.

Explanation of East Asian data. According to Kashima (July, 2006), the production of psychological knowledge in a country is a function of its *collective capacity* (human and tangible infrastructure) to generate research questions, answers, and publications and its *collective motivation* to initiate research and collaborate with other researchers. He conceptualized the surge of publications by East Asian psychologists to arise through what he calls a “Political Economy of Knowledge.” The demand for knowledge is partly determined by political and economic processes. When the political economical demand is great for a certain type of knowledge, in the long run a greater collective capacity and motivation is likely to ensue.

Table 2. Frequencies of First Authors and Co-Authors in Sampled Journals: East Asia and South Asia 2003-2005

Countries	APA/Premier		International		Low-Impact		Total	
	1 st -Au	Co-Au	1 st -Au	Co-Au	1 st -Au	Co-Au	1 st -Au	Co-Au
East Asia								
China	7	32	8	23	15	22	30	77
Hong Kong	13	23	19	33	19	32	51	88
Japan	15	41	8	28	164	237	187	306
Korea	3	8	6	10	18	24	27	42
Taiwan	3	5	4	3	34	36	41	44
Total	41	109	45	97	250	351	336	557
South Asia								
Bangladesh				1	1		1	1
India			2		6	6	8	6
Nepal				1		2		3
Pakistan						1		1
Total			2	2	7	9	9	11

These conditions explain the psychological research developments in East Asian (EA) countries, each of which are relatively stable political entities with sizable and rapidly expanding economies. This reasoning applies to Japan and the Asian tiger economies of South Korea, Taiwan, and Hong Kong, and to China (PRC) which has one of the fastest growing economies. Each of these countries has a relatively established collective capacity for research.

Collective motivation for research in East Asia comes from several sources. Much is reactive to Western-led research prompted by their political economic demands for cross-cultural knowledge about East Asia as a market and by East Asians who are seen as potential political and economic competitors, and also seen as suppliers of raw material. But a comparable source comes from within Asian countries' political economic demands for psychological knowledge and for *cross-cultural knowledge about the West and other regions*.

This reasoning leads to expectations that are confirmed by the data: relatively greater proportion of North American and Western European international collaborations involving an EA country, a smaller proportion of international collaborations first authored by its own country's authors, and a relatively greater proportion of own country first-authored publications in Low-impact journals. Examining the data for first-authored publications, we find that China, Hong Kong, Japan, and Korea reflect the expected pattern: greater other than own first-authored publications. Taiwan, as a smaller market is seen as less of a threat or competitor, and therefore has less demand for cross-cultural knowledge. As well it has a stronger cultural identity expression and hence stronger presence of indigenous psychology. Hong Kong, a former British colony, may also be seen to be an exception through its difference in language and history of international

collaboration.

Forecasting the future, there are several potential consequences of the rich East Asian political economy. Some are opportunities that result from further economic expansion and from being relatively shielded from global conflict. Specifically, these may come in the form of cultural identity politics and possibility of unique, non-Western contributions to psychological science, such as may be found in the Asian Association of Social Psychology and Asian Journal of Social Psychology. On the other hand, unresolved problems from WW II and cold war international politics may lead to a regional conflict in East Asia, and also an inward turning away from international psychological science. Although the inward looking trend is not visible at present, the recent North Korean nuclear activities may threaten to destabilize the international relations of the region.

Latin America and the Caribbean. Publications in the sampled journals by Latin-Americans (Table 3) were considerably less than those by East Asian psychologists. There were only two first-authored publications in APA/Premier journals (Chile and Dominican Republic), whereas in international journals there were six by Mexican psychologists, and one or two each by an assortment of other countries. Argentina, Brazil and Mexico (especially Brazil) were internationally visible through publications in low-impact journals.

Table 3. Frequencies of First Authors and Co-Authors in Sampled Journals: Latin America 2003-2005

Countries	APA/Premier		International		Low-Impact		Total	
	1 st -Au	Co-Au	1 st -Au	Co-Au	1 st -Au	Co-Au	1 st -Au	Co-Au
Argentina		1			6	12	6	13
Brazil		2	1	3	18	46	19	51
Chile	1	3		5	1	2	2	10
Colombia		3			1	1	1	4
Costa Rica		2		3			0	5
Cuba			2	2			2	2
Dom. Rep.	1	1	1				2	1
Jamaica			3	1			3	1
México		6	6	16	5	10	11	32
Perú						2	0	2
Puerto Rico					1	2	1	2
Venezuela				5	1	4	1	9
Total	2	18	13	35	33	79	48	132

Latin American international collaborations were fewer in number, with most psychologists from Brazil, Mexico, and Chile; the majority of the collaborations were led by US psychologists and none involved collaborations with other Latin American countries (Table 4).

Language of science vs. language of instruction. Language can be seen as one of the most important factors determining international dissemination of research by Latin American psychologists. Throughout all of Latin America (including Mexico, Central America, the Caribbean, and South America), Brazil is the only country where the spoken language is Portuguese. In the other countries, formal schooling is carried out in Spanish, except where the native/indigenous language is taught for basic education. This is quite different from what takes place in some other countries, such as those in Asia, where English may be the language of higher learning or the academic language.

In Latin America, English used to be learned as a second language by the minority who reached the highest level of education. In Brazil the second language frequently may be French or Spanish, rather than English. A large percentage of researchers typically learn to read and understand the second language, yet only a small number reach oral and written fluency.

Brazilian research articles are primarily written in Portuguese, although in some exceptional cases and fields they may be directly written and published in English. To translate one's research report into English is hard work and sometimes costly.

Other discipline differences and trends. In Brazil, training courses/programs for researchers are a recent activity compared to those in countries in Western Europe and North America, although they are relatively mature if compared to other South American countries. A national system of advanced courses for Masters and Doctoral training started at the end of the 1960s. In early years, concerns about the social relevance of research generating knowledge for the real needs of society were paramount. In the 1980s, methodological concerns, i.e., how to rigorously conduct psychological research, became the primary concern and focus of the discipline in Brazil. During the 1990s, the psychological community in Brazil has concluded that both methodological rigor and social relevance are important. Brazilian psychologists are interested in local or regional rather than global questions, as well as in the generalization of research contributions.

Table 4. Frequencies of International Collaborations in East Asia and Latin America: 2003-2005

Country	First Author				
	Total	North America	Home Country	Region	Other Country
East Asia					
China	51	26	17	6	2
Hong Kong	48	23	19	1	5
Japan	49	18	20	2	9
Korea	20	7	8	3	2
Taiwan	11	4	6		1
Totals	179	78	70	12	19
Latin America					
Argentina	1	1			
Brazil	13	6	6		1
Chile	7	6	1		
Colombia	2	1			1
Costa Rica	5				5
Cuba	2		2		
Mexico	9	6	2		1
Peru	2	1			1
Venezuela	5	1	1		3
Totals	46	22	12		12

Presently, many strategies take place and help to advance the discipline toward indigenization and internationalization in Latin American countries (Maluf, July, 2006). These include partnerships for research promoting cooperation between researchers from different countries and more agreements between countries for psychology teaching programs.

In the last few years scientific journals in Brazil have made significant advances in adopting international evaluative criteria and in inserting Brazilian journals into international databases. There are several reference sites where Brazilian and Latin American full-text articles may be found (e.g., see www.scielo.br; www.bvs-psi.org.br). The Interamerican Society of Psychology (SIP) has recently entered into an agreement with Psychology Press for the inclusion in the IUPsyS Global Resource CD-ROM of all abstracts from the 2007 Interamerican congress that was held in Mexico City in July of 2007, in both English and the language of the presentation (Portuguese, Spanish or French). This presents a unique opportunity for Latin American research to be translated into English and made globally available.

Finally, open access to and use of scientific information is of utmost importance for all, but especially for majority-world countries. Historically, their access to scientific information

has been prevented or made difficult by economic barriers, government policies, language and other issues. Much effort is required to overcome these obstacles. We need to recognize that scientific communication is a crucial part of research for all countries. Universal access to scientific information will make possible effective participation by all in the process of generating and disseminating knowledge. This will do much to promote the integration of Latin-American psychology into the worldwide body of psychological knowledge.

South Asia. There were few publications by South Asian psychologists over the three-year period 2003-2005 (see Table 2). Almost all of these were by Indian researchers; none were in APA/Premier journals, two were in International Journals, and six in Low-Impact journals (see Table 2). The paucity of first-authored Indian research was surprising compared to its substantial visibility in the 1980s. Longitudinal data (Adair, 2007) for comparable three-year periods revealed a steady decline from 31 publications in the first three years of the 1980s to levels of only 6 for the current decade.

According to Pandey (July, 2006), a number of factors could account for this dramatic shift in global publication by Indian psychologists. These are presented here not as apologies for the Indian context, but are offered for reflection on the dynamics of research publication important to discipline development. One reason for the decline is likely the aging professoriate and retirement of several high profile active researchers from earlier years, who are no longer around to carry the banner of Indian psychology internationally. Durganand Sinha was just one of many scholars who was trained abroad and published actively over this period. Indian researchers at that time were mostly trained in the USA, Canada or the UK and had mentors and models for publication submission to English-language and international journals. The transition in India to national research graduate training programs likely pose other models and targets for research publication.

In earlier years it was the practice in most universities in India to encourage, monitor, and promote a few highly selected faculty, who received special recognition for their publications, especially for international articles. Such practices changed in the mid-eighties with a shift in policy of the University Grants Commission of India. Responsible for recruitment and promotion policies of universities and colleges in India, the Commission introduced time-bound career advancement up to the highest level and over time research quality could not be maintained as a stringent criterion for promotion.

Graduate programs in psychology competing with other disciplines for new students have been forced to enroll poorer quality students, thereby negatively affecting the overall quality of the discipline. Similar to other majority-world countries, engineering, physical and biological sciences in India are greatly preferred as careers and considered to be more economically appropriate choices, thus leaving lesser-talented students to enroll in psychology. In the last two decades, admission to business schools with greater financial incentive has also become highly attractive. As a related aside, some of psychology's most talented newly-granted PhDs have joined business management schools as faculty, expecting that quality research will not be demanded in these appointments.

Although it may sound heretical and contradictory to even suggest it, the indigenization movement of the discipline in India also may have contributed to its current levels of publication globally. The movement toward the indigenization of psychological research that swept across India, over the previous two decades, shifted the attention of many researchers away from methodological mastery that was the focus or goal for researchers, toward identifying and researching topics and concepts of local relevance and applicability to the Indian context. Several scholars of India and other countries with great enthusiasm have contributed some good examples of indigenous research but they and their students may have failed to sustain it to the level of international publication. A period of time may also be required for the maturing of the indigenization movement to result in substantive publications for international publication. Another problem is that there may not be international outlets

receptive to the publication of indigenous research. Adair (2006) has suggested the need for an *International Journal of Indigenous Research* to fill that void and to provide a forum for assessing the international quality of the research and how truly indigenous are the local findings.

Conclusions

The foregoing data and discussion have highlighted substantial differences between the three regions of largely majority-world countries: East Asia, Latin America and the Caribbean, and South Asia. In spite of substantial differences from the West in language and culture, East Asian psychology appears to have a greater global presence than the discipline in either Latin America or South Asia. East Asian countries have had considerable success in publishing their research globally, largely due to their economic wealth, the US- and Western European-led demand for psychological knowledge about the East Asian economic markets and competitors, the support for research that is perceived to be useful to their government and society, and their desire to command written English and to compete directly with US psychology.

The other two regions have substantially less global publication for quite different reasons. Economies that are not as rich and lesser command of written English among students and graduates seriously handicap the participation of Latin American scholars in the world psychological community. India, on the other hand, had considerable publication success and international visibility in the 1980s, yet contrary to other developmental trends has experienced declining global publication in recent years. Retirements, changes in higher education practices, and the declining attractiveness of psychology as a career choice have all contributed to this trend.

Nonetheless, it is encouraging that the data from this research has confirmed the global trend toward increasing internationalization, resulting in more comparable levels of publications by psychologists from the USA and ROW countries. Although the pattern of journals with ROW authorships suggests that psychologists from the ROW at the moment are mastering US psychology, rather than contributing something entirely new, it is anticipated that this broader mixture of contributing countries will ultimately result in an enrichment of the discipline.

The pattern of the data also suggested the need to reconsider the stage of development and status of certain countries: On the one hand, the limited global-visibility of publications of psychological research from most Eastern European countries (and likely the stage of discipline development) seems to be more comparable to the rates found in majority-world countries than to their Western European neighbors. On the other hand, Japan, aside from its prolific publication rates in low-impact journals, did not appear to be an outlier when compared to other East Asian countries on publications in APA/Premier or international journals. Indeed, the publication of Japanese psychological research in Low-impact journals was comparable to the publication practices for internationally-visible research published by psychologists from the Majority-World. Empirically monitoring the authorship affiliations of contributors to the psychological research literature provides a more objective means for assessing the progressive spread of the discipline around the world and contributes to our understanding of the dynamics of its development.

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YouTube, the Internet and IACCP: Opportunities and Challenges for Cross-Cultural Psychology

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We culturalists are an unusual lot! Dispersed geographically and divided socially by potential and real political conflict, economic competition, religious disagreement and vast disparities in wealth and resources, we struggle with the dilemma of studying diversities that can only be understood adequately through effective communication and collaboration. The International Association for Cross-Cultural Psychology was conceptualized by psychologists who recognized and participated in this dialectical context. The Founders set out to create an organization that would provide *communication* venues in order to facilitate the development of a *community* of psychologists who would *collaborate* on cultural research. Communication, indeed, was the starting point of IACCP, in face-to-face interactions at international conferences in the 1960s and through a project begun in 1969 by Harry Triandis, the *Cross-Cultural Social Psychology Newsletter*. These two types of communication were precursors to the founding of the Association in Hong Kong in 1972.

We will refer to these three goals –communication, collaboration and community– as the 3C Goals. This chapter reviews the status of these goals, admittedly without quantitative data on which to base some of our assertions, and discusses how new technologies could affect –hopefully enhance– our accomplishment of these goals looking forward. Many of the ideas presented here were discussed at the workshop, “Using the Internet to enhance scholarly communication in the IACCP,” hosted by the Communication and Publications Committee at the XVIII Congress of the IACCP in Spetses, Greece. The workshop focused on a fourth goal as well, support for teaching of cross-cultural psychology.

First Impressions on 3C Goals: Have We Met Them?

We believe IACCP has largely succeeded in accomplishing its 3C Goals, although much can still be done. Communication among culturalists has been supported through the evolution of Harry Triandis’ newsletter to the present *Cross-Cultural Psychology Bulletin*; Congresses and conferences grow larger and more frequent; and the very pace of communication has approached the speed of light with the development of Internet tools such as email and the IACCP discussion lists.

Collaboration has followed in step, evidenced by a long history of joint international research projects, many of which have been reported in our *Journal of Cross-Cultural Psychology*. IACCP Congresses and conferences provide two venues: the official or manifest venue of paper sessions and social events; and the latent (and rather informal) venue of research teams sequestered at restaurants and bars plotting their joint efforts.

The sense of community in IACCP has developed and endures, even as the Association has grown. IACCP’s social structure has always been characterized by multiple core groups of collaborating researchers, often formed through mentor-student relationships, and a larger corpus of members with varying degrees of ties to these core groups and to each other. Thus, the “community” fostered by IACCP is not homogeneous, but nonetheless evidences an unusually high degree of cohesion considering the dispersed and divided character of the field.

Many cross-culturalists currently working in Western and non-Western societies alike were graduate students of the small number of original founders of IACCP. This pattern has engendered a certain degree of continuity, but also presents challenges. Informally, one hears two kinds of comments from IACCP Congress participants: they are highly impressed with the community atmosphere that they encounter; and they are keenly aware of the power of the core groups whose research attracts the most attention and whose members are overrepresented in the Association's governance structure.

It seems that issues of power distance and collectivism that are the main staple (and focus) of our research also seem to permeate how the organization is run. As Greenfield (2000) noted, collectivism is not only the object of our study, but also influences how we do science. Criticizing, power sharing or initiating change might not feel right for researchers who have been trained to obey elders in collectivist or high power distance societies.

3C Goals: Taking a Second Look

It has become almost trite to talk about the effects of technological innovations on interpersonal communication and the "information revolution." Nonetheless, these historically unprecedented developments provide opportunities as well as challenges from all around. We evaluate the Association's progress in accomplishing its 3C Goals in the broad context of their historical development in IACCP and we propose new opportunities and directions for the Association.

Communication

In the 1960s and 1970s, scholarly communication focused on the informal interaction between scholars that was facilitated by newsletters and conferences, and on formal peer-reviewed publications. Walt Lonner's *Journal of Cross-Cultural Psychology* was the first journal dedicated specifically to providing the latter type of communication, and became associated with IACCP when IACCP was founded in 1972.

The communication goal of the Founders was primarily to enhance the ability of cross-culturalists to interact effectively despite their considerable geographic dispersal. They did not anticipate email and discussion lists, of course. Email became widely available by the late 1980s, sooner in wealthier nations than in others, and in preparation for IACCP's first online election in 2002, we determined that most IACCP members had email addresses. The first cross-cultural discussion list, "XCUL," was inaugurated in the early 1990s by Roy Malpass, then superseded in 2000 by the IACCP Online Discussion List (about 300 members currently). Perhaps the Founders would have been dismayed back then had they been able to anticipate how much time we now spend on email rather than on thinking and direct social interaction. Nonetheless, the Internet has been a boon for cross-cultural psychology; indeed, we would argue that it has transformed the field.

The Internet is gradually supplanting print publication. Much of the communication function of the original *Cross-Cultural Social Psychology Newsletter* is no longer necessary; the modern *Bulletin* does not print items like "I will be in Hong Kong in December, if anyone would like to meet me," or long bibliographies of recently published cross-cultural articles. By 2003, the *Bulletin* had discontinued its traditional section on Association news. Some of this communication was replaced by email and the discussion list, and still more by the appearance in 1995 of the IACCP web site, on which the *Bulletin* itself is now published electronically in parallel with its print edition. Gabrenya (1995) mused that he would be the last editor of a print version of the *Bulletin*, but by 2009 the technology has not yet progressed sufficiently to facilitate an electronic magazine providing all of the advantages of a print publication. Gabrenya (2006) suggested that

...the future of IACCP communication will involve a hybrid online <<fill in technogeek noun>> that will incorporate the relative permanence of published

articles, such as the current *Bulletin* content, with short-lived material that we now see in email announcements, online discussions, and news articles. Simply converting the *Bulletin* to an emailed or online PDF publication is not sufficient; nor is a blog, chat room, forum, etc. (p. 3).

Conferences were the primary interpersonal communication venue, besides newsletters and correspondence by post, in the era of the inception of IACCP and they remain the focal point of the Association. The Spetses Congress was the largest conference in Association history. The previous Congress (Xi'an, China, 2004) was the second-largest. The unique culture of IACCP allows us to put on unique, compelling conferences that are well attended and foster our 3C Goals.

However, IACCP conferences (like any other face-to-face conference of an international community) have enormous carbon footprints, they are expensive for international travelers, and they compete in an increasingly crowded conferences "market." While fostering communication and collaboration effectively within psychology, the Association has not attempted to extend its 3C Goals across disciplines even though many research programs in our field require extensive interdisciplinary knowledge (Gabrenya, 1989). In the marketplace of conferences, most cross-cultural psychologists do not have the luxury of attending additional conferences outside of psychology, for example in anthropology and sociology. The compartmentalization of psychological research also means that a less diverse group of researchers will attend a Congress now than 20 years ago. Cultural and indigenous psychologists have attended fewer meetings of IACCP in recent years and the sessions have become dominated by imposed-etic, universalistic, culture-comparative approaches (of admittedly high quality).

Online conferences offer a recent innovation that can address some of these drawbacks. Such conferences foster scholarly discussion by turning the focus of interaction on the content of presenters' work while reducing peripheral influences such as the presenters' style or other social and sightseeing distractions. These conferences can also increase communication across ideological or academic boundaries since they are more widely accessible. Nathalie van Meurs (van Meurs, 2004) has organized several online conferences using specialized conferencing software. The success of these conferences has led government organizations such as the Commission for Racial Equality (now Equality and Human Rights Commission) to emulate the concept and make them a regular feature additional to face-to-face conferences (www.dialogin.com). Online conferences are primarily text based at this time (papers are posted; written comments are posted in response in a forum format), but as the availability of Internet2 connectivity increases, synchronous (two-way, simultaneously) audio and video communication will be feasible (see www.internet2.edu). Because participation in online conferences is more efficient with respect to time, this venue allows practitioners (time-is-money) to interact with academics, and academics to potentially conserve travel funds in order to attend a broader array of conferences. Of course, a conference without a dance party is out of step for IACCP (but see www.secondlife.com for the possibility of "virtual dancing"). Online conferences are particularly attractive for young scholars and students who are familiar and comfortable with online communities (e.g., *Facebook*) and tools (e.g., *YouTube*). IACCP must keep up with these developments if it wants to grow and evolve as a modern organization. The appeal to undergraduate and postgraduate students is also enormous. Online communication has a status leveling effect that can offer many benefits for student participants who are too shy to ask questions otherwise. It also has the advantage that students can interact with leading scholars directly (rather than only reading their often dry academic prose), which enhances their learning and motivation.

The appearance of the Web has broadened and complicated scholarly communication by providing vastly more, and arguably less reliable, information in a consummately public

medium. Google and Google Scholar provide mixed blessings. The business plan for information has been altered (perhaps warped) so that opportunities and expectations for “free” information have increased. IACCP has taken advantage of the availability of inexpensive Web distribution to provide high quality “free” information by publishing its Congress proceedings volumes online (see ebooks.iaccp.org). The Center for Cross-Cultural Research at Western Washington University, under the leadership of Walt Lonner, created a large set of “free” textual resources, *Online Readings in Psychology and Culture and Psychology*, that are now under the aegis of IACCP (ORPC; see orpc.iaccp.org). In the spirit of the Open Access Initiative (see www.soros.org/openaccess), the Association provides this edited scholarly content “free” of charge.

The aforementioned Spetses workshop discussed another exciting opportunity for providing “free” open access information: a cultural wiki, perhaps “*Wikicultura*.” A wiki is a web-based information system that facilitates collaborative knowledge diffusion, the most famous of which is the online encyclopedia, *Wikipedia*. The IACCP Executive Council approved in principle the creation of a wiki-like web site in 2000, before the appearance of *Wikipedia* or the term “wiki” was in common use (Gabrenya, 2001). This project did not find traction, but the conceptually related ORPC appeared several years later. In *Wikicultura*, “authorized experts” in the field would collaboratively create an encyclopedic resource of knowledge in cross-cultural psychology. The two challenges to *Wikicultura* (and especially *Wikipedia*) are problems familiar to sociology of science, *authority* and *consensus* (Cole, 1992): the establishment of who has the credentials to make statements of fact and the extent to which such facts are agreed upon within the academic community. However, this medium would also open the possibility for open discussion and less reliance on established hierarchy structures. Furthermore, debates on the use of the internet within academia are indicating that Wikipedia may be a source for coursework in the future and that students may be allowed to cite it as it is a “peer reviewed” source.

Open access materials are of course not at all *free*, hence our placement of quotation marks around that word in this section. Altogether, IACCP spends thousands of dollars each year, in direct payments and donated labor, to maintain its infrastructure of open access documents, excluding the costs to develop the original ORPC at Western Washington. As technologies that facilitate opportunities for providing open access materials appear in tandem with rising expectations, the Association gradually finds itself in a knowledge dissemination business that the Founders did not envision. We strongly believe that open access and web-based opportunities allow us to reduce exclusivity, but providing these materials alters somewhat the mission of the Association.

Collaboration

Most culture-comparative research in the field is collaborative, if for no other reason than the need to obtain suitable samples. The first commercial flight of the Boeing 747 took place just two months before the cover date of the first issue of JCCP, two auspicious events for the progress of cross-cultural research. Travel to distant locales was greatly improved, leading to complaints about cross-cultural research as “research by 747,” meaning multi-nation research by psychologists who would *swoop in*, pass around some questionnaires, enjoy the hotel bar, then *swoop out* with data but absolutely no understanding of the culture being sampled (Doob, 1980). Of course Doob exaggerates; research by 747 does not necessarily entail drinking at an overpriced bar. But now we can cease our *swooping*; we have the Internet. The Web makes it even easier to harvest data with no real understanding of cultural processes. It is now possible to spend a few hours in front of one’s computer to set up yet another online survey or experiment that may have no local relevance or input from cultural informants.

The Internet’s facilitation of communication in the broad sense has facilitated research collaboration in a narrow sense, enhancing the scope of research and greatly increasing the size

of datasets, both in number of samples and in sample sizes. The early, huge cross-national dataset analyzed by Geert Hofstede was available because it was collected by a large multinational, IBM. Subsequent large-scale dimensional studies, such as those of Shalom Schwartz (1994), the Chinese Culture Connection (Michael Bond et al., 1987), the Social Axioms Project (Kwok Leung, Michael Bond, and many collaborators, 2004), the International Sexuality Description Project (David Schmitt et al., 2004), GLOBE (House, Hanges, Javidan, Dorfman, & Gupta, 2004), and others, were facilitated by the Internet.

As cross-cultural psychologists are obsessively opportunistic in seeking datasets, we have seen a shift toward methodologies that are conducive to the large research designs that Internet-abetted collaboration makes possible: self-report methods. Compare John Berry slogging through New Guinea carrying devices to assess field dependence or Marshall Segall sweating bullets in Uganda to a questionnaire on Survey Monkey (www.surveymonkey.com). Gabrenya (2004a) found that 65% of JCCP articles involving Chinese participants used self-report methods in the period 1979-1984, but 81% used self-report methods from 1995 to 2004 (peak period: 93% in 1990-1994).

The enhanced opportunities to collect self-report data afforded by the Internet have in turn altered our research expectations in arguably unfortunate ways. Researchers face pressures to collect data in more and more locations without evaluating cultural appropriateness, theoretical relevance or central issues of equivalence or bias. Our students (and we as supervisors, too) are keen and excited to see whether a new academic toy (say, questionnaire or experiment) works as well somewhere else. Wielding the interchangeable labels of individualism-collectivism (or more recently, thinking styles), it is easy to derive trivial hypotheses that are publishable and can form the material for numerous student projects. Theory and method influence each other in a positive feedback loop (Gabrenya, 2004b), so the data harvesting opportunities afforded by the Internet may have deeper effects on the course of the discipline. A methodological arms race—the pressure to apply increasingly sophisticated statistical techniques quite independently of theoretical advances—exacerbates this problem.

Communication and collaboration technologies continue to develop, for example, the appearance of free synchronous audio through VOIP (voice over IP; internet telephony) applications such as *Skype* and moderately expensive multimodal Web collaboration tools such as *Adobe Connect* or *WebX*. Free international conference calls among research collaborators are now possible, if a little buggy, and should improve as bandwidth increases. Some government-run networks (such as BRCSS [Building Research Capacities in the Social Sciences] in New Zealand) use grid-like structures for virtual meetings of researchers and students. Fischer has worked on a project in which academics from several institutions interacted without meeting face-to-face. Such grids are also used for lectures broadcast simultaneously across multiple campuses, with opportunities for participants to interact in real time.

Long-distance observational research and field-like studies of intercultural virtual teams are conceivable using asynchronous video over the Web and synchronous Web collaboration tools, so at some point we might expect the trend toward self-report studies to reverse. The Centre of Applied Cross-Cultural Research in New Zealand has a real-time lab for experiments that is linked to other labs in Taiwan, mainland China and Japan. Students at the various universities have successfully interacted online as part of experiments on intergroup conflict and stereotyping (organized by James Liu and others). Gradually, *being there* takes on a different meaning, but some problems inherent in research by 747 remain, as cultural psychologists are wont to remind us.

A proposal was made at a symposium on the future of IACCP at the Spetses Congress that datasets be placed online to be shared among researchers. To some extent this is already taking place, for example, the Inglehart World Values Survey can be downloaded and even analyzed interactively on the WVS Web site. Other researchers make their datasets available

with permission. IACCP should address the question of creating a repository of datasets, although many difficult problems would need to be solved before doing so. Arguably, the current academic climate is more competitive than that of the trading floor in a stock market, and is not conducive to sharing datasets. But perhaps we need to press the academic reset button and become aware that this competitive element is an imposed ethic from government funding bodies. By sharing datasets once we have published the main results we are actually doing what we are supposed to: advancing knowledge through (collaborative) scientific exploration.

Community

The primary challenges to maintaining and enhancing the sense of community in IACCP are the ever-present problems of dispersion and division and the newer problems of size and mission. The feeling of community present at the founding of the Association was achieved despite dispersion and division due to the small size of the initial membership and the cohesion wrought by a compelling sense among the Founders that they were pioneers doing something new and important. Thirty-five years later, dispersion is still intrinsic to our nature; division continues to wax and wane with the international political scene, recently quite grim. (For example, members from some countries can no longer pay their membership dues as a result of international monetary embargoes.) The size of the IACCP membership has been stable for most of the decade, but its composition has been increasingly unstable as more people join but do not renew their memberships. One reason for this trend may be a lack of community. IACCP certainly benefits from the general increase in interest in things cultural but many new members may fail to find what they want in the Association and leave more quickly.

Any discussion of maintaining or enhancing community must take into account some structural characteristics of the Association that are a legacy of the Founders. The establishment of IACCP by a small number of pioneers who went on to educate several generations of students seems to have propagated a culture of rather homogeneous cliques that can be hard for outsiders to penetrate. The recurring roster of keynote speakers at regional and international IACCP conferences certainly creates an impression of an inward looking, hierarchical (and to a certain extent patriarchal) organization. This situation might be a reflection of the current state of academia internationally, but it is not altogether compatible with the mission of IACCP. It is encouraging to see the establishment of the Walt Lonner Distinguished Lecture series and some explicit recognition of this problem in the leadership looking to future conferences. The underrepresentation of women and non-English speaking (or non-Commonwealth) senior figures should also be a concern. As discussed in a previous section, innovations such as Internet-based conferences can contribute to penetrating our cliques and leveling our hierarchy.

The status of IACCP within the broader, rapidly growing field of culture-psychology studies is problematic, even precarious. Can IACCP be justified? As a well-known and distinguished IACCP member recently commented, the future of academic cultural research seems to be in just two labs in North America. Research categorized nominally as “cultural psychology” has become very fashionable and is rapidly spreading into mainstream journals. Although this interest is welcome and to be encouraged (indeed one of the missions of the founders of IACCP), it is curious to note that there are only very tenuous links between the centers of this activity in North America and IACCP. So, to our frustration and to the detriment of science, little cross-referencing of academic work takes place and research paradigms are again being transmitted in one direction, from the U.S. to the rest of the world. Researchers working in these newly formed traditions miss the opportunity to take advantage of many of the lessons learned by members of this Association, often published in non-US journals. It is ironic that the rise of cultural research in the U.S. could lead to further domination and monopolization of (cultural) research by U.S.-based researchers, quite contrary to founding ethos of the IACCP.

To answer the question, *whither IACCP?*, it is the international psychology community enabled by IACCP that may be its greatest asset. Given its diverse membership base, IACCP should take up the challenge by creating a truly global cross-cultural psychology community.

The Internet presents some prospects for fostering community. Several types of Internet applications have facilitated the creation of virtual communities whose interests are narrowly focused and whose mere existence is essentially invisible to nonmembers. These communities are founded on themes such as hobbies, religion, politics and sex. Social networking sites, such as *Facebook* globally and *MySpace* in the USA, present venues for a complex set of interconnected, variably cohesive communities. Social commentators have criticized the societal “Balkanization” engendered by these voluntary communities as mass media is replaced by Web sites (Galston, 1999). Nonetheless, virtual communities may serve as model for promoting community in IACCP.

How so? We offer six reasons for embracing virtual communities.

First, readers of a certain age will not understand the extent to which “communication styles” have shifted in the generation that completed High School after the late 1990s, unless they have had close contact with members of said generation. The professional and social impact of *Facebook*, for example, is enormous. A case in point is the necessity for HSBC bank to re-evaluate its HRM practices after a community of complaining individuals was set up in *Facebook*. Members can join any community, be it alumni, professional (e.g., IBM), or social. In fact, the Academy of Management has its own entry on *Facebook*, with 100 members as this chapter is being written. Even local groups may benefit from such initiatives: the Australasian Social Psychology group attracted 56 new members within a few weeks through online appeals, a considerable membership in light of the small number of Social Psychologists in that part of the world. Government funding agencies in New Zealand and Australia now establish similar initiatives to tie together their larger communities of research providers and research users. These interactions might also suit communication styles globally, as suggested by the enormous success of early social networking sites such as Google’s *Orkut* in Brazil and Asia, even before *Facebook* took the world by storm. Fischer was taken by surprise during his sabbatical in Brazil when he discovered that seemingly everyone had given up email, instead leaving “scraps” (messages) on other people’s scrapboards (message boards or “walls” in *Facebook* terminology). This practice allows everyone who is interested to see what is happening with everyone in the community. In the UK, an application called *Twitter* allows people to update their *Facebook* status on via their mobile phone. Online, an individual’s status will say “Nathalie van Meurs is twittering: she can be found in a café by London School of Economics.” It also allows her to be updated on the status (whereabouts) of her “friends” on a continuous basis. Perhaps this will be the future of IACCP conferences –at a push of a button we will know who is sitting by the pool and who went to that workshop on IACCP and the Internet.

Second, virtual communities solve the dispersion problem in two ways: obviously, they are virtual (you don’t need a plane ticket); and they are not delimited by the frequency and length of conferences. In other words, interaction can be frequent and ongoing rather than jarringly episodic. IACCP members have commented over the years about the disconcerting cognitive distance between normal life at home and the four days of a Congress. Through virtual communities, contact and collaboration is maintained even as the glow of the Congress experience wears off.

Third, they solve the division problem. So far (and this could very well change), political conflict between nations does not appear to hinder communication on the Internet, except when it involves countries that are willing to expend considerable resources to build firewalls (e.g., China), can readily disconnect (e.g., Myanmar), or routinely eavesdrop on their citizens using data mining technologies (the U.S.).

Fourth, they are scalable and focused. Large or small communities can self-select on broad or narrow interests. We see this currently in the development of online discussion lists.

The danger of Balkanization, however, persists. IACCP has occasionally debated whether or not to create divisions, as in the larger psychology organizations such as the International Association for Applied Psychology, but the leadership has felt that the Association is too small for this sort of potentially divisive structure. In practice, such divisions have formed through the initiatives of members who felt their interests were not served adequately by IACCP, a case in point being the recent creation of the Asian Association for Social Psychology. Virtual communities in IACCP would be layered on the broader community that is maintained through face-to-face conferences. Indeed, the Academy of Management allows its members to select to receive emails from special interest groups. Establishing special interest groups or special interest group communication media (e.g., discussion lists) within the Association may help create communities within IACCP that are more active than the single general purpose IACCP discussion list.

Fifth, they are cheap. Until recently, air travel was becoming less and less expensive relative to disposable income and inflation in most nations. But at the time of this writing, oil has reached USD100 per barrel and ticket prices have skyrocketed. Meanwhile, the costs of computer technology continue to fall. So, virtual communities that meet in online conferences and other forms of Internet communications are available to a wide range of psychologists who have limited travel funds. Size of travel budget or personal wealth would no longer sort members into two classes, members who have multiple opportunities to travel and take leadership positions, and the rest.

Sixth, virtual communities might facilitate the creation of virtual research teams that would in previous years have formed around leaders of the core groups described previously. While there is little question that the core groups in IACCP produce high quality, high profile research, the potential of others is often not recognized or facilitated.

How would IACCP foster the development of virtual communities? Technical and social engineering would be required. Technical engineering would involve the creation of Web services, presumably attached to the IACCP Web site, through which these communities would form and conceivably communicate. Social engineering would be a catalyst: individuals would be charged with recruiting and promoting the initial development of these communities. The specific technical and social steps through which this fete would be accomplished remain to be developed by interested parties.

Teaching: Adding a "T"

We doubt that teaching was on the minds of the psychologists who conceptualized IACCP in the 1960s. Nonetheless, at the end of the day, few cross-cultural psychologists in any country would be able to pursue their research interests were they not employed primarily, or substantially, to teach. Those of us lucky enough to teach in our field must often grapple with a second reality: the flavor and texture of cross-cultural psychology is difficult to communicate to students in the setting of a psychology classroom. Although we have only anecdotal evidence for support, we might go further to assert that few of us would have chosen this field based solely on reading a cross-cultural textbook or (even) taking a cross-cultural class. Instead, most culturalists entered the field after an experience such as living overseas, emigrating, marrying out of the home culture, or encountering a particularly compelling or charismatic mentor. The challenge to teachers is to pass on their enthusiasm for the field to their students, who may or may not be future researchers but will surely need to function in a globalized world.

The fact of the matter is that it is unlikely that young professionals entering the job market will find work that does not require some level of "cultural intelligence" (Earley & Ang, 2003). Business schools in particular have jumped on the cross-cultural bandwagon and offer intercultural, cross-cultural, or international management courses that lean heavily on psychology due to their focus on human interaction. What is more, these courses are sometimes "franchised" to universities outside the country of residence of the researcher, such as Hong

Kong and Dubai (e.g., Middlesex University Business School). As these courses are taught by others, universally relevant teaching materials are needed, additional to small adaptations for the local audience (e.g., anecdotes and examples) that can be improved by collaborative sharing of knowledge. Coursework is increasingly delivered via the Internet by using university student systems and portals that can be accessed from anywhere. These portals also contain announcements, reading lists, lecture slides, weblinks (of *YouTube* videos and news websites), podcasts, and quizzes. Regardless of the manner in which cultural courses are developed or the medium through which they are taught, teachers require and actively seek compelling instructional materials.

The Internet has tremendous potential for providing online resources to help instructors communicate the flavor and texture of cross-cultural psychology. IACCP could assume responsibility for providing these resources, given that the textbook market in the field has not grown to the point where expensive ancillaries can be developed by commercial publishers. In the Spetses workshop and in many conversations over the years, we have brainstormed the resources that could be provided. Audio-visual aids include a video library of the works of the most prominent members of the field or carefully edited short documentary-style clips designed to illustrate theoretical principles and research findings. Annotated still photography could accomplish some of the same goals more simply. The Association could sponsor a documentary film of the history and dominant models of the field, an idea discussed in several meetings at the Spetses Congress. PowerPoint shows could be posted that would help new instructors get started. We can generate a database of internet videos, links, multiple choice questions, e-books, etc. The need for the inclusion of modern technology is poignantly illustrated in the video *Did you know* (www.youtube.com/watch?v=jpEnFwiqdx8), which van Meurs used in her introductory lecture on cross cultural management. These resources could be collected in a digital repository, or IACCP could participate in a such a repository (e.g., see www.theorangegrove.com or www.scivee.tv).

Finally, the potential of Web-based synchronous communication for research collaboration also exists for teaching. Collaborative teaching, guest lectures, seminars mixing students in distant universities, class projects composed of virtual teams across campuses are all possible and become increasingly easier as this technology matures. Gabrenya tried two experiments using Web-based communication tools. An active cross-cultural scholar, Zeynep Aycan of Koc University, Turkey, presented a colloquium in mid-2007 to Industrial/Organizational graduate students in the U.S. from her university office in Turkey using *Adobe Connect* technology. The experiment was successful in providing much of the experience of a classroom lecture, albeit hampered by low bandwidth (some dropped audio, for example). In a second experiment, Wenhua Yan of East China Normal University, Shanghai, China and Gabrenya collaborated to pair students in her undergraduate cross-cultural psychology class with students in his undergraduate social psychology class. Students completed a series of projects by communicating in English using *Skype*. As a pilot project, much was learned in this experiment, in particular the difficulties of real-time communication when students are separated by a 12-hour time difference as well as deeper cultural differences in the social settings of American and Chinese classrooms. Teaching styles must accommodate intercultural experiences such as this one so that the experience is integrated into the course rather than simply added on top of it.

Fischer participated in a teaching and assessment project initiated by Miriam Erez in which students at various institutions had to interact, develop a short training tool together and then had to present the final team product in their respective classes for assessment. This project required minimal resources (some networked computers with email or MSN), but students found this exercise to be highly rewarding and learned a lot.

Conclusion: $iaccp=f(3c+t)^1$

Those who follow the development of information technology informally, as we do, or formally, such as professional university IT administrators, are familiar with the pie-in-the-sky predictions of the technology pundits (e.g., Robert Cringely, David Pogue, and John Dvorak in the U.S.). The present chapter –so speculative– is stylistically consistent with the musings of these commentators. How does technology develop and shape social institutions, and how valid can predictions and recommendations such as those presented here actually be?

Some predict email to be obsolete in a matter of few years. Really?

In the 1960s, U.S. educators were certain that the introduction of videotape players to secondary school classrooms would change everything. Really?

Or was it the introduction of classroom personal computer in the 1980s that solved all of the problems in education? Really?

These questions are fascinating in their own right and the subject of several specialties in anthropology and sociology. In other words... we would not hazard a guess as to how the Internet will affect cross-cultural psychology in the future. Nonetheless, we can call on psychology's most clever and consistently correct analytical tool to lay out a broad prediction of what must come to be: the past and present goals of IACCP, communication, collaboration, and community, and the fourth goal, teaching, will continue to frame the activities of the Association, and development of Internet technologies will continue to shape the manner in which these goals are met.

In this chapter we have tried to highlight some challenges posed by emerging technologies and some intriguing opportunities. We have proposed some potential solutions for helping IACCP grow and achieve these goals, dispersed and divided as we are, by engaging such technologies. But history will not end and solutions are surely as fluid and unpredictable as Chuck Hill on the dance floor. So: please *set aside some time now* to read van Meurs and Fischer (2018) for an update of this chapter and a prospective analysis of the following 10 years of IACCP's technological engagement.

So, yes, we culturalists *are* an unusual lot.

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COGNITIVE PROCESSES

Exploring the Consequences of Biculturalism: Cognitive Complexity

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To explore the possible socio-cognitive consequences of biculturalism, we examined the complexity of cultural representations in monocultural and bicultural individuals. Study 1 found that Chinese-American biculturals' free descriptions of both American and Chinese cultures were higher in cognitive complexity than that of Anglo-American monoculturals, but the same effect was not apparent in descriptions of culturally-neutral entities (landscapes). Using the same procedures, Study 2 found that the cultural representations of biculturals with low levels of Bicultural Identity Integration (BII; or biculturals with *conflicted* cultural identities) were more cognitively complex than that of biculturals with high BII (biculturals with *compatible* cultural identities). This work shows that biculturalism and BII have meaningful cognitive consequences; further it suggests that exposure to more than one culture increases individuals' ability to detect, process, and organize everyday cultural meaning, highlighting the potential benefits of multiculturalism.

In today's increasingly diverse and mobile world, growing numbers of individuals have internalized more than one culture and can be described as bicultural or multicultural. For example, one out of every four individuals in the U.S. has lived in another country before moving to the U.S. and has been exposed to and is familiar with more than one culture (U.S. Census, 2002). Further, there is a large number of U.S.-born ethnic and cultural minorities (e.g., second and third generation descendants of immigrants) for whom identification and involvement with their ethnic cultures, in addition to mainstream U.S. culture, is the norm (Phinney, 1996). The prevalence and importance of multiculturalism and biculturalism has been acknowledged by a number of psychologists (e.g., Fowers & Richardson, 1996; Hermans & Kempen, 1998; LaFromboise, Coleman, & Gerton, 1993), but the phenomenon has rarely been investigated empirically. John Berry, who conducted some of the early seminal work on this topic (see Berry & Sam, 1996, for a review), identified biculturalism as one of four possible outcomes of the acculturation experience. Recent studies have further shown that identification with ethnic and dominant cultures are largely orthogonal (particularly among second and older generation groups) such that individuals can identify highly with both cultures (Ryder, Allen, & Paulhus, 2000).

Biculturalism and Cultural Frame Switching: Cognitive Consequences

Benet-Martínez and her collaborators have empirically examined the dynamics of biculturalism; specifically, the socio-cognitive processes involved in the development and maintenance of a bicultural identity (Benet-Martínez & Haritatos, 2005; Benet-Martínez, Leu, Lee & Morris, 2002; Hong, Benet-Martínez, Chiu, & Morris, 2003; Hong, Morris, Chiu, & Benet-Martínez, 2000). For instance, Hong et al. (2000) provided the first empirical demonstration of cultural frame-switching (CFS), a process in which biculturals have access to and apply two different cultural meaning systems in response to cultural cues. Specifically, Hong and her colleagues showed that Chinese-American biculturals make more internal attributions, a characteristically Western attribution style (Morris & Peng, 1994), after being primed with American cues, but make more external attributions, a characteristically East Asian attribution style, after being primed with Chinese cues. Biculturals' CFS behavior has been replicated in other behavioral domains and cultural groups (e.g., Gardner, Gabriel, & Dean, 2004; Verkuyten & Pouliasi, 2002; Wong & Hong, 2005).

The process of CFS involves the application of different cultural interpretative frames or cultural meaning systems to the processing of and reaction to everyday social situations. The application of one or another frame is guided by the cultural cues that precede or define the particular social context in which the bicultural finds him or herself. These cues may be blatant cultural symbols (e.g., flags, language, attire) or much more subtle and implicit features of the situation (e.g., roles, expectations, and goals embedded in a particular context). Given the increasing pervasiveness of cultural cues and complexity of cultural systems in today's world (Hermans & Kempen, 1998), one may wonder what cognitive consequences, if any, the repeated experience of CFS may have for biculturals. More specifically, are biculturals, by virtue of their frequent engagement in CFS (i.e., the cognitive-behavioral tasks of detecting, processing, and reacting differently to various cultural cues in the environment) cognitively different from individuals for whom CFS is not a common experience?

In line with the socio-cognitive literature on expertise (e.g., Feltovich, Ford, & Hoffman, 1997), multi-tasking (e.g., Rubinstein, Meyer, & Evans, 2001), and self-relevant knowledge (e.g., Nowak, Vallacher, Tesser, & Borkowski, 2000), we propose in the present chapter that biculturals, because of their frequent CFS experiences, think about culture in more complex ways than monoculturals or individuals who have internalized only one culture. That is, we argue that cultural representations (ethnic and mainstream) held by biculturals embody more components and more relations among these components. Before elaborating on our hypothesis regarding the relationship between biculturalism and complexity of cultural schemas, we briefly define the constructs of cognitive complexity and cultural representation.

Cognitive complexity is a broad individual difference variable that measures the degree of differentiation, articulation, and abstraction within a cognitive system (see Burleson & Caplan, 1998, for a review). Put more simply, cognitive complexity is the capacity to construe people, objects, and ideas in a multidimensional way (Suedfeld, Tetlock, & Streufert, 1992). Cognitive complexity is related to both content (properties and features) and underlying structure (relationships and dynamics). Higher level of cognitive complexity is indicated by greater information clustering (more differentiation and integration) and abstractness (less concrete and episodic descriptions). Cognitive complexity has been examined in interpersonal (Burleson & Samter, 1990), political (Tetlock, 1983), and affective reasoning domains (Suedfeld & Pennebaker, 1997), and found to be related to a wide range of outcomes (e.g., adjustment, persuasion). In this chapter we focus on the complexity of cultural representations, or shared meaning regarding the essence and dynamics of a particular culture that is socially created through language, images, and practices (Hall, 1997). Psychologically, at the individual level, these cultural representations include the particular values, beliefs, practices, images, and artifacts an individual associates to a specific culture.

CFS and Cognitive Complexity: Expertise and Control Processes. We propose that biculturals' more complex cultural representations are the result of accumulated experience at detecting and processing complex, ambiguous, and fast changing cultural cues. According to the literature on expertise (Feltovich et al., 1997), repeated exposure to and practice in a particular domain leads to domain-relevant schemas that are more complex. Similarly, biculturals' repeated CFS experiences should lead to cultural schemas that are more organized, abstract, multidimensional, and integrated. Through constant CFS, biculturals are further cognizant that cultural norms vary and change depending on the context. In other words, CFS creates a perspective that grasps the relativism and multidimensionality of each cultural system (Fontaine, 1990; Gutierrez & Sameroff, 1990), leading to more complex representations of both cultures (e.g., ethnic and mainstream). Note that we are not implying that monoculturals are culturally naive; most of these individuals identify with their culture and are familiar with the corresponding behavioral and attitudinal cultural norms. However, monocultural individuals may be less likely to recognize dominant cultural perceptions and beliefs as norms that may differ from other cultural groups (Gutierrez & Sameroff, 1990).

A second functional explanation for biculturals' more complex cultural representations may rest in the particular type of cognitive processes involved in CFS. Work by Meyer and Kieras (1997) and Rubinstein and colleagues (Rubinstein et al., 2001) shows that when multiple action schemas are activated (e.g., as when performing multiple tasks simultaneously or consecutively), individuals use a "supervisory attention system" that monitors which schema should be used and when, and as such engage in more deliberate and effortful cognitive processing of the cues that trigger or signal the appropriate action. The alternation between different cultural schemas and behavioral repertoires involved in the CFS process (e.g., switching between different languages and social scripts when interacting with ethnic vs. Anglo friends) may involve similar executive control processes or supervisory attention system, as well as more deliberate and effortful processing of the cultural cues associated to each action schema (Rubinstein et al., 2001). This more systematic and careful processing of cultural cues may in turn lead to the development of cultural schemas that are more complex (e.g., richer in content, more differentiated and integrated).

CFS and Cognitive Complexity: Accessibility of Self-Relevant Information. Cultural knowledge may be more accessible to biculturals than monoculturals because cultural knowledge is likely an important part of biculturals' self-concepts. For biculturals, cultural information is highly self-relevant, and thus, like other types of self-knowledge (e.g., personality traits), highly accessible to memory (Nowak et al., 2000). Several aspects of the acculturation experience suggest that cultural knowledge may be highly central to biculturals' self-definitions. Many biculturals are immigrants who have spent considerable effort in understanding their new, host culture, and how to best adapt to it. These experiences may have become an important element of biculturals' biographical memories. Furthermore, many biculturals are perceived by others as different and distinct (due to their accent, skin color, or behavior) and this "token" status has been shown to be an important dimension of selfhood and identity (Sekaquaptewa & Thompson, 2003). Cultural information is thus more likely to be an important part of biculturals' self-concept, and like other types of self knowledge, be more accessible in memory and more richly elaborated (Nowak et al., 2000).

Cognitive Consequences of Biculturalism: Domain-General or Domain-Specific? While we posit that biculturals would have more complex cultural representations than monoculturals, we do not expect this trend to be evident in culturally-neutral domains. A few linguistic and developmental studies on biculturalism and bilingualism have reported cognitive advantages for these groups beyond the cultural and linguistic domains. For example, some studies have found biculturals to have relatively more complex parental reasoning about child development (Gutierrez & Sameroff, 1990), increased creativity (Carringer, 1974), and greater attentional control (Bialystock, 1999). We propose, however, that the higher levels of cognitive complexity shown by biculturals will be specific to representations and reasoning within the cultural domain. We base this argument on the socio-cognitive literature on expertise, where cognitive complexity is seen as a function of experience and involvement with the objects in a particular phenomenal domain (Cantor & Kihlstrom, 1987). Indeed, our three arguments for linking biculturals' CFS to cognitive complexity of cultural representations –namely, experience in dealing with cultural information, executive cognitive processing involved in cultural frame switching and self relevance of cultural knowledge– are processes limited to the processing cultural schemas and cultural cues. In other domains without explicit cultural references –such as nature or technology– there is no reason to think that biculturals would show higher expertise, controlled processing, or self relevance. Accordingly, biculturals' reasoning about their cultures should be cognitively more complex than monoculturals, but this may not necessarily be evident in culturally-neutral domains.

In conclusion, there are reasons to expect biculturals to have relatively more complex cultural representations than monoculturals, and that the same trend would not be evident in culturally-neutral representations (Hypothesis 1). These predictions are tested in Study 1.

STUDY 1

In this study, bicultural and monocultural individuals wrote statements about American culture, Chinese culture, or landscapes. These statements were then content coded for cognitive complexity. We hypothesize that compared to descriptions of landscapes, biculturals will write relatively more complex descriptions of the two cultures than monoculturals.

Method

Participants

Our sample included 179 participants (88 males, 91 females; mean age = 20.7) from a large public university on the West Coast of the United States. Participants were recruited through campus fliers and were paid for their participation. Of the participants, 79 were self-identified monocultural Anglo-Americans and 100 were self-identified first-generation Chinese-American biculturals. All the Chinese-American participants were born in a Chinese country (People's Republic of China, Taiwan, Hong Kong, Macao, or Singapore), and have lived at least 5 years in both a Chinese country ($Mn = 11.7$; $SD = 5.6$) and the United States ($Mn = 8.7$; $SD = 4.4$). On a 1 to 6 scale where 6 indicated 'very strongly identified,' Chinese-American participants' identification with Chinese and American cultures were 4.7 ($SD = 1$) and 3.7 (1.2) respectively. On a scale of 1 to 5 where 5 indicated 'perfectly fluent,' Chinese-American participants' self-reported fluency in Chinese and English languages were 3.9 ($SD = 1$) and 4.4 (.7). These means were all above the scale median, suggesting that our Chinese-American subsample is indeed bicultural and bilingual. All the Anglo-American participants were born in the U.S., had lived in the U.S. all their lives, were Caucasian, and identified with Anglo-American culture ($Mn = 4.6$; $SD = 1.2$).

Procedure

Study's instructions and instruments were in English. Participants were randomly assigned to one of three experimental conditions: American, Chinese, or landscape. Participants were told: Please write ten statements to describe American culture/Chinese culture/Natural landscapes. Before you start, we will show you some pictures strongly associated with this task. These pictures may give you some ideas but you don't need to use, describe or even mention these pictures in your statements (See Benet-Martínez, Lee, & Leu, 2006; for more detailed information about the pictures and instructions). This method has been previously established as successful in facilitating participants' accessibility to their cultural schemas, whose complexity is the target variable in the present studies. Additionally, by showing the pictures, we were able to explore the degree to which participants' cultural descriptions focused on the obvious and 'easy' (i.e., writing statements mainly around the meaning conveyed by pictures; low complexity) vs. abstract and not obvious qualities of the cultures the pictures represent (high complexity).

After seeing the pictures, participants were given 10 minutes to write their descriptions (see Appendix A in Benet-Martínez, Lee, & Leu, 2006; for examples of statements written in each experimental condition). Afterwards, participants completed a demographic questionnaire that included questions about sex, age, country of birth, years lived in the US and in a Chinese country, English and Chinese proficiency and usage, and cultural identification.

Coding of Responses: Cognitive Complexity

We used a coding scheme tailored for shorter text while measuring the key dimensions of cognitive complexity: differentiation, abstractness, articulation, and integration (Burlinson & Caplan, 1998; Lee & Peterson, 1997). Two coders, one Anglo-American and one Chinese-American, independently rated *each* of the ten statements (i.e., descriptions) written by each

participant on each of the following theory-driven complexity dimensions (inter-rater reliability is included in parentheses): 1) whether the statement contained *multiple perspectives* (.93), 2) whether the statement made *comparisons* between different objects or viewpoints (.85), 3) whether the statement *contrasted* objects or viewpoints (.70), 4) whether the statement was *evaluative* (.87), 5) whether the statement referred to something *abstract* (vs. concrete) (.77), 6) whether the statement mentioned *only implicitly or not at all* any of the pictures shown in each condition (.99), 7) the *overall complexity* of the ideas or concepts contained in the statement (.81), 8) whether the statement referred to *time* (.83), 9) the *number of words* contained in each statement (.98), and 10) the *number of distinct ideas* (.77). These ratings were done using a scale that ranged from 1 (not at all) to 5 (very much so). The two coders were blind to our hypothesis. Coders were trained together, and conducted their ratings independently. Given that the coders were generally reliable, the ratings from the two coders were averaged.

Results

Across experimental conditions, and for each participant, we averaged the ratings obtained on each the ten cognitive complexity variables described above across the ten statements each participant wrote. These average cognitive complexity scores were submitted to a principal components analysis with orthogonal rotation (varimax). The goal of this analysis was to identify the underlying structure of the complexity ratings (across the three experimental conditions). An examination of the scree plot and different factor solutions indicated that a structure with three factors was the most plausible. The first factor, which we called *density*, tapped the number of words and distinct ideas contained in the statements, whether the statements mentioned time-related or dynamic trends, and the overall complexity of the statements (this factor explained 32% of the variance). The second factor, called *abstractness*, captured the evaluativeness and abstractness of the statements, and the absence of explicit references to the pictures (22%). The third factor, named *differentiation/integration*, tapped whether the statements included multiple perspectives, and whether the statements compared and contrasted ideas (20%).¹ Using these results from the principal components analysis, we created three composite measures of cognitive complexity (Cronbach's α indices are given in parenthesis): density (.90), differentiation/integration (.79), and abstractness (.81).

Hypothesis Testing: 2 by 3 between-subjects analyses of variance were conducted with experimental condition (American, Chinese, Landscape) and cultural identity (bicultural, monocultural) as independent variables, and density, differentiation/integration, and abstractness as dependent variables. As found in previous cognitive complexity studies (Burlison & Caplan, 1998), the inter-correlations between the composite variables were low (r indices < .30); thus, separate analyses were conducted for each of the dependent variables (univariate approach). The analysis of variance results are summarized in Table 1.

Using *density* as the dependent variable, there was no main effect of cultural identity, as expected. There was a marginally significant main effect for the experimental condition and examination of the means showed that Chinese (3.89) and American (3.94) culture descriptions were more dense than landscape descriptions (3.54); to test for this effect we employed a contrast and this reached statistical significance. The interaction of cultural identity *by* experimental condition was also significant: Compared to the landscape condition (3.71), biculturals' descriptions of Chinese and American cultures (4) were relatively higher in density than monoculturals' descriptions, supporting Hypothesis 1. A contrast to test this effect was found statistically significant. Similar results emerged when we examined *abstractness* as the dependent variable. There was no main effect for cultural identity. The main effect of the experimental condition was significant and examination of the means showed that Chinese (2.79) and American (3.02) culture descriptions were more abstract than landscape descriptions (1.33); to test for this effect we employed a contrast which was found statistically significant. The interaction of cultural identity *by* condition was also found significant: Compared to

descriptions of landscapes (1.21), biculturals' descriptions of Chinese and American cultures (2.94) were relatively more abstract than those provided by monoculturals, supporting Hypothesis 1. A contrast to test this effect was also significant. Using *differentiation/integration* as the dependent variable, the main effect of the experimental condition was not significant. We found a significant main effect for cultural identity though, with biculturals' descriptions being more differentiated (1.36) than monoculturals' (1.22). The expected interaction of condition by cultural identity was not found statistically significant.

Table 1. Study 1: Analysis of variance results

DV - Effect	<i>F</i> (df ₁ , df ₂)	<i>p</i>	η^2	Contrasts
<i>DV: DENSITY</i>				
Exper. Cond	2.47 (2, 177)	.08	.03	^a <i>F</i> (1, 177) = 4.88, <i>p</i> < .05, η^2 = .03
Cultural Id.	NS			
Interaction	8.57 (2, 177)	<.001	.09	^b <i>F</i> (1, 177) = 8.76, <i>p</i> < .01, η^2 = .04
<i>DV: ABSTRACTNESS</i>				
Exper. Cond	182.24 (2, 177)	<.001	.67	^a <i>F</i> (1, 177) = 358.74, <i>p</i> < .001, η^2 = .67
Cultural Id.	NS			
Interaction	3.00 (2, 177)	.05	.03	^b <i>F</i> (1, 177) = 3.66, <i>p</i> = .057, η^2 = .02
<i>DV: DIFFERENTIATION/INTEGRATION</i>				
Exper. Cond	NS			
Cultural Id.	4.09 (1, 177)	.05	.02	—
Interaction	NS			

Key for Contrasts

^a Chinese and American vs. Landscape

^b The following weights were applied for this contrast: Chinese monocultural -1, Chinese bicultural +1; American monocultural -1, American bicultural +1; Landscape monocultural +2, Landscape bicultural -2.

Discussion

Study 1 found partial evidence for our hypothesis that Chinese-American biculturals' representations of culture (Chinese or American) would be cognitively more complex than those of monoculturals. Consistent with Hypothesis 1, compared to culturally-neutral descriptions, biculturals' descriptions of cultural representations were higher in density and abstractness than monoculturals. However, hypothesis 1 was not confirmed with the cognitive complexity component of differentiation/integration. One possible reason may be the low level of variance in this variable. Despite the mixed findings, the present results are noteworthy for several reasons. First, this study provides the first quantitative evidence that bicultural individuals have more complex cultural representations than monoculturals. This finding supports our argument that biculturals, because of their repeated CFS experiences (e.g., expertise in detecting, processing, and reacting to cultural cues in the environment) and the self-relevance of cultural information, think about culture in more complex ways. Second, the results support our argument that this effect is domain-specific—the higher levels of cognitive complexity in biculturals compared to monoculturals are largely specific to the cultural domain.

CFS and Cognitive Complexity: Role of BII?

While Study 1 focused on differences between biculturals and monoculturals, recent research suggests that not all biculturals negotiate and organize their multiple cultural identities or cultural meaning systems in the same way (Benet-Martínez & Haritatos, 2005; Benet-Martínez et al., 2002). Specifically, biculturals can differ in their level of *Bicultural Identity Integration* (BII), or the extent to which they perceive their cultural identities as largely integrated and compatible (high BII) or dissociated and difficult to integrate (low BII). High and low BIIs tend to experience different levels of acculturation experiences and stresses, and react to cultural cues in the environment in different ways (Benet-Martínez & Haritatos, 2005).

Specifically, although biculturals with low BII are also sensitive to cultural cues, they often respond to them in culturally-incongruent ways; for instance, they provide external attributions after seeing American cues and internal attributions after seeing Chinese cues (Benet-Martínez et al., 2002).

A review of the socio-cognitive literature suggests that perceptions of conflict, a characteristic of low BIIs, may be related to increased cognitive complexity. For instance, a classic study by Tripodi and Bieri (1966) found that individuals who projected more conflictual themes in stories about imaginary persons scored higher in cognitive complexity. Menasco (1976) also reported an association between decisional conflict and cognitive complexity. Suedfeld and his colleagues (Suedfeld & Wallbaum, 1992; Suedfeld, Bluck, Loewen, & Elkins, 1994) showed that conflict between desired but contradictory values (e.g., individual freedom and social equality) lead to more complex descriptions of each value. Similarly, Tetlock, Peterson, and Lerner (1996) found a positive relationship between conflict of core values and cognitive complexity. According to these studies, we may also find that biculturals who perceive their two cultural orientations as somewhat conflicting and incompatible (low BIIs) think in cognitively more complex ways about their cultures than those who perceive their two cultural orientations as compatible (high BIIs).

In conclusion, we expect more complex cultural representations among biculturals with low levels of BII (vs. high BIIs). Given that BII is an identity construct specific to the cultural domain, we further expect this effect to be evident only for cultural representations, but negligible in non-cultural domains. These predictions are tested in Study 2.

STUDY 2

The procedure of Study 2 is similar to Study 1, except we only used a bicultural sample, and we measured individual differences in BII. We predict that biculturals with low BII will write more complex descriptions of their cultures than biculturals high on BII, and that these differences will not be apparent for descriptions of culturally-neutral objects or entities (Hypothesis 2).

Method

Participants

Our sample included 261 Chinese-American biculturals (126 males, 135 females; mean age = 21.6) drawn from a large public university in the Midwest of the United States. As in Study 1, all participants were born in a Chinese country (People's Republic of China, Taiwan, Hong Kong, Macao, or Singapore) and had lived at least 5 years in both a Chinese country ($Mn = 11.5$; $SD = .6$) and the United States ($Mn = 8.4$; $SD = .4$). Some participants were recruited through campus fliers, and were paid for their participation; the rest were recruited through the Introductory Psychology subject pool and received partial credit for their participation. Using cultural identification and language ability scales similar to Study 1, participants mean levels of identification with Chinese and American cultures were 4.6 ($SD = .9$) and 4.1 ($SD = 1.1$) respectively; self-reported levels of fluency in Chinese and English languages were 3.6 ($SD = .7$) and 3.7 ($SD = .7$) respectively. These descriptive means suggest that this sample was overall clearly bicultural and bilingual.

Procedure

The procedure was similar to Study 1: Before writing the ten statements on American culture, Chinese culture, or natural landscapes, participants were given the same instructions and shown the same pictures in each condition as in Study 1. After writing the ten descriptions, participants completed the Bicultural Identity Integration Scale-Preliminary (BIIS-P; Benet-Martínez et al., 2002). This instrument assesses perceived opposition between Chinese and American cultural identities in a multi-statement vignette that reads as follows: *I am a*

bicultural who keeps American and Chinese cultures separate and feels conflicted about these two cultures. I am mostly just a Chinese who lives in America (vs. a Chinese-American), and I feel as someone who is caught between two cultures. Using a scale that ranged from 1 ('definitely not true') to 5 ('definitely true'), participants rated how well the above paragraph described their own experiences as a Chinese-American. Participants also completed Berry et al.'s (1989) 20-item measure of the four acculturation strategies: assimilation, integration (or biculturalism), separation, and marginalization. Each item was rated with a scale that ranged from 1 ('strongly disagree') to 5 ('strongly agree'). Similar to Study 1, we collected demographic information regarding sex, age, country of birth, years lived in the United States and in a Chinese country, English and Chinese language proficiency and usage, and cultural identification.

Cognitive Complexity Coding

The statements-on American culture, Chinese culture and natural landscapes written by the participants in each condition were coded using the same categories and rating method as Study 1 (inter-rater reliabilities were high and ranged from .79 to .99). Ratings from the two coders were averaged given the reliability across all variables. Similar to Study 1, ratings were further collapsed across the ten statements. Principal component analysis of these ratings (across the three experimental conditions) with Varimax rotation yielded a 3-dimensional structure similar to the one found in Study 1. Cognitive complexity composites identical to the ones created in Study 1 were then computed (Cronbach's α indices are given in parenthesis): density (.89), differentiation/integration (.91), and abstractness (.79).

Results

Participants were classified into high BII (N = 148) or low BII (N = 113) groups by performing a median-split on the BIIS-P ratings. This method, which arguably has some statistical limitations, has reliably distinguished between different levels of BII in previous work (e.g., Benet-Martínez et al., 2002; Cheng, Lee, & Benet-Martínez, 2006).²

Hypothesis Testing: 2 by 3 analyses of variance were conducted with experimental condition (American, Chinese, landscape) and BII (high, low) as independent variables, and density, differentiation/integration, and abstractness as dependent variables. Like Study 1, separate analyses were conducted for each of the dependent variables. The analysis of variance results are summarized in Table 2 below.³

Table 2. Study 2: Analysis of variance results

DV - Effect	F (df ₁ , df ₂)	p	η^2	Contrasts
<i>DV: DENSITY</i>				
Exper. Cond	3.07 (2, 260)	<.05	.02	^a $F(1, 260) = 5.47, p < .05, \eta^2 = .02$
BII.	NS			
Interaction	3.89 (2, 260)	<.05	.03	^b $F(1, 260) = 13.61, p < .001, \eta^2 = .05$
<i>DV: ABSTRACTNESS</i>				
Exper. Cond	29.30 (2, 260)	<.001	.18	^a $F(1, 260) = 54.46, p < .001, \eta^2 = .18$
BII.	NS			
Interaction	4.55 (2, 260)	<.01	.03	^b $F(1, 260) = 6.90, p < .01, \eta^2 = .03$
<i>DV: DIFFERENTIATION/INTEGRATION</i>				
Exper. Cond	NS			
BII.	2.89 (1, 260)	<.10	.01	—
Interaction	3.25 (2, 260)	<.05	.03	^b $F(1, 260) = 2.41, p = .12, \eta^2 = .01$

Key for Contrasts

^a Chinese and American vs. Landscape

^b The following weights were applied for this contrast: Chinese high BII -1, Chinese low BII +1; American high BII -1, American low BII +1; Landscape high BII +2, Landscape low BII -2.

Using *density* as the dependent variable, there was no main effect of BII, as expected. There was significant main effect of condition: An examination of the means revealed that Chinese (4.20) and American (3.84) culture descriptions were more dense than landscape descriptions (3.13); a post-hoc contrast to test this effect was significant. The BII by condition interaction was significant: As the means revealed, compared to the landscape descriptions (3.12), low BII's descriptions of Chinese and American cultures (4.22) were relatively higher in density than those written by high BIIs, supporting Hypothesis 2. A contrast to test this effect was significant. Similar results were obtained with *abstractness* as the dependent variable. There was no main effect for BII. The main effect of condition was significant; Chinese (2.54) and American (2.79) culture descriptions were more abstract than landscape descriptions (1.88); a post-hoc contrast to test this effect was significant. The BII by condition interaction was significant, in support of Hypothesis 2: compared to the landscape descriptions (1.87), low BII's descriptions of Chinese and American cultures (2.79) were relatively more abstract than those written by high BIIs. A contrast to test this effect was significant. Using *differentiation/integration* as the dependent variable, we found a marginally significant main effect for BII, with low BIIs using more differentiation/integration (1.32) than high BIIs (1.26). The condition main effect was not significant. Again, the condition by BII interaction was significant: Compared to the landscape descriptions (1.25), low BII's descriptions of Chinese and American cultures (1.43) were relatively higher in differentiation/integration than those written by high BIIs, supporting Hypothesis 2 (see respective main effect and contrast testing in Table 2). Overall, we found support for Hypothesis 2 on all three components of cognitive complexity.

General Discussion

The increasing prevalence of bicultural and multicultural individuals in our society today calls for a better understanding of how these individuals' repeated processing and managing of information from different cultures may impact their cognitive and social behavior (Hermans & Kempen, 1998; Hong et al., 2000). The present work attempts to address this issue by comparing biculturals and monoculturals' levels of cognitive complexity.

Complexity of Cultural Representations: Comparing Biculturals and Monoculturals

We first examined how cultural frame-switching (CFS) may affect the ways in which bicultural individuals think and reason about their cultures. Specifically, we compared the complexity of "cultural representations" (Hall, 1997) –the particular values, practices, images, and artifacts associated to a specific culture– of Chinese-American biculturals and Anglo-American monoculturals (Study 1). Relying on evidence from the socio-cognitive literature on cognitive complexity (e.g., Suedfeld et al., 1992), expertise (e.g., Feltovich et al., 1997), multi-tasking (e.g., Rubinstein et al., 2001), and self-schematicity (Nowak et al., 2000), we hypothesized that, compared to monoculturals, biculturals would have more complex ethnic and mainstream cultural representations because of: (1) their repeated experience in detecting, processing, and reacting to cultural cues in the environment (i.e., CFS, Hong et al., 2000), (2) the executive cognitive processing involved in cultural schema switching, and (3) the unique relevance to the self that cultural knowledge has for them. Furthermore, following arguments from the literature linking social cognition and expertise (e.g., Cantor & Kihlstrom, 1987), we predicted that these differences would be not apparent for non-cultural representations (e.g., reasoning about nature).

Results from this first study partially confirmed our predicted interaction effect: Chinese-American biculturals' free descriptions of (American or Chinese) cultures were higher in density and abstractness (two components of our cognitive complexity measure) than Anglo-American monoculturals' descriptions, but the same effect was not found with descriptions of culturally-neutral entities (landscapes). Our predicted interaction effect was not found for the cognitive complexity component of integration/differentiation (although biculturals scored higher on this variable than monoculturals). Overall, our findings provided initial support for

the idea that biculturals think about both their ethnic (e.g., Chinese, Mexican) and mainstream (e.g., American) cultures in more complex ways.

What are the implications of Study 1 findings? First, the fact that biculturals describe ethnic cultures in more complex ways than monoculturals is hardly surprising given biculturals' unique exposure to and familiarity with their second culture. However, our finding that biculturals have also more complex (i.e., higher in abstractness and word density) representations of mainstream culture than monoculturals contradicts the common notion that deep, complex understanding of a culture is higher among traditional, monocultural, majority members of that culture (vs. minority groups or immigrants with less exposure to that culture). This finding suggests that immigrants and ethnic minorities who have internalized the host culture in addition to their ethnic culture may have a unique grasp on the complexities and nuances of the main, dominant culture that surrounds them despite their minority status. In other words, our work suggests the possibility that CFS—or the experience of navigating between two cultures and being forced to reason about their differences, similarities, and abstract qualities—more than traditional cultural membership per se, may be critical in the development of complex and multidimensional cultural representations.

Second, our findings suggest that the ability to think about one's culture(s) in complex ways can perhaps be learned or facilitated. We proposed that biculturals acquire more complex cultural representations largely through the experience of CFS; in a similar vein, daily immersion into a multicultural environment (e.g., being married to a person with a different cultural background, extensive traveling) may help monocultural individuals develop a more complex understanding of their own culture. If this were true, one may think then that multicultural policies should be encouraged, not only because of society's obligation to understand and support cultural minorities, but also because cultural majorities may gain greater insight and understanding of their own cultural make-up.

The above ideas, although promising, should be taken with caution given some of the design limitations of our study. For instance, future work should test the generalizability of our findings to different samples of biculturals (e.g., non-Asian, U.S.-born, and older individuals), monoculturals (e.g., monocultural Chinese), and in different national territories (e.g., Canada, Europe, etc.). Furthermore, further studies are needed to examine if biculturals' higher cultural complexity applies only to their two internalized cultures (i.e., ethnic and mainstream) or to all cultural descriptions in general. Another possible line of future work is to examine how the cognitive consequences of biculturalism may also bring benefits in the social domain (Abe & Weisman, 1983; LaFromboise et al., 1993; Van der Zee & Van Oudenhoven, 2001). Specifically, does biculturalism increase individuals' level of multicultural sensitivity, a collection of psychological traits also described as cultural competence or cultural effectiveness? Specifically, one may argue that biculturals' more complex mainstream and ethnic cultural representations could relate to higher levels of cultural empathy (ability to detect and understand other's cultural habits or pressures) and cultural flexibility (ability to quickly switch from one cultural strategy or framework to another). Relatedly, future research should examine if biculturalism facilitates the inhibition of cultural epistemic needs such as stereotyping and prejudice (Van der Zee & Van der Gang, 2005). Lastly, it is possible that the effects reported for the bicultural vs. monocultural groups and for the cultural vs. neutral conditions may have been tempered by two features of our design: the fact that the study was conducted in English across the three conditions and that the control condition required participants to describe landscapes as if they were in a "geography" class (two contexts typically associated with Anglo-American culture and college settings).

Complexity of Cultural Representations: Role of Bicultural Identity Integration (BII)

Recent work by Benet-Martínez and her colleagues (Benet-Martínez & Haritatos, 2005; Benet-Martínez et al., 2002) has shown systematic differences among biculturals in their level

of Bicultural Identity Integration (BII), or the extent to which they perceive their cultural identities as largely integrated and compatible (high BII) or conflictual and dissociated (low BII). Given the social and cognitive literature linking psychological conflict and cognitive complexity (e.g., Suedfeld & Wallbaum, 1992; Tetlock et al., 1996; Tripodi & Bieri, 1966), our second study explored differences between high and low BIIs in the complexity of their cultural representations. We reasoned that the more systematic and careful processing of cues that underlies the monitoring of conflictual information would lead low BIIs to develop cultural representations that are more complex (e.g., richer in content, more differentiated and integrated) than high BIIs. Like in Study 1, we predicted that this effect would not be apparent in culturally-neutral representations. Results from this second study supported our predictions: Descriptions of Chinese and American cultures written by low BIIs were higher in density, abstractness, and differentiation/integration than high BIIs' descriptions, and this effect was not found with descriptions of landscapes.

Low BIIs' higher complexity in cultural representations could be explained by several mechanisms. First, it is possible that this trend is driven by low BIIs' negative moods in cultural domains. That is, our cultural description task might have reminded low BIIs of their conflictual cultural orientation and the emotional uneasiness associated with their bicultural experiences (e.g., feelings of being torn between two very different cultural orientations). These negative feelings, in turn, may make low BIIs more analytical and critical in their cultural descriptions, resulting in higher complexity (Suedfeld & Pennebaker, 1994; Tripodi & Bieri, 1967). Furthermore, low BIIs' uneasiness about possible competing cultural norms might make them more "vigilant" in cultural domains, which could lead to higher cognitive complexity. In other words, it may be adaptive for low BIIs to pay extra attention to cultural cues to avoid behaving in culturally inappropriate ways; this attention in turn may bring about higher complexity.

What are the real-world implications for low BII's more complex cultural representations? At face value, our findings seem to suggest that low BIIs, despite their inner cultural conflict, may be better equipped at handling the demands of ambiguous, complex, and fast-changing cultural situations because they use more complex reasoning in cultural domains. In other words, perhaps low BIIs are more culturally competent. This, however, contradicts some past results; Benet-Martínez and her colleagues found that low BIIs largely respond to cultural cues in culturally *incongruent* ways; that is, they behave in a prototypically ethnic way when faced with Anglo-American cues and in a prototypical American way when exposed to ethnic cues (Benet-Martínez, et al, 2002). In short, there is evidence suggesting that low BIIs display a behavioral "reactance" against the cultural expectations embedded in the particular situation. These various results suggest that, although perceived cultural conflict in biculturals predicts more complex cultural representations, it also predicts cultural reactance that may be maladaptive. Future work is needed to examine more closely how BII relates to day-to-day cultural competence and well-being.

Conclusion

When an individual participates simultaneously in two different cultures and these cultural worlds are to a large extent disjunctive, this individual may be confronted with uncertainties, contradictions, ambiguities, and contrasting interests. The present work provides preliminary evidence for the idea that biculturals' meeting of such cultural contact zones leads to the development of more complex and integrative cultural representations. Our work suggests that this is especially true for biculturals who perceive their cultural identities as conflicting (low BIIs). Beyond the cognitive and social processes underlying biculturalism, we hope that the present work is also relevant to the understanding of multiculturalism at the societal level. Perhaps cultural plurality at the individual (bicultural identity) and collective level (multiculturalism) can lead to cultural knowledge that goes "beyond the respectful

acknowledgement of differences to a fusion of horizons in which we both learn from others and are grounded afresh in our own best values” (Fowers & Richardson, 1996; p. 620).

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Endnotes

¹ See Table 1 in Benet-Martínez, Lee, and Leu (2006) for further information about this factor solution, and Table 2 for the means and standard deviations for each cognitive complexity dimension on each experimental condition and cultural identity group.

² See Table 3 in Benet-Martínez et al. (2006) for more information about the demographic and acculturation status of these two groups (e.g., endorsement of Berry's integration strategy by both groups).

³ See Table 4 in Benet-Martínez, Lee, and Leu (2006) for the means and standard deviations for each cognitive complexity dimension on each experimental condition and BII level group.

Comparative Study on Concept Construction for Violence, Intelligence and Religion in Early Adolescence in the Parisian Suburbs

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Based on association tasks, we focused our research on the process of concept construction and on the nature of the semantic structure network of three important concepts in the lives of young adolescents in the Parisian suburbs: violence, religion and intelligence. In this exploratory study, we were interested in identifying similarities and differences in the organization of these social concepts between adolescents with French parents and adolescents with immigrant parents. Despite the fact that these children share common “eco-cultural” experiences, we supposed that the different cultural guidelines in the family settings might influence the construction and the semantic organization of the concepts. Subjects were all born in France (N=228), and they share the same social environment and low socioeconomic status. Analyses of representational fields and of semantic networks were conducted and evidence for some similarities as well as for major differences between the two groups in concept construction and in semantic organization was present. Our findings showed a more homogeneous organization in children with immigrant parents; meanwhile French children’s structures of concepts are more heterogeneous. Major differences can also be observed at the semantic level. The findings are discussed in respect to the concept formation literature and the eco-cultural approach of human development.

Studies on concept development explore how concepts arise, what the underlying processes of concept formation are and how a child may represent them. Concept formation is considered as a process which integrates features fitting together to form a class of objects or “ideas” (Levine, 1999; Smith, 1988; Sternberg & Ben-Zeev, 2001).

While concrete concepts have sensory input, the purely abstract concepts are constructed through metaphor and analogy. In the case of violence, religion and even intelligence, a child has to process a great number of personal perceptive experiences with abstract moralizing discourses, speech acts and mediated reality. Therefore, these concepts are situated in an intermediate position between the concrete and the abstract concepts. The “constructivist” approach (Müller, Sokol & Overton, 1998) states that a child is an active participant in the development of concepts and mental representations through his/her interactions with the environment. Studies on mental representations (Müller et al., 1998) highlight that higher cognitive processes become more complex with age, since the developing child re-uses mental representations and transforms them according to the appearance of new needs.

The underlying idea in this chapter is that concept construction is a process that is controlled not only by cognitive mechanisms but also by the social, cultural contexts of the growing child. We are stating that psychological mechanisms of concept construction are the result of the interaction of specific genetic psychological structures, such as perception, attention, memory and reasoning on the one hand, and of systems of beliefs, norms and values already cognitively organized by different cultural systems, on the other. However, the growing child is not a passive “cognitive” or “cultural” subject but is an active actor in his own development. We support an integrated approach of concept formation and use. The child forms part and even creates the “reality” through his processes of conceptualization (Lammel,

1998; Lammel & Kozakai, 2005; Nisbett, Peng, Choi & Norenzayan, 2001; Pazer, 1992; Vygotsky, 1978; Wertsch, 1997).

In this study we intend to explore social concept construction through a comparative approach based on research in the “full-of-conflict” Parisian suburbs. We employed Bronfenbrenner’s eco-cultural model (1979, 1986) to some extent, as our framework for interpreting the role of external influences on concept formation. Bronfenbrenner’s (1979) theoretical position was that interpersonal relationships, including microprocesses (i.e., genetic potential actualized by heritability) in the parent-child relationship, do not exist in a social vacuum but are embedded in larger social structures. In the Bronfenbrenner model, the individual is the result of cultural, social, economic and political multidimensional variables within which the psychological processes of development take place. Consequently, Bronfenbrenner’s model suggests that the environment is the main source of the development of human behavior. Although this is not a new idea in psychology (Cartwright, 1951; Lewin, 1936;) what appears to be the originality and the strength of Bronfenbrenner’s model, is the consideration of a gradual accommodation between the active subject and the immediate, changing environment. Therefore, psychological development is deeply affected by the dynamic relationship established between biological and social structures, both of which are included in a more global “eco-cultural” context (Bronfenbrenner, 1979; Ceci, 2006).

In this exploratory study, we obviously cannot test for this model. However, the theoretical articulation on the development of complex conceptual structures such as intelligence, religion and violence and “the biosocial trajectory indicating the transformation of genotypes into phenotypes” (Bronfenbrenner & Ceci, 1994, pp. 580-581) offers an effective methodological tool for understanding the process of the construction of these concepts in relationship to the “eco-cultural” context (Georgas & Berry, 1995) of young adolescents. The three concepts studied in this article, “intelligence”, “religion” and “violence”, are particularly important in the construction of the social world of children and young adolescents.

Bronfenbrenner’s model was developed to understand development in culturally homogenous eco-cultural systems. In our sample of young adolescents residing in the Parisian suburbs, a significant percent of the population still undergoes acculturation. Therefore, the central elements of the micro-system can represent value systems, forms of socialization and abstract knowledge (“metaphors” and “analogies”) that can be radically different in families with different cultural backgrounds. The importance of the family setting is essential in Bronfenbrenner’s model along with other elements of the micro-system such as school, neighborhood, religious groups, extended family, which are also of indispensable importance for the child’s development. It is well documented that French school tries to promote a unique and powerful value system, a model of behavior and knowledge that is frequently different from that of the non French families. The French policy emphasizes assimilation, competitiveness, priority of logic-mathematic competencies, individualism, secularity, etc. (Bastide, 1982; Felouzis, 2003; Mesmin, 2001). A child from immigrant families must adapt to these value systems (Baubet & Moro, 2000; Malewska-Peyre, 1991; Moro, 1998; Streiff-Fénart, 2006).

In the absence of relevant literature, our predictions concerning the structure and organization of the three concepts of interest are exploratory. We expected that differences in the personal experiences of children from dissimilar family settings would influence the way concepts were constructed as well as the processes employed in the construction and distinction of semantic dimensions. We hypothesized that the concepts of violence and intelligence might be more similar because of shared experiences at school, whereas conceptualization of religion, as more related to family practices, might reflect cultural differences to a larger extent. Since French parents promote individualism and competitiveness more than immigrant parents (Bril, Dasen, Sabatier & Krewer, 1999), we also presumed that the structural and semantic organization of the concepts would reflect these parental educative practices, i.e., participants with French parents would produce more complex organizations (extension) and semantic

networks. As our participants exhibit similar French language performance in school and come from the same low socioeconomic status, we consider that the differences in the organizations of the social concepts might be more attributed to family rearing practices.

Method

Participants

The participants were 228 young adolescents, including 114 boys (mean age = 12 years and 4 months, $SD = 9.59$ (months)) and 114 girls (mean age = 12 years and 2 months, $SD = 8.81$ (months)). They were divided into two major groups: one group of adolescents with French parents ($n=114$) and one group of bilingual children with parents born in foreign countries ($n=114$). For each of the three concepts studied, the total number of participants was divided into six sub-groups for each of the two major groups. a) Violence concept: 38 children, 19 girls and 19 boys, with a mean age of 12 years and 1 month; b) Religion concept: 38 children with a mean age of 12 years and 3 months; c) Intelligence concept, 38 children with a mean age of 12 years. All 228 participants came from low socioeconomic status families (Verkuyten, 2001), and they were attending large public schools in a ZEP area (Zone for Educational Priority, for children and adolescents with difficulties) while living in the Parisian suburbs in huge apartment complexes (“Cité”, in French). All participants were “average” level students (as opposed to “good” level) in respect to French language.

Material and procedure

In this study, we explored the information assessed through association tasks. During a single class session, we asked children to write down the first three words that came to their mind after hearing the words “violence”, “religion” and “intelligence”. This task was the first on a questionnaire that consisted of 46 questions. The procedure took place in the classroom with the teacher being present.

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Statistical analyses

We applied the method proposed by Márquez (Márquez & Friemel, 2005). This technique can be applied to social psychological data to study the structure of the representational fields of social representations. Two dependent variables were studied: the “extension” and the stability of cognitive organization of concepts. The quantitative indicator of “extension” is the ratio of the total number of words produced by all the participants and the number of different words. The “extension” of a concept demonstrates its structural complexity and its conceptual richness.

The stability was measured by the indicator “hapax”.¹ The indicator of “hapax” is the ratio of the number of words appearing only once by the total number of different words. The indicator of “hapax” is a measure of stability and consistency of a representation (Flament & Rouquette, 2003; Márquez & Friemel, 2005, Márquez & Lammel, 2005). In order to compare intergroup structural organization of representations of “religion”, “violence” and “intelligence” we employed the χ^2 criterion to identify the significance of the differences between groups in the indicators of extensions and hapax.

¹ The term “hapax” stems from the ancient Greek word “ἅπαξ” which means “once” in opposition to “twice or a number of times”.

For the semantic analyses, we used the EgoNet software program. We adapted this software to analyze the relationship between the various productions of words. First, we identified the three words most frequently cited by all the participants of a given group. Secondly, we connected them to the two other words given by the participants who indicated one of the three more frequently cited word. EgoNet with Visualyzer are designed to graphically display small and mid-size networks. It enables multiple network analyses to be conducted as well. We considered that it offered an excellent methodological tool to analyze the underlying semantic conceptualization of complex social concepts in the children of our two groups. Then we analyzed different aspects of the semantic networks: diameter², average geodesic distance³, density⁴, degree of centralization⁵, closeness in centralization⁶, betweenness in centralization⁷, number of hierarchical clusters⁸, total nodes, and total links.

Results

First, the concept structure analysis results (extension and hapax indicators) for participants with French parents and separately for participants with foreign parents are presented in Table 1. Crosstabulation results follow and then, results from the analyses of the semantic networks are presented starting from their description (Figures 1-6) and proceeding to the statistical characteristics of these networks (Table 2).

The concept of violence

As we expected, the two groups did not differ significantly in terms of concept structure (Table 1). No significant differences neither for the “extension” indicator nor for the “hapax” indicator between the groups were found (Extension: $\chi^2 = 0.5$, $p > .05$; Hapax $\chi^2 = 1.52$, $p < .05$). In both groups, the concept of violence has a very high stability, and the inter-individual variations are not great. The concept of violence is not well defined in either group. We can say, therefore, that violence is a fuzzy concept for both groups without an important prototypical element. However the lexical knowledge associated with the conceptual field of violence is richer in “G1” than “G2” and “G2” shows a more homogeneous representation than “G1”.

Table 1. Concept Structure Analysis results

Group	Measure	Concept		
		Violence	Religion	Intelligence
Participants with French parents	Indicator extension	.39	.44	.53
Participants with foreign parents	Indicator extension	.33	.32	.51
Participants with French parents	Indicator hapax	.25	.33	.37
Participants with foreign parents	Indicator hapax	.17	.17	.40

The semantic network on violence for the participants with French parents is presented in Figure 1 and for the participants with immigrant parents in Figure 2.

² Diameter is the longest distance within the network.

³ The geodesic distance is defined as the length of the shortest path between nodes.

⁴ Density is the ratio of total number of links over the maximum possible links.

⁵ The Degree of centralization measures the extent to which a word has high centrality in relationship to others. The larger the centralization score is, the more central the network is.

⁶ Closeness in centralization measures how close a word is to all other words in the network. The sum of these geodesic distances for each word is the “farness” of the word from all others.

⁷ The betweenness in centralisation calculates the proportion of times that the words are “between” other words in order to arrive at a raw score for it.

⁸ Network analyses employ Euclidean Distance and Pearson correlation to measure similarity and dissimilarity.

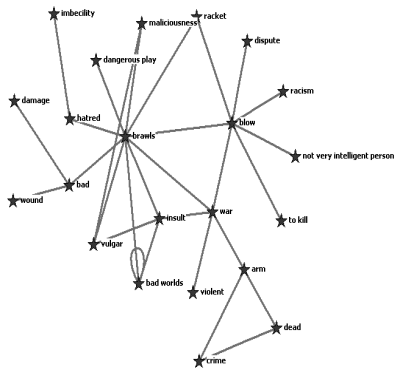


Figure 1. Semantic network of violence, for participants with French parents.

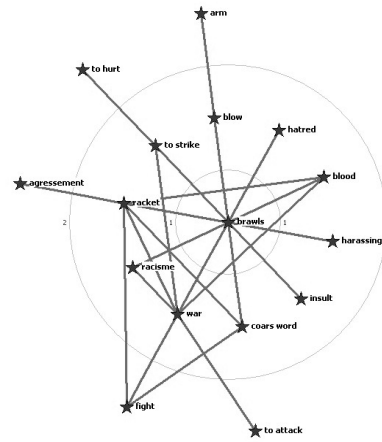


Figure 2. Semantic network of violence, for participants with foreign parents.

The graphics are connected and undirected. In regard to the concept of violence, differences can be observed in the number of total nodes and total links in the two groups: 23 nodes and 30 links in the network for participants with French parents and 17 nodes and 23 links in the other group. This data suggests that the semantic network of the participants with French parents is more complex than that of the other group. The differences in diameters and average geodesic distance (Table 2) show a more heterogeneous semantic organization in young adolescents with French parents. The network of participants with French parents has two hierarchical clusters, while the network of the other group is organized around one main element and has only one cluster. The results of these analyses support our predictions of differences in the outcomes for young adolescents in the two groups: individual differences are higher in the first group than in the second.

Table 2. Network analysis results

Groups	Semantic network indices	Violence	Concept Religion	Intelligence
Participants with French parents	diameter	5	5	6
Participants with immigrant parents	diameter	4	4	5
Participants with French parents	average distance	2.69	2.59	2.98
Participants with immigrant parents	average distance	2.3	2.49	2.31
Participants with French parents	density	0.11	0.09	0.09
Participants with immigrant parents	density	0.16	0.12	0.11
Participants with French parents	DC	96.75%	97.53%	98.41%
Participants with immigrant parents	DC	94.16%	95.00%	99.63%
Participants with French parents	CN	48.29%	62.82%	28.40%
Participants with immigrant parents	CN	60.34%	62.92%	90.18%
Participants with French parents	CB	57.84%	81.88%	34.11%
Participants with immigrant parents	CB	63.38%	71.75%	16.47%
Participants with French parents	N of HC	2	1	2
Participants with immigrant parents	N of HC	1	1	2
Participants with French parents	Total Nodes	23	27	24
Participants with immigrant parents	Total Nodes	17	26	18
Participants with French parents	Total Links	30	34	27
Participants with immigrant parents	Total Links	23	41	18

Key: DC: Degree of centralization; CN: Closeness in centralization; CB: Betweenness in centralization; N of HC: Number of hierarchical clusters.

The concept of religion

We predicted that the structure of the concept of religion would differ in the two groups. Findings confirm our presumptions. However, even if the “extension” of the concept is much higher in French participants than it is in the other group, the chi-square test does not give a significant value ($\chi^2=1.9$). Nevertheless, the results suggest that the quality of communication related to religion is higher in the group of participants from French parents than in the other group. The analyses of the “hapax” reveal significant differences. Data confirm our prediction that French children have more heterogeneous representation than do children of foreign parents ($\chi^2=5.12$, $p < 0.5$). The semantic network for religion of participants with French parents is represented in Figure 3 and of Ss with immigrant parents in Figure 4.

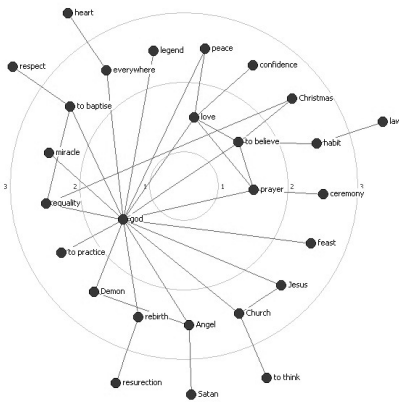


Figure 3. Semantic network of religion, for participants with French parents.

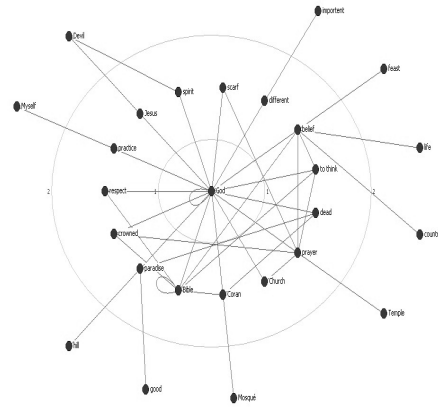


Figure 4. Semantic network of religion, for participants with immigrant parents.

The graphics are connected and undirected. Despite our prediction, the semantic network shows a high similarity in the two groups: 27 nodes in the network of participants with French parents and 26 nodes in the other group’s network. There is only one cluster in each group. However, the semantic network of the participants with immigrant parents has noticeably more links (41) than in the other group (34). This finding suggests that the semantic network of the participants with immigrant parents is more complex than that of the other group. However the differences in diameters and betweenness in centralization (Table 2) reflect a more heterogeneous semantic organization in the participants with French parents.

The concept of intelligence

We predicted that no important differences would appear in the structure of the concept of intelligence in the two groups. Our supposition was verified in terms of the “extension” ($\chi^2=0.38$, $p < .05$) and of the “hapax” ($\chi^2=0.117$, $p < .05$). The semantic network of intelligence for participants with French parents is presented in Figure 5 and for participants with immigrant parents in Figure 6. Despite our predictions, the semantic network of the concept of intelligence demonstrates the biggest differences between the two groups. The first focal difference is that the graphic for the participants with immigrant parents is not connected. This suggests that two kinds of intelligence can be distinguished in this group. At the network level, two independent clusters appear. In the group of participants with French parents, the semantic network is also organized in two clusters but these are connected. In addition, differences can be observed in the number of total nodes and total links in the two groups with regards to the concept of intelligence: 24 nodes and 27 links in the network of participants with French parents and 18 nodes and 18 links in the other group’s network, suggesting that the semantic network of the

participants with French parents is more complex than that of the other group. The differences in diameters, average geodesic (distance) and density (Table 2) reflect a more heterogeneous semantic organization in the same group. However, due to the two non-connected clusters, the data on degree of centralization, and that of closeness and betweenness in centralization suggest a less centralized conceptualization of intelligence in the network of participants with immigrant parents. Outcomes from these analyses do not support our predictions of similarities in the conceptualization of intelligence in the two groups, but support our prediction of individual differences in the participants with French parents.

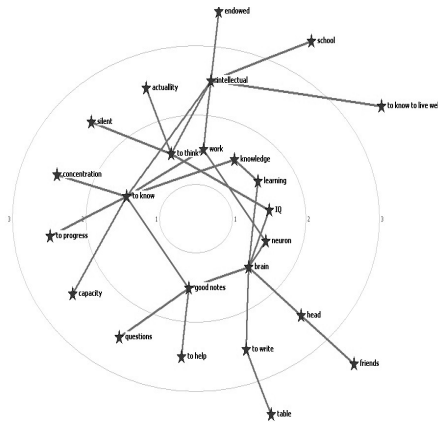


Figure 5. Semantic network of intelligence, for participants with French parents.

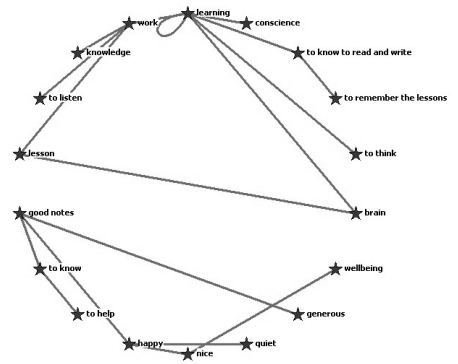


Figure 6. Semantic network of intelligence for participants with immigrant parents.

Discussion and Conclusions

The current results substantiate some of the major suppositions regarding differences and similarities in the structure and in the semantic networks of the concepts of violence, religion and intelligence between young adolescents with French or with immigrant parents in the Parisian suburbs.

Using Bronfenbrenner’s (1979, 1986; Bronfenbrenner & Ceci, 1994; Ceci, 2006) model we might expect that differences in cultural values transmitted by the French and the immigrant families would affect the structure and the semantic organization of the concepts. Bronfenbrenner (1979) has called for the eco-systemic study of human development considering that a child’s development is the product of multiple relationships in the context where the child is growing up. Bronfenbrenner emphasized the primordial importance of the relationship between the various elements of this context such as school and home, religious groups and mass media. We considered that children going to the same school and in the same neighborhood area but living in different family cultures would develop social concepts reflecting these differences. We considered that the context of the French educational system and family tradition would permit children with French parents to produce more complex concepts at both structural and semantic levels, because they do not have to cognitively manage contradictory systems.

However, we expected that these differences would be lesser in the case of concepts where young adolescents shared experiences and discourses in the school and in the neighborhood. Therefore, we also expected that violence and intelligence would have more similar conceptual structures and semantic networks in young adolescents with French and immigrant parents than religion which is more influenced by the family’s practices.

In terms of the structure of the concepts, our expectations were supported. However, the semantic network of intelligence shows a highly different conceptualization in the two groups. This finding suggests that it is important to study structural as well as semantic levels of a concept in comparative studies in order to understand the processes of concept organization.

Other data from the semantic network analyses demonstrate major differences in the concept of intelligence for the two groups. We supposed that young adolescents attending the same school would share a common concept of intelligence. However, our data on the structure of the concept as well as on the semantic network refute our predictions. Young adolescents with immigrant parents have two clearly separated concepts of intelligence. One corresponds to the social and emotional aspect of intelligence (figure 6: to help, nice, generous, quiet), the other corresponds to technological intelligence (figure 6: learning, knowledge, to read, to write) as identified by several authors in African and North African societies, (Dasen, Barthelemy, Kan, Kouame, Daouda, Adjei, & Assande, 1985; Goze, 1994; Mbuyi Mizeka, 2001; Mugny & Carugati, 1985; Mundy-Castle, 1974; N'Tunga, 1979; Pels, 1999). In the group of adolescents with French parents, the social aspect of intelligence appears only in peripheral position. The occidental conception of intelligence is related to cognitive activities such as learning, thinking, calculating, and so on (figure 5: brain, to know, intellectual, to think). These differences might have depicted the influence of parental ethnotheories of intelligence in their offspring concept formation.

The present study reveals some consistent difference patterns, across the two groups: the participants with French parents had more complex and less “homogeneous” concepts than the participants with immigrant parents. It could be possible that the “individualistic” values permit a more individualistic diversification of representations in young adolescents with French parents. However, several authors have claimed that the vocabulary of children with immigrant parents is more limited than that of those with French parents (Charlot, Bautier & Rochex, 1993; Forges, 1995; Lopez, 1999; Lucchini, 2005). The differences in the complexity of the concepts may also be explained on this linguistic level. To avoid this problem we selected participants with the same French language performance level at school. We admit nevertheless that lexical tests have to be administered to participants during further research in order to avoid bias in our results.

The data on the concept of violence illustrate the importance of violence in everyday life of young adolescents. An increasing amount of literature is dealing with the phenomenon of violence in French schools (Aubert, 2001; Debarbieux, 1996). The similarity of the structure of this concept insinuates that it is a function of everyday experience and contributes to adaptation to the environment. With regard to the concept of religion, God is the word more frequently cited in both groups' semantic networks. A lot of research has sought to understand children's concepts of God (Hyde, 1990; Jansen & Hart, 1994; McIntosh & Spilka, 1998) demonstrating the central role of God in the conceptualization of religion. We can explain the similarities between the two samples by the fact that the weight of God is primordial in all monotheistic religions. As the young adolescents in our sample have grown up in monotheistic traditions, regardless of religious practice, we consider that this lexical proximity can be correlated to this evidence. Conversely, God is situated exactly in the centre of the semantic network of participants with immigrant parents, whereas God takes a more peripheral position in the other group. These differences can be explained by the fact that 91% of participants with immigrant parents declare that they practice a religion and pursue religious education whereas only 21 of participants with French parents do so. Therefore, we can state that the influence of the family's rearing practices, attitudes and abstract discourses are decisive in the conceptualization of religion in young adolescents. Considering the increasing diversity of the school population within industrialized countries in a “globalized world”, we believe that the study of how children and adolescents conceptualize the world around them is very important. How do they try to reconcile contradictory value systems, forms of socialization and objectives? In terms of the three concepts studied in this article, a substantial amount of literature and statistical data attest to the increase of violence, conflicts related to religion in the schools and major difficulties in the learning process in the Parisian suburbs.

The results of the current investigation confirm differences in basic concepts between young adolescents with French parents and those with immigrant parents. These findings, however, are limited because of the absence of any relevant comparative literature. Our

expectations merit further investigation with more testable hypotheses. We are continuing our research in this perspective while further research in the unexplored area of children's representations of important social concepts in multicultural environments would greatly facilitate teaching and education in general. Accumulation of empirical evidence for intercultural differences in the structural and semantic organisation of social concepts, with basic importance in the everyday life of young children and young adolescents, can provide elements to help improve the organization of their eco-systemic reality.

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Effects of Reading Direction on Visuospatial Organization: A Critical Review

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Over the past decades, a growing literature on perceptual bias has investigated the factors that determine normal performance in simple visuospatial tasks, such as line bisection and aesthetic preference. Normal right-handed participants may exhibit spatial asymmetries in these tasks with a tendency to bisect to the left of the objective middle in line bisection and a preference for images with the center of interest in their right half in aesthetic preference tasks. These patterns of performance have mostly been attributed to hemispheric imbalance. Other explanations have also been put forth to explain the spatial asymmetries seen in the normal population. Here we review studies that target the role of reading direction on visuospatial tasks. In addition to presenting several of our studies that investigated differences in line bisection and aesthetic preference performances between left-to-right readers (French) and right-to-left readers (Israeli), we present a discussion of the existing literature on reading direction, culture and visuospatial processing. The findings are discussed regarding the interaction between cultural factors, such as reading habits, and biological factors, such as cerebral lateralization, in visual perception.

It is by now well established that the right and left cerebral hemispheres of healthy humans differ in the psychological functions they subserve. Clinical evidence for this assertion comes from studies on the effects of unilateral cerebral lesions (Hecaen, 1972) and from corpus callosotomy studies (the surgical separation of the hemispheres by sectioning the fibres of the corpus callosum) (Sperry, Gazzaniga & Bogen, 1969). Studies reporting hemispheric differences in healthy participants have employed brief presentations of stimuli to the left and right visual fields (White, 1972), presentation to the left and right ears under binaural (Kimura, 1961) or monaural (Young, 1983) conditions, or, less commonly, presentation to the left and right hands (Hermelin & O'Connor, 1971; Oscar-Berman, Rehbein, Porfest, & Goodglass, 1978; Witelson, 1976). These studies converge on the conclusion that in the great majority of right-handers, the left hemisphere is specialized for a number of language-related functions, while the right hemisphere is specialized for a number of spatial and motor skills (Kimura, 1973). Functional asymmetries in verbal and non-verbal visual perception tasks have been generally interpreted only in terms of a hemispheric specialization framework. This is particularly the case for perceptual biases that have been described in normal participants.

Functional and perceptual asymmetry

Since the 1960s, a growing literature on perceptual bias has investigated the factors that determine normal performance in simple visuospatial tasks, such as line bisection. The line bisection task involves the presentation of a series of straight, horizontal lines of varying lengths, of which the participant is asked to mark the center (or bisect it with a hatch mark) (Manning, Halligan, & Marshall, 1990). Judging the center of horizontally oriented linear

stimuli, either in the visual or tactile modality, is a task that has been used widely to explore lateralization of perceptual and attention factors in normal participants (for a review, see Brodie & Pettigrew, 1994). Line bisection is often used as a screening test for hemispatial neglect, thus the knowledge of how any person performs this kind of task seems mandatory. Several of these studies have shown that normal, healthy participants tend to judge the center of a visually inspected line, or of a rod felt tactually, to be to the left of the objective center. This phenomenon has been interchangeably termed pseudoneglect or Left Side Underestimation (LSU), referring to the asymmetric perception of space which is found in the absence of neural pathology, and which is usually, but not always, opposite in direction to asymmetries found among neglect patients. This shift of the objective center seen among normal participants has led to a debate regarding its cause. Is the shift a result of hemispheric imbalance and/or is it dependent on other factors, such as scanning or attention?

The majority of perceptual asymmetry findings in line bisection tasks have initially been interpreted solely in terms of hemispheric activation (Bowers & Heilman, 1980; Bradshaw, Nathan, Nettleton, Wilson, & Pierson, 1987). According to the hemispheric activation theory, the spatial nature of the line bisection task induces a preferential activation of the right hemisphere leading to an overestimation of the left hemispace and, therefore, to a displacement of the subjective center to the left of the objective center. This theory is a corollary of Kinsbourne's activation theory, which states that the distribution of attention in space is biased in the direction contralateral to the more activated hemisphere (Kinsbourne, 1970).

A review of the literature reveals that bias in visuo-motor line bisection cannot be explained only in terms of hemispheric activation (for a review, see Jewell & McCourt, 2000). For example, in several studies, no significant difference between left and right hand use was reported (Dellatolas, Vanluchene, & Coutin, 1996; Harvey, Milner, & Roberts, 1995; Mefferd, Wieland, & Dufiho, 1969), gaze deviation to one side did not induce a deviation of the subjective middle to the same side, as the activation hypothesis predicts (Chokron, Bartolomeo, Colliot, & Auclair, 2002; Chokron & Imbert, 1993a), and finally the majority of studies examining the influence of sex (known to affect cerebral lateralization) on line bisection performance report non-significant effects (Jewell and McCourt, 2000). Taking these findings into consideration, Nicholls and Roberts (2002) hypothesized that perceptual-attention bias may be reflecting an asymmetry in the neural mechanisms that control attention, rather than reflecting a hemispheric asymmetry driven by unilateral activation. According to the perceptual-attention hypothesis, various factors that can increase saliency of the right side of the line leads to an underestimation of the left side of an object or the line, and thus a shift of the objective center to the left, also termed LSU.

However, this framework is neither the only one available nor the one that was initially considered in early studies of visual hemifield presentation of words. Interestingly, the original interpretation of visual field asymmetries was in terms of post-exposure directional scanning tendencies arising from reading and writing experience (Heron, 1957). Visual field asymmetries, in this view, predominantly reflect a tendency to scan information in the direction in which one reads. Thus, a reader of English, who is fixating at center, will show a right visual field advantage for unilaterally presented words and a left visual field advantage for bilaterally presented words.

Indeed, the suggestion has been raised that directional bias arising from reading direction may even generalize to non-verbal material in the visual modality (Corballis, 1994) or even in the auditory modality (Bertelson, 1972). It is reasonable to expect that features of the languages used in a culture may affect various aspects of behavior of the members of that culture.

Effect of reading direction on lateral bias: position of the problem

An effect of reading direction on perceptual skills had been described both for school children (Abed, 1991; Braine, 1968; Kugelmass & Lieblich, 1970) and pre-school

children (Chokron & De Agostini, 1995; Shannon, 1978) who exhibited scanning of non-directional visual material related to reading direction before learning how to read. Some studies have emphasized the fact that children as young as four years old have the capability to produce graphics which exhibit some of the characteristics of writing such as directionality: from left to right for French pre-school children (Gombert & Fayol, 1992) and from right to left for Israeli pre-school children (Tolchinsky-Landsman & Levine, 1985). This effect of reading direction on space perception and exploration has thus challenged the well-known link between cerebral lateralization and bias described both in normal and brain-damaged patients.

In respect to spatial asymmetry, reading direction has been proven to be influential on perceptual exploration within the normal population (Kugelmass & Lieblich, 1970). The same way, the effect of reading direction on directional preferences in reproducing visual stimuli has been shown by various authors, corroborating other findings concerning the environmental influences on the regulation of perceptual scanning (Shannon, 1978).

The initial scanning direction was found to have a significant influence on the position of the subjective middle in line bisection (Brodie & Pettigrew, 1994). In fact, the bias displayed by normal right-handed participants when bisecting a visually presented line, was found to be a function of the hand and of the initial scan strategy used to perform the task. Using the left hand, or initially scanning from the left, will result in a significant leftward deviation, whereas initially scanning from the right with the right hand will normally result in no significant deviation from the objective midpoint. We subsequently replicated this finding in a proprioceptive straight ahead pointing task in normal and brain-damaged patients suffering from left neglect, in which we demonstrated that the direction of the motor exploration significantly affects the position of the subjective middle (Chokron & Bartolomeo, 1997). These results indicate the role of scanning direction on visuospatial organization and reveal how the position of the subjective middle in space may depend upon the scanning direction used to reach it. The experiments we present below were designed to thoroughly study these effects.

Effect of reading direction on visuospatial asymmetry: an experimental approach

In a series of studies conducted with children and adults with opposing reading direction modes, we aimed at measuring the extent to which reading direction may affect the position of the subjective middle in line bisection (Chokron & De Agostini, 1995; Chokron & Imbert, 1993b). Exclusively left-to-right reading, French monolinguals and right-to-left reading, Israeli monolinguals were tested with the line bisection task. Although our Israeli participants were born and raised in Israel and identified themselves as monolingual Hebrew speakers, it is probable that they had been exposed to some left-to-right directional material over the course of their education, e.g., math and music, their daily exposure to English language road signs and bulletin boards, and, most possibly, English language courses. However, comparing the two groups, we were able to demonstrate that the participants' reading direction modes may influence the position of the subjective middle in line bisection, with a leftward deviation for left-to-right adults and a rightward one for right-to-left. The greatest effect was seen between the Israeli and French 8 year olds $F(1, 56) = 27.38, p < .0001$, followed by the adults, $F(1, 56) = 14.38, p < .0001$. Notably, a significant difference was also seen between the French and Israeli pre-school children (i.e., 4.5 years old; see also Figure 1), who had not yet received formal reading instruction, $F(1, 56) = 7.17, p < .01$. In this task, a score of 0 defines the objective center, therefore, leftward deviation is defined as any score below 0 (negative scores), and rightward deviation is defined by scores above 0 (positive scores). The high sensitivity of this task results in significant leftward or rightward deviation following only a few millimeters deviation to either side.

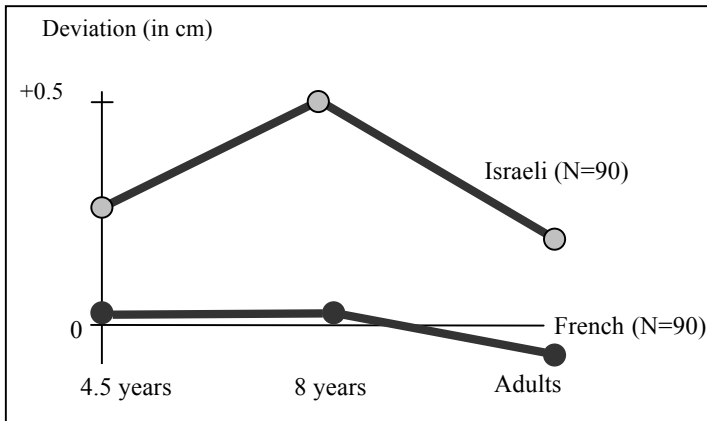


Figure 1. Effect of reading direction on bisection.

In another experiment (Chokron, Bernard & Imbert, 1997), we confirmed our previous findings showing that there is also an effect of reading direction on the performance on a line extension task where the participants had to construct the missing half of a line from a given one (left or right). Results ruled out any attempt to explain these perceptual asymmetries among normal adults only in terms of cerebral activation.

While some authors have postulated that the deviation in bisection occurs in the hemisphere contralateral to the most activated hemisphere (Bradshaw, Bradshaw, Nathan, Nettleton, & Wilson, 1986; Bradshaw *et al.*, 1987), our results show an opposite pattern between French and Israeli participants and suggest an opposite cerebral organization relative to the opposing reading direction. Rather than reasoning in terms of level of hemispheric activation, one can imagine that the scanning direction of the line, relative to reading direction may influence the orientation of attention along the line and, in this way, the length representation and the position of the bisection.

More recently, we attempted to study the extent to which aesthetic preference, previously attributed to cerebral dominance (Beaumont, 1985), can be influenced by reading direction (Chokron & De Agostini, 2000). One hundred and sixty-two normal participants were presented with pairs of images, one being the mirror-image of the other (*i.e.*, a cat facing to the right and then to the left), and were asked for their aesthetic preference. The images consisted of directional mobile images (*i.e.*, a truck or cat), directional static images (*i.e.*, a road sign or statue pointing either to the left or the right), or landscape images with salient elements lateralized to the left or the right side of the page (*i.e.*, a sidewalk image with a bench on the left side of the page). Half of the samples were left-to-right readers (French) and the other half were right-to-left readers (Israeli). We found a significant effect of reading direction on aesthetic preference with left-to-right readers showing a preference for stimuli depicting objects with a rightward directionality (the cat facing right) while right-to-left readers preferred stimuli depicting objects with a leftward directionality (the cat facing left). For the landscape images, however, both groups showed a rightward directionality preference (a mountain chain lateralized to the right of the page), with the Israeli participants showing a stronger preference than the French participants. This result (Figure 2) might be a function of an interaction between right-to-left reading and hemispheric specialization in right-handed participants that accounts for the higher right preference for landscapes in Israeli participants as compared to the French participants. These findings raise the question of an interaction between cultural factors and cerebral dominance in visuospatial organization and stress the need to more thoroughly disentangle these two factors.

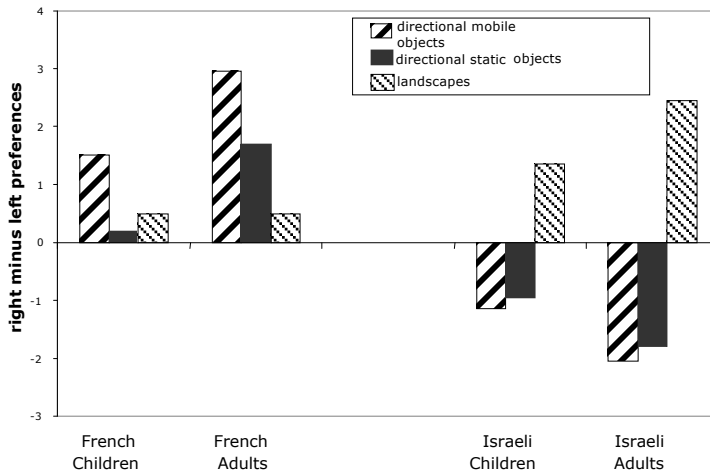


Figure 2. Effect of reading modes on aesthetic preference.

Results are expressed as left minus right preferences with ‘left’ preference corresponding to a preference for a picture with a right-to-left directionality whereas ‘right’ preference corresponds to a picture with a left-to right directionality.

Effect of reading direction on visuospatial asymmetry: Discussion and perspectives

Innate and/or acquired determination of preferential directional scanning?

First, there is the question about the origin of preferential directional scanning. Is it innate, depending on cerebral maturation (Braine, 1968; Chen, 1981; Nachson, Shefler, & Samocha, 1977), or is it acquired, depending on reading direction and environmental cues (Abed, 1991; Gibson, 1966; Harsel & Wales, 1987)? Abed (1991) was able to demonstrate that when exploring non-directional visual stimuli patterns, Western, East Asian, and Middle Eastern participants fixate more often on the top and left of the visual display independent of their reading direction mode. Concomitantly, the study on the direction of saccades revealed significant differences, which reflect the reading direction of the different cultures. Thus, it appears that the location of fixations on a neutral visual stimulus does not differ significantly for various cultural groups, but the scanning strategies used to arrive at the fixation points are nonetheless influenced by cultural factors.

Reading direction and attention

Heron (1957) proposed that scanning habits are comprised of two distinct mechanisms. The first is the scan in the direction in which the language is read (to the right in English and many other languages, to the left in Hebrew or Arabic, from top to bottom in Chinese, Japanese and other languages, and so forth). The second is the scan for the first element of the text (i.e., to the left in English, to the right in Hebrew or Arabic). Eviatar (1995) has shown that the second mechanism seems to bias movement of covert attention of left-to-right readers to the left side, and right-to-left readers to the right side. Thus, as this author pointed out, it may be useful to delimit the conditions under which reading scanning directions will affect performance asymmetries in non-language tasks, and the factors (i.e., hemispheric specialization for the task, presentation of attention cues, and unilateral or bilateral hemifield presentation) which modulate these effects.

Biological and cultural interaction

As we have discussed above, some perceptual or attention bias, such as pseudoneglect, have been initially attributed to hemispheric specialization without having tested normal readers with opposite reading directions. However, reading direction has been shown to influence visuospatial performance, such as line bisection (Chokron & De Agostini, 1995; Chokron et al., 1997; Chokron & Imbert, 1993b), straight-ahead pointing (Kazandjian, Dupierrix, Gaash, Love, Zivotofsky, De Agostini, & Chokron, 2009), facial affect perception (Vaid & Singh, 1989), aesthetic judgement (Chokron & De Agostini, 2000), problem solving (Harsel & Wales, 1987) and apparent movement perception (Morikawa & McBeath, 1992; Tse & Cavanagh, 2000). Frith (1998), discussing the possibility of an influence of culture on brain anatomy, asked the following question: "Is it possible that learning to read has an effect on processes underlying visual perception and thinking?" Indeed, regarding the findings of the above-mentioned studies, and given the fact that the majority of hemispheric research is based on interpretations of performance asymmetries, it seems urgent to study to what extent directional modes, developed as a result of reading direction, can affect performance asymmetries for non-language tasks.

Currently, a growing interest in neuroanthropology has begun to revisit the role of culture on the brain. Language and reasoning are considered culturally determined cognitive tools by cognitive psychologists (Perez-Arce, 1999). Although a controversial theory, according to the Sapir-Whorf hypothesis from the 1930s and 1950s, the cognitive framework through which we interpret, classify, and organize perceptions and information is determined by language (Perez-Arce, 1999). In most cultures, thought is linguistically based. Therefore, the language in which the child interacts with, and the society and the cultural boundaries the child is exposed to, create the cognitive framework of the individual (Kolers, 1978). Universal aspects of cognition exist, such as perception, categorization, retention, reasoning, and problem-solving (Segall, 1979). However, this functional universality does not suggest that cultural differences do not exist within them. The process, content, and contexts in which these basic cognitive abilities are conducted, as well as the complex abilities that arise from the combination of these basic cognitive processes can vary between and across cultures. Wexler (2006) supports this view and theorizes a more direct influence on culture on neural networks.

Interestingly some free-viewing asymmetries cannot be explained in terms of reading direction effects. Abed (1991) showed that reading direction did not influence the top-left preferential location of visual fixation, while Chokron and De Agostini (2000) found that the normal population, independent of their reading modes (from left to right or from right to left), prefer pictures where a landscape is represented on the right part of the page, compared to its mirror-image. Nicholls and Roberts (2002) showed that the leftward bias in the grey scale task seems to be unaffected by the participant's reading mode. These dissociations favor the view of an interaction between culture and brain function (Paulesu, E., McCrory, E., Fazio, F., Menoncello, L., Brunswick, N., Cappa S.F., et al. (2000)). As Eviatar (1997) pointed out, the finding that a cognitive skill related to language (reading scanning direction) can affect performance asymmetry for non-language tasks believed to be subserved by the right hemisphere (Chokron & De Agostini, 1995; 2000; Chokron & Imbert, 1993a, 1993b; Vaid & Singh, 1989) might possibly reflect large scale interactions between cognitive functions and hemispheric asymmetries which are not covered by a general model. It seems that studies, such as that of Nicholls and Roberts' (2002), investigating perceptual and cognitive skills among literate adults with opposite reading directions, but also illiterate adults from different countries, are required in order to offer a dynamic brain model in which cognitive skills and culture interact with hemispheric specialization.

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Geocentric Gestures as a Research Tool

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This study¹ is part of a large-scale cross-cultural research project on the development of spatial language and cognition, in India, Indonesia and Nepal, that focuses on a culturally particular way of organizing small-scale, table space, using a large-scale geocentric spatial orientation system (Dasen & Mishra, in preparation). One of the main questions is at what age this geocentric frame of reference starts to be effective. The study of language development does not provide a clear answer, because young children (ages 4 to 7) use ambiguous “deictic” descriptions, i.e., they just say “this way” accompanied by a gesture. Can these gestures be used to clarify the meaning of language? To answer this question, 234 video recordings of Nepalese children performing the “Perspectives” task (in which they have to describe the location of three objects placed on a table in front of them, under three different conditions) were analyzed separately for both language and gestures. The results show a good correspondence between language and gestures in 9 to 12 year olds. This allows us to interpret further the frame of reference used by the younger children. Out of 367 items on which young children (4 to 9 years) give an ambiguous deictic answer, only 17% are accompanied with an egocentric gesture, and 83% with a geocentric one (combining 48% large gestures linked to the use of cardinal directions, and 35% medium-large gestures linked to the use of situational local landmarks). This shows that a geocentric frame is at play as early as age 4, even when the child cannot express it clearly in the language.

The research reported in this chapter is part of a larger project on spatial language, encoding and concept development in Indonesia, India and Nepal, focusing on the development of a *geocentric* frame of reference (FoR) (Dasen & Mishra, in preparation). This is a cognitive process that is unknown in Western developmental psychology, representing a culturally particular developmental path in spatial language and concept development. Using a geocentric FoR means locating objects using a large scale orientation system (such as cardinal directions) even for table-top space inside a room.

One main question of our research is how early children are able to use such a geocentric FoR, either in language (when describing a spatial array) or in other cognitive tasks (such as encoding a spatial array in memory). Much of our data suggests that, in the children we have studied in Bali, India and Nepal (Dasen, Mishra, Niraula & Wassmann, 2006; Mishra, Dasen & Niraula, 2003), a geocentric FoR is predominant, is used very early, and further increases with age. The project reported here seeks further evidence for the precocity of a geocentric FoR in Nepalese children.

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Some of the results of a previous study in India and Nepal (Mishra, Dasen & Niraula, 2003) on language development are illustrated in Figure 1. We found that children were starting to use geocentric (G) language by age 6 to 8, with a sharp increase after age 9. Younger children (especially 4 to 5 years, and to some extent up to 8 years) were often using what we have called “deictic”² language (D) in describing a spatial array: They just say: “This way/that way”, accompanied by a gesture of a finger or the whole hand.

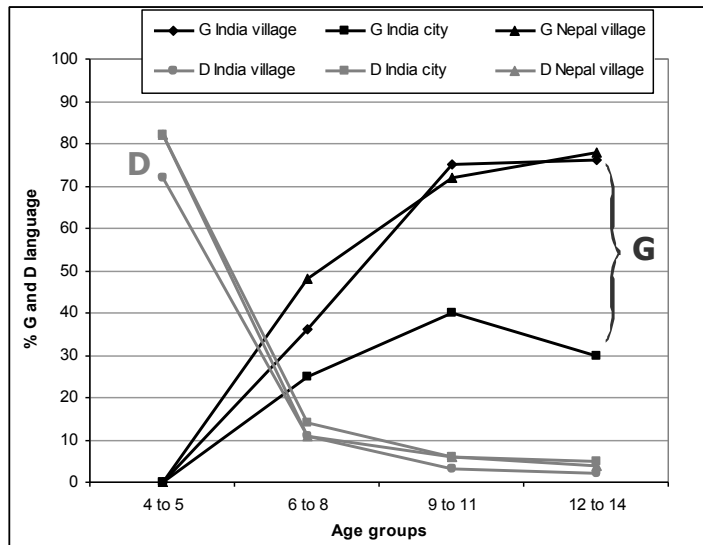


Figure 1. Mean proportions of G and D language use on combined tasks, by age group in the three locations (source: Table 4, p. 375, in Mishra et al., 2003).

The status of the D category is inherently ambiguous in terms of geocentric vs. egocentric encoding: It could be body related since a body movement is involved, and could mean “to the right/left” (i.e., egocentric), but the movement may also point to a direction that is outside of the display. The latter interpretation is reinforced by the fact that, in both samples in India, the very young children also use what we have called “situational landmarks” (SL) references (i.e., outside of the display, but within the room), a category that is still quite strong at age 6-8, but then disappears with age. At the time, we concluded that the status of D “needs more detailed research, because it could hide markedly different processes (egocentric and geocentric).” (Mishra et al., 2003, p. 379).

Indeed, given the early predominance of geocentric language, D may well be geocentric too (confirming a process that does not exist in Western contexts), but it could also be egocentric, confirming rather the classical (Western) developmental theories claiming that spatial development always starts egocentrically with reference to the body (Miller & Johnson-Laird, 1976; Piaget & Inhelder, 1956).

How, then, could we decide whether D is geocentric or egocentric? Possibly through gestures. Indeed, Levinson (2003) makes a distinction between absolute (geocentric) and relative (egocentric) gestures, in which he describes typical geocentric gestures as being large, made with the outstretched arm or even the whole body, and egocentric ones much smaller, close to the body:

² Deictic is a Greek word, stemming from “δεικνύω” meaning “show”. Following this, “deictic” means “someone or something showing the way”.

[Geocentric] gestures are large, with arms outstretched, allowing accurate sighting of the angles depicted. Unlike our [Western] gestures, they occur in all directions, for example behind the body. (p. 244). ... Absolute [geocentric] gestures are large and expansive. [They] are made with fully extended arms, and thus lie naturally far away from the trunk. This contrasts with the data ... for American English speakers (said to be the same for speakers of other European languages), where the vast majority of gestures occur right in front of the trunk (Levinson, 2003, p. 252).

Hence, if we were to look more closely at which gestures accompany D language, we might be able to tell which FoR they are in fact using, a geocentric or an egocentric one.

What we propose to do is to look first at the language data for the new study in Kathmandu, demonstrating that the D category also occurs there in young children. We then look at the gestures of those whose language is not ambiguous (mainly the older children), to see whether what we think are geocentric and egocentric gestures do correspond to the respective frames in language use. In other words, this will validate our coding for gestures in this particular cultural context. Once we are satisfied with the correspondence between language and gestures, we apply the coding to the younger children, those who use the ambiguous D language. The gestures they predominantly use will tell us in which FoR, egocentric or geocentric, they are functioning.

Procedure

The overall sample of this study consists of 400 children aged 4 to 12, in two types of schools (English-medium and Nepali-medium) in Kathmandu, Nepal. One of the language elicitation situations used in our research is the so-called “perspectives” task, in which the children have to describe the location of three non-fronted objects placed on a square piece of cardboard. They give a description from one position, then move to the opposite side of the table and describe it again, and finally the display is rotated by 180°, and the children describe it again. Hence, each child produces 9 items of spatial language (and, possibly, gestures). The situation is illustrated in Figure 2 (the photograph was actually taken during our research in Bali).

The rather cumbersome procedure of moving around the display, or rotating the latter, should not concern us here. It is designed to test the claim that the use of a geocentric FoR potentially allows the same description of a display independently of the position of the speaker. The results of this feature of the study will be reported elsewhere. The display, and the table or desk on which it was placed, were oriented along the cardinal directions, the child initially facing North.



Figure 2. The Perspectives task.

About half-way into the study, we started taking videos of this situation. This means that, although we tested 400 children in all, video recordings are available for 234 of the children (200 of which were from the Nepali-medium schools).

The coding categories for language and gestures are presented in Table 1. In further analyses, we will ignore the intrinsic category, which is irrelevant to our hypothesis (and not very frequent in occurrence).

Table 1. Scoring of language and gestures

Language			Gestures	
Code	Category	Examples	Code	Description
G	Geocentric	North, South, East, West	L	Large scale, away from body, arm fully extended for a fairly long time, often with body movement
SL	Situational landmark	To the door, To the window	M	Medium scale, away from body, arm not fully extended, often of short duration
E	Egocentric	Left, right, in front (of me)	S	Small scale, with hands only, in front of trunk
I	Intrinsic	Next to, behind (another object)	I	Pointing to one object in relation to another

The coding of the language was done in Kathmandu, while the coding of gestures was done independently in Geneva, by researchers who did not have the information on the language codes, and did not understand Nepali. Although they could hear the sound recording (if only to be sure of which position was being asked about), they scored gestures independently of any language. Only the first, spontaneous gesture was scored for each position. Out of a potential total of 2,106 items that were scored independently for both language and gestures, 1,583 items were codable for both.

A set of 70 subjects was scored initially for training purposes, and then rescored when the procedure had been fully established. A fairly high inter-scorer reliability (88%) in scoring gestures was attained after extensive training and discussion.

Results

Language use, complete Kathmandu sample

In our current research project, we again find the same pattern of language use as in our previous studies (note that our previous sample in Nepal was in a rural setting). Figure 3 shows the language used on the Perspectives task.

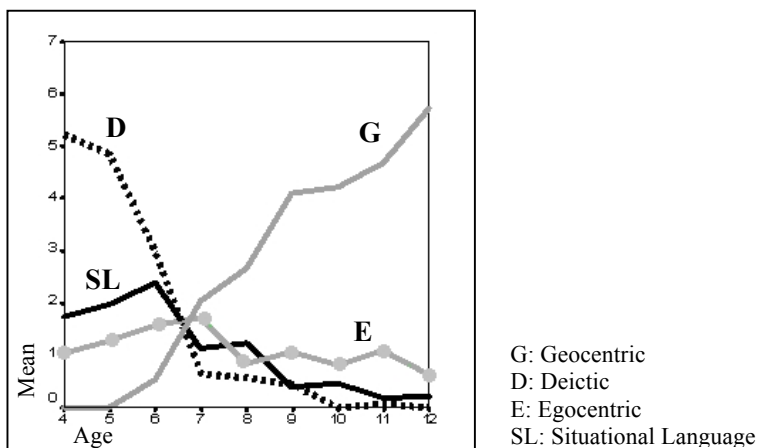


Figure 3. Language used on the Perspectives task in Kathmandu main study (N=400).

Figure 3 is a plot of the language categories of interest (there are others, such as intrinsic, but they are not of present concern) over age, reporting the mean number of responses in each category out of a maximum of nine. Geocentric language (G) obviously increases with age; in

this case, it corresponds to the use of cardinal directions. Some egocentric language (E: left, right) does occur, but is rather infrequent (note that this is true even in English-medium schools, a finding that will be reported elsewhere). The deictic answers (D) occur predominantly in younger children (4 to 6 years), who also use some situational landmarks (SL: to the door, to the window).

Consistency between language and gestures

We first looked at the consistency between language and gestures on the 1,135 items where the language was explicit (non D). The data are presented in Table 2.

Table 2. Consistent and inconsistent items between language and gestures

		Gestures		
		S	M	L
Language	E	66	58	71
	SL	13	64	115
	G	62	332	354

Inconsistency was found on 129 items where E language was accompanied with an M or L gesture and 75 items where SL and G language went with a S gesture, amounting to 18% of the items. Perfect consistency (ES, SLM, GL) was found in 484 items (43%), and we can consider the 447 SLL and GM items to be consistent as well, since they both refer to some direction outside of the display, and at least non-egocentric gestures. The category GM, combining geocentric language with a medium size and short duration gesture, was quite frequent. Total consistency was hence estimated at 82%. This gives us sufficient confidence to conclude that gestures indeed reflect the same frame of spatial reference as language. Our argument is therefore that, since gestures are a good reflection of the frame of reference expressed in language in the older children, they can also be used to determine what frame the younger children are using when they give an ambiguous D verbal answer.

Looking at which gestures go with the Deictic verbal answers (Table 3), only 17% of the answers are accompanied by an egocentric gesture (DS), 35% by the medium scale geocentric gesture (DM) and the majority (48%) by a clear, large-scale geocentric gesture (DL).

Table 3. Deictic language and three types of gestures

	N	%
DS	61	17
DM	130	35
DL	176	48
Total	367	100

It could still be the case, if the theory of a universal egocentric developmental starting point was true, that the very young children would use more DS than the older ones. That this is not the case is illustrated in Figure 4.

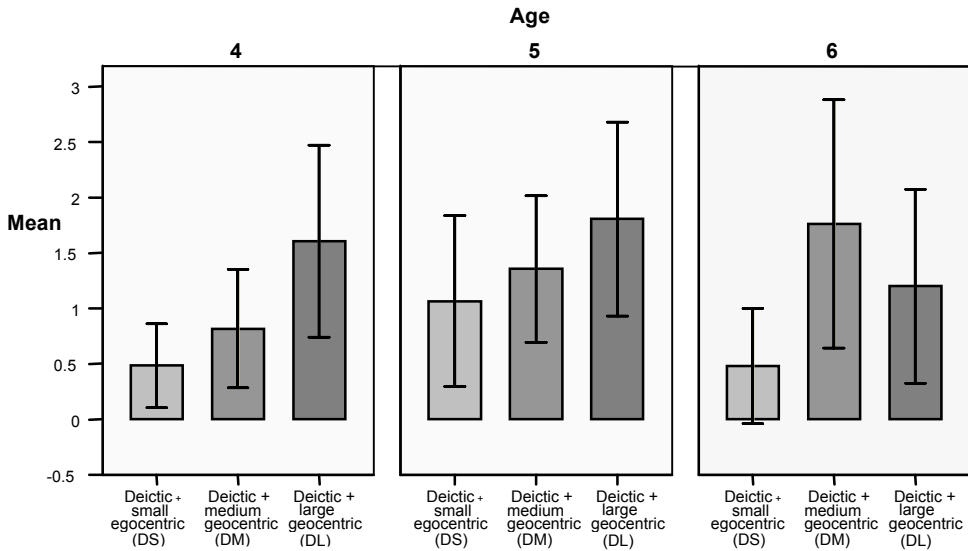


Figure 4. Three types of gestures with deictic language, by age.

Even at age 4, Ds accompanied by large geocentric gestures (DL) form the majority, followed by medium geocentric gestures (DM). The mean number of DS is significantly lower than DG at age 4 ($t = 2.384, p < .05$) and significantly lower ($p < .01$) than DL + DG in each age group.

Comparison of English- and Nepali-medium schools

Does learning English in pre-school and primary school relate to the younger children's spatial frame of reference when they use an ambiguous deictic description? To answer this question, we matched (for age and school grade) the 34 children from the English-medium school for whom video recordings are available with 34 children from the Nepali-medium schools. The English-medium pupils in this sub-sample produced 3 DS items, the Nepali-medium pupils 9. This shows that learning English seems unrelated to a more egocentric FoR.

Conclusion

We have demonstrated in this study that we can rely on gestures to clarify which frames of spatial reference children use when they give ambiguous answers such as "It is this way". In a situation such as Kathmandu (and indeed in the other locations of our main study, in rural Nepal, in India, in Bali), where both the egocentric and the geocentric frames are potentially available in the language, it could have been expected that young children start with the egocentric reference and move to the geocentric one later. This is clearly not the case. These results come to reinforce our overall findings of a predominance of the geocentric frame in these locations, and add the important conclusion that this indeed starts very early in life. Even at age 4, geocentric gestures predominate over egocentric ones. Whether we would find the same results with even younger children, at ages 2 or 3 years, is a question open for future research –although it would require a lot of patience and the development of specific methods, because it is already very difficult to carry out this sort of testing with four year olds.

In any case, what we are witnessing is a particular developmental path that is different from the one described by mainstream developmental psychology for Western children. If both an egocentric and a geocentric FoR are available in the language, the choice of which one will

be predominant for spatial description and encoding is akin to a cognitive style: both processes are potentially available, but one is preferred over the other. Broad ecological and cultural factors at the macro-system level, as well as more specific ones such as task demands at the micro-system level, will determine the probability of choosing one over the other, in this case the geocentric one.

The precise nature that this geocentric frame of reference takes in these very young children is a matter of debate, since they give no other signs of using this frame in other aspects of non-linguistic cognition (such as in memory encoding tasks). It is possible that these young children produce the large scale gestures because they try to imitate the dominant cultural model they observe in adults, without fully understanding the cardinal orientation system that lies behind it. Nevertheless this no doubt helps them in building up this understanding as they grow older.

This research together with that of Le Guen (this volume) point to the seminal interest of the research by Levinson (2003) and his team into the geocentric frame of spatial reference that is foreign to Western languages and cultures. However the outcomes of both studies show the limitations of any interpretation in terms of extreme linguistic relativism. In both cases, a geocentric frame is used in gestural deixis without the support of geocentric language. Hence we claim that it is cognition that eventually guides language and not the opposite.

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Geocentric Gestural Deixis among Yucatec Maya (Quintana Roo, México)

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Fieldwork conducted among the Yucatec Maya of Mexico reveals that this group preferentially uses a geocentric frame of reference in both linguistic and non-linguistic tasks. Contrary to other cultural groups (such as the Guugu Yimithir of Australia or Tzeltal of México), this frame does not seem to rely on the use of specific spatial terms (such as cardinal directions for instance). Because linguistic evidence is not sufficient to determine which frame of reference is used, attention to gestural deixis is particularly relevant. Using a comparative French example, we present a method of analysis for gestural deixis and show that Yucatec speakers, both children and adults, rely primarily on a geocentric frame of reference in giving spatial indications of directions.

The data presented in this chapter¹ were collected among the Yucatec Maya, an ethnic group defined by linguistic criteria, who mainly live in Mexico's Yucatán Peninsula. The village where the fieldwork was done is situated in the state of Quintana Roo in the so-called "Zona Maya". This area has preserved many aspects of traditional Maya life, and the Yucatec Maya language is still widely spoken, although most of population knows some Spanish (but only the adult men are fluent). The terrain of their environment is primarily a tropical forest flat land devoid of high hills and mountains.

This study follows up on findings from previous research (Le Guen, 2006), which examined the Frame of Reference preferentially used by the Yucatec Maya in linguistic and non-linguistic tasks. In the literature, it is usually considered that there are three main Frames of Reference (or FoR) encoding angular information that are available for making localizations in space (Levinson, 2003; Tversky, 1998, for a review): the intrinsic, the egocentric and the geocentric frame of reference. In the *intrinsic* frame of reference, locations are represented in relation to an object's intrinsic properties (front, back, sides). In an *egocentric* FoR, the relations between objects are specified from the individual point of view, in relation to his left, right front or back. Finally, the *geocentric* frame of reference specifies position in terms of fixed angles extrinsic to the objects whose spatial relation is being described. This latter corresponds in many societies to cardinal directions, and often involves a conceptual 'slope' (an uphill/downhill opposition for instance).

Tasks developed by the Max Planck Institute of Psycholinguistic team led by Stephen Levinson were used to determine if, under a 180° rotation, subjects rely on their own point of view (using an egocentric FoR) or on external features of the environment (using a geocentric FoR) (Brown & Levinson, 1993; Levinson, 2003). In the Le Guen 2006 study, fifty-seven subjects were tested, ranging in age from 4 to more than 30 years. The results for the non-linguistic task reveal a large preference for a geocentric FoR. These tasks were followed by a linguistic knowledge evaluation conducted to evaluate subjects' comprehension of specific spatial lexical items corresponding to different FoR, mainly egocentric and geocentric. Sixty-seven subjects were asked to move a toy man on a labyrinth given directions such as: "turn right, go south, go in the direction of the house of Ricardo," etc. Comparing the results of these two tasks shows that the Yucatec Maya rely on a non-linguistic geocentric FoR but (1) with the exception of adult males, they do not necessarily master specialized vocabulary for it, such as

¹ I would like to thank Douglas Médin, Richard Carter, Erin Leddon, Sonya Sachdeva and Pierre Dasen and his team for helping me in revising this paper. I am also grateful to the anonymous reviewers for their comments on this paper.

cardinal direction words, and (2) they do have cognitive geocentric perception of their environment, but they only rely particularly on landmarks and other features of the environment.

This chapter aims to illustrate the difference in the cognitive representation of space between egocentric and geocentric coders and how, among Yucatec Maya, the use of the geocentric FoR is not sustained by language, by presenting qualitative data from quasi-experiments. One way to determine the preferred cognitive FoR reference used by people is by studying their gestural deixis in direction giving. Gesture in spatial indications must rely on only one specific FoR (intrinsic, egocentric or geocentric) to be decoded by a listener in order for him/her to find his/her way correctly. French and Maya examples will be analyzed along with how the Yucatec Maya use a geocentric representation of space despite the lack of verbal clues in their speech. The implications in respect to the Whorfian hypothesis (Whorf, 1956) will also be discussed in conclusion.

The French example

The brief demonstration below illustrates how gesture is used in an egocentric FoR, using the example of a French native speaker giving directions. In a real-life situation, we asked a French native speaker to direct us to the Boulevard St. Michel from the Place de la Sorbonne in Paris. Her answer was as follows: “*First, go straight and then turn to the right.*” This speech determines two different segments with three particles, A-B and B-C, where B is the street corner. The Place de la Sorbonne corresponds to point A and Boulevard St. Germain corresponds to point C (Figure 1).

In order to compare the consistency of her gestural and verbal indications, the same French speaker-respondent was interviewed at another location as well. In Position 1 (as explained in the previous paragraph), she was directly in front of the Place de la Sorbonne facing west, and the Sorbonne is at her back. In Position 2, she was standing in front of the Sénat, a few hundred meters away from the first position. This time, she was facing the opposite direction (east).

In Position 1, her position was equal to the “*origo₀*”, which is point A, the departure point of the indicated path. Her gestures are shown in Figure 1 (photographs 1a and 1b): she stretches out her arm in front of her to indicate segment A to B (1a) and then indicates her own right to symbolize the segment B to C (1b). In doing this, she imagines herself at point B (the street corner). Note that her gestures, in Position 1, are matching to the real word configuration (i.e., the orientation of the street).

In Position 2, she was standing in a different place from point A (the departure point). So, to indicate the same path, she had to project herself from her current location back to the Place de la Sorbonne, as if it were to her back. In doing this she created a new indexical origo (*origo₁* = Point A). Her directions and gestures thus have now to be understood in the context of this projected point and not her actual position. In other words, she imagines herself looking at the street, the Sorbonne at her back. To understand correctly her direction giving, an interlocutor will also have to imagine himself/herself at this place and, in a sense, “looking through her eyes”. From point B, she does the same thing, but imagining herself at point B. In Position 2 (Figure 1, photographs 2a and 2b), she stretches out her arm in front of her and then indicates (in her speech and with her gesture) to her own right, exactly as she did when at Position 1. In the two positions, she relied on her own point of view. This example illustrates her consistent use of an egocentric frame of reference in her speech and her gestures.

These observations suggest: a) there are linguistic clues in the use of the egocentric frame of reference, b) these linguistic indications are consistent with egocentric gestures, c) these gestures are always performed in the frontal zone of the body, and d) because, she is, in the Position 2 relying on her point of view, orientation to the real world is not respected when “*origo₁*” is different from speaker position. That means that, in Position 1, she stretches her arm

towards the north for indicating the segment B to C (where C is indeed north of B). But she stretches her arm toward the south in the Position 2 for indicating the same segment. Nevertheless, this is not a problem because an interlocutor who also uses an egocentric FoR will not consider this gesture as indicating south, but a right turn.

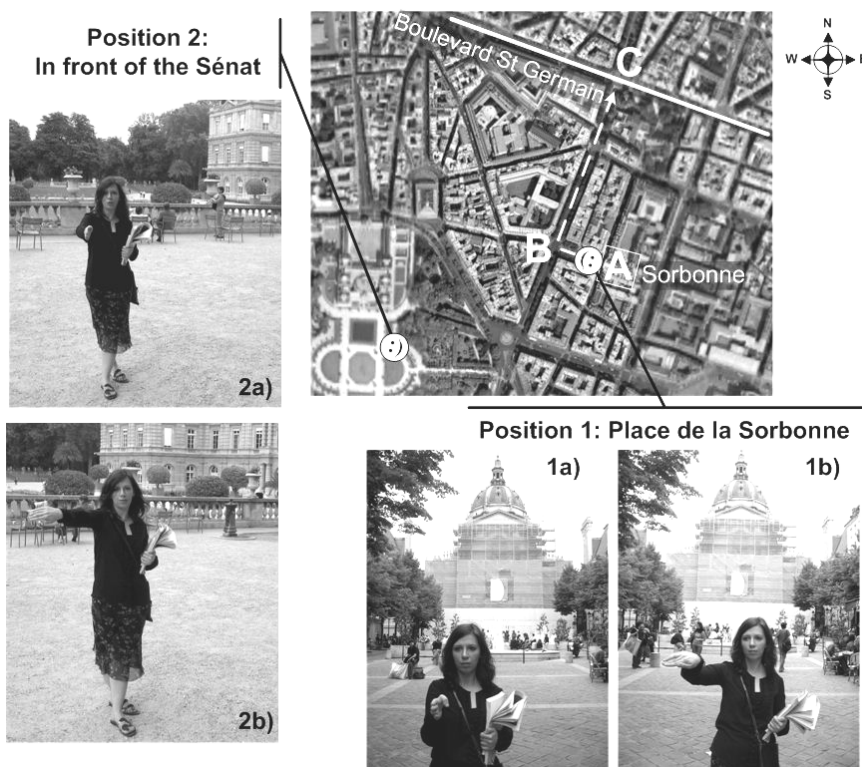


Figure 1. French directions giving.

Maya gestural deixis

In order to compare French and Yucatec gestural deixis, we asked Yucatec Maya speakers to indicate a path similar to that illustrated in the French example above. The two speakers interviewed were in different positions, and both were at different locations from the departure point. In this case, the position of the speaker is considered, for each of them, as $origo_0$, and the departure point A is “ $origo_1$ ”. They thus face the same task as the French speaker when she is in position two². The question asked was “how can one go from the church to the house of X?”.

This path has three segments A to B; B to C, and C to the house of X³. An adult male (I.)⁴, was interviewed facing south, and a 10 years old girl (M.) was asked to indicate the same path but facing east. The camera was always facing north. If they were both relying on a

² The first task is not illustrated here because Yucatec Maya, like in probably most of the cultures, make gesture in conformity with the world orientation when they indicate a path that start from where they currently stand (i.e., when the departure point correspond to $origo_0$).

³ The purpose of this task is to see what FoR Yucatec Maya will rely on for indication of directions using gestures. Furthermore, other examples show that Yucatec Maya use the same non linguistic geocentric FoR in a systematic way. Other data from Le Guen (2006) show that the number of segments does not interfere with the choice of the FoR.

⁴ To remain anonymous, all the names of the participants are here presented only with their initial.

egocentric FoR in the direction giving (basing their indication on their point of view, like in the French example) their gesture should be similar. But this is not the case. Their gestures are not identical.

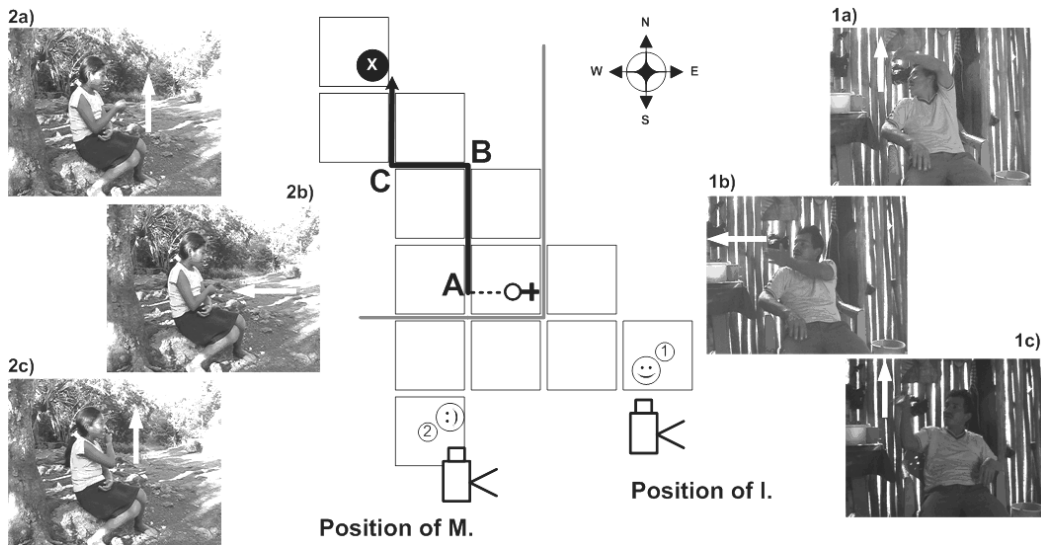


Figure 2. Yucatec directions giving.

An examination of the participants' gestures (Figure 2) indicating the segment from A to B reveals that they both indicate the same direction: south to north. But their gestures are different: the man uses a front-back gesture, and the young girl uses a frontal right-left gesture. Again for the B to C segment, they both indicate an east-west direction but use different gestures: the man uses a frontal left to right gesture, and the girl a front-back gesture. Finally, for the C to X segment, they both use the same gestures used for the first A-B segment.

The verbal indications of the Maya participants are not informative about the FoR they rely on. The verbal indications of I. and M. are thus complemented by gestures to indicate direction. I. verbal indications go as follow: "you take the street like *this straight* (gesture 1 - segment A-B). When you get to the corner of P.'s house, you take the street *like that* (gesture 2 - segment B-C), and then you take again the street *like that* (gesture 3 - segment B-C)"⁵. M. verbal indications are also elusive: "you should go *like that* (gesture 1 - segment A-B), you go *like that* (gesture 2 - segment B-C), and *go like that* in order to get there (gesture 3 - segment B-C)"⁶.

In contrast to the French, these observations suggest: a) there are no linguistic clues in the Maya participants' speech to determine what FoR is being used, b) the gestures used by the Maya are not restricted to being performed in the frontal zone and can be performed to the back and c) despite the fact that they have different orientations and they stand in places distinct from the origin of the indicated path, I. and M.'s gestures are consistent with the layout of the object in the world and, as a consequence, they are not identical. This is exactly the opposite of what was observed with the French speaker when she was in Position 2. Yucatec Maya speakers rely on a different frame of reference in their gestural indication: a geocentric frame based on the orientation of the real world.

⁵ *Ka'ch'a'ik e kaaye' bey toha'* (gesture 1). *Ken k'uchkech tu'eskina tunayle P., kach'a'ik beya'* (gesture 2), (...) *ken ts'o'ke' kaka'ach'a'ik ti' beya'* (gesture 3).

⁶ *Ken xi'ikech beya'* (gesture 1), *kabin beya'* (gesture 2), *bey kabin yóola k'uche'* (gesture 3).

The data presented here are an illustration of a general tendency among Yucatec Maya. Several quasi-experiments were run and systematically analyzed with twenty participants, children and adults (male and female), involving tasks such as the one presented here but also pointing to one referent inside the village or pointing at surrounding villages. We also recorded and analyze several natural direction giving between speakers that show an identical pattern (details and analyses can be found in Le Guen, 2006).

The alignment of the FoRs

We now turn to an analysis of how different linguistic frames of reference can be used at the same time. As evident in the French example, the French speaker uses the same egocentric frame of reference in her speech and her gesture. So when she says “*turn to the right*”, she moves her arm to the right. One problem with the Yucatec speakers is that they either do not use specific cues in their speech, only saying for example “this way, that way” or, more confusingly, they can use different speech cues that do not belong to the same linguistic frame of reference. Nevertheless, considering the untranslatability between frames of reference, speakers from every community must, in their gesture, use a consistent FoR (either intrinsic, egocentric or geocentric). In other words, if one decodes the same gestural indication giving using an egocentric FoR or a geocentric FoR, one will not get at the same place! In the following examples, we will show, from the analysis of their gestures, how Yucatec speakers rely on a non-linguistic geocentric FoR and how they, in the end, align all the different linguistic FoRs on a geocentric one.

Example with geocentric and egocentric FoR

In speech direction giving, geocentric and egocentric frames of reference may be used simultaneously, but they should not be used simultaneously in gesture. The experimenter (O.) asked DC, a forty-five years old man, if he could give him directions to the old pillar in an abandoned village. DC complements his verbal indications with gestures for the different segments. The following is a transcript of his directions:

O: *awóohláa' te' Sahkabch'e'en tu'ux yàan le okom, le úuchbem 'okomo'? Tu'ux k'abèet inbin yóos inkaxtik.*

Do you know in Sahkabchen where the pillar is, the old pillar? Where do I need to go to find it?

DC: *kabin te' ... te' kareterà.*

You take the ... the road [**gesture 1 (=d1)**]

Kak'uchul tukrusèero, katséele'.

(when) you get to the crossroad, you turn. [**gesture 2 (=d2)**]

Kak'uchul yi'nal e ch'e'eno' kabin te' tubèelilo'.

(when) you get to the well, you take “its” path. [**gesture 3 (=d3)**]

Ka k'uch te' tu'ux yàan le ... ubèel sàay,

(when) you get where there is... the path of the *sàay* ant, [**iconic gesture (=ant path)**]

kaka'a'òokol beya'.

You enter once more like this. [**gesture 4 (=d4)**]

(...)Kab... kana'akal yok' hump'e' bu'tun beya' he'ex ana'aka' beya'

you go up on a hillock like this

kaka'achìinil beya', hach bey ti'a' ti'yàani'!

and your turn once more like this, this is exactly where the pillar is!

Yan atàal sut tumen táan bin beya' kusut ubey ta ... ta'èestel a... x-no'oh!

you will arrive on the other way so it will be to your ...right! [**gesture 5 (=d5, toward East)**]

(...) lak'in kuka'ap'a'ata' tech.

It will be east from you.

DC used two indications belonging to two different FoRs: “to your right” (egocentric FoR) and “east from you” (geocentric FoR). Considering only the cues he gave in his speech, it is not possible to know on which FoR he was relying on.

To test the conformity of DC’s gestural indications with the real world orientation, they have been compared with a GPS survey. In Figure 3 we have reproduced the GPS survey

complemented by an official Mexican map of the village surrounding. The analytical method used is inspired by Haviland's lamination principle (Haviland, 1996, 2000).

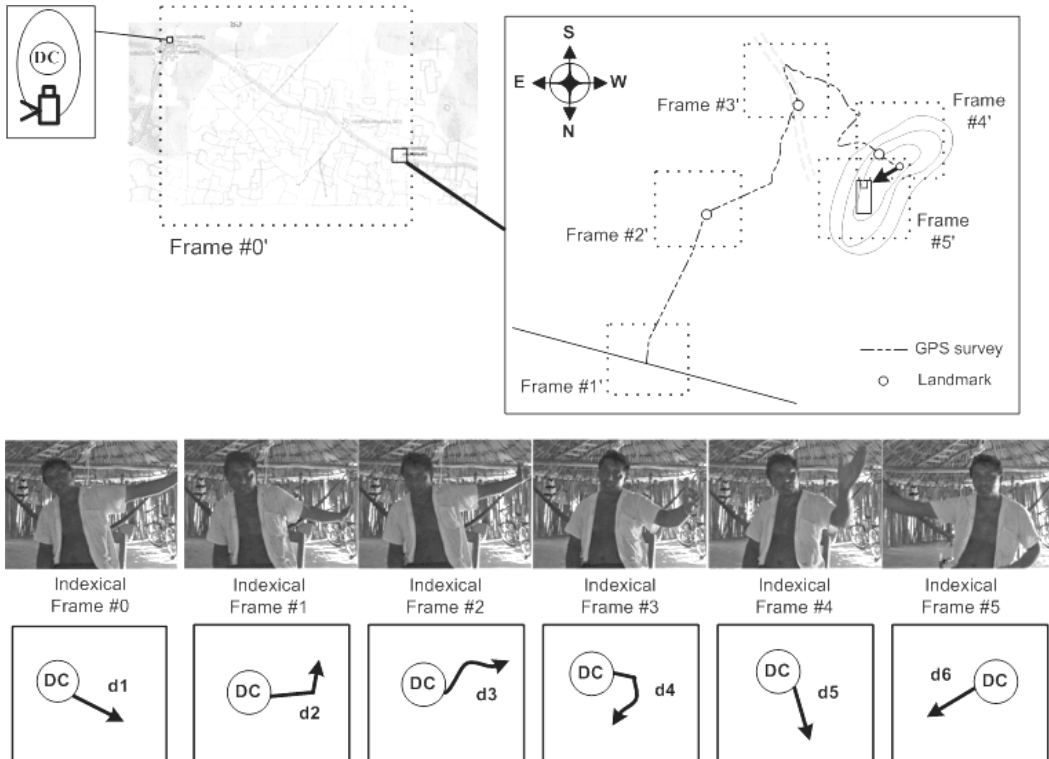


Figure 3. DC's directions to the old pillar (note that north is reverse in the figure).

During this interview, DC and the interviewer were standing in the village. He was looking to the north and the video camera was facing south. The first gesture he makes indicates the direction of the abandoned village (d1) from his actual position. In this case, he does not actually create a new origo, because the origin of his indications is his own body (Frame #0). If we now focus on the zone of the abandoned village of Sahkabchen, we see that DC uses landmarks as new origos when he projects himself to determine different segments. The first origo₍₁₎ is the crossroad. His gesture indicates one segment with an east and a south direction which actually corresponds to real orientation of the path that one has to take from the crossroad. The second origo (O₂) is the well; the direction indicated is south-west. The third gesture is an iconic gesture⁷ to symbolize a new landmark: the path of the *sàay* ants that will be the third origo; the direction is now west to north. The fourth origo is the bottom of the hill; DC indicates a north-west direction rising-up. Finally, the fifth direction where the old pillar stands is, from the top of the hill, "to your right" but also "to the east".

These ways of giving directions beg the question: Do linguistic frames of reference really encode what speakers mean? Was DC using a geocentric or an egocentric FoR? Since the cues in his speech used are contradictory, they are not, by themselves, sufficient to know what FoR DC was relying on. He used "to your right" and "east". But if we take a careful look at the GPS survey, we can see that DC gestures always respect the orientation of the real world. Every time he projected himself to a new origo (landmark), the indexical frames he created were

⁷ An iconic gesture is one that depicts a physical aspect of its referent.

always oriented with respect to the actual cardinal directions, and so were his gestures. In his speech, DC thus aligned the egocentric FoR on the geocentric one. In other words, when he stretched his arm to indicate the position of the pillar, it just happened that the pillar was on his right. But what he really meant in his indication was that the pillar stands east from one's position on the top of the hill. Let's suppose for a minute that he had come from the opposite direction so that, on the top of the hill the pillar was on his left, he would have stretched his arm in the same cardinal direction, towards the east. In the same condition, an egocentric coder would have made a gesture that indicate the left, not matter of the cardinal direction where the pillar stands from her/his position on the top of the hill⁸.

Example with intrinsic FoR and geocentric gesture

Another example of alignment of frames of reference regards the situation when only the intrinsic FoR is linguistically salient. Two adults, (I.) and his wife (S.), were asked by the experimenter (O.) "where the Nance tree⁹ is in relation to the house". The two objects (the tree and the house) are located in the field they own in the forest several kilometers to the north from where they were standing in the village.

The directions given by S. were:

O.: *tu'ux yàan le naho' ti' le màata', ti' le chi'o'?*

Where is the house to the Nance tree?

S.: *bey yanik e chi'a' .. e naha', ...*

The Nance tree ... h'm the **house** is like this [gesture 1 in Figure 4],

S.: *tàanil ti' beya' ti' yàan le chi'o'.*

In front of it like this, there is the **Nance tree** [gesture 2 in Figure 5]



Figure 4. S. indicating the position of the house.



Figure 5. S. indicating the position of the Nance tree.

In her response, S. used iconic gestures to symbolize the tree and the house. She only used a linguistic intrinsic FoR to say that the tree is "in front of" the house. Her husband (I.) indicates the same object configuration in the following way:

O.: *e'esten tu'ux yàan le màata' ti' .. le màata' chi' ti' le naho'!*

Show me where is the Nance tree ... the Nance tree to the house!

I.: *le naho' bey yàanika'*

the **house** is like this [gesture 1 in Figure 6],

⁸ The French speaker, in the first example, uses the same egocentric gesture ("to the right") in position 2 to indicate the position of the Blvd St Germain, pointing to the south, despite the fact that the boulevard is north of her.

⁹ *Byrsonima craassifolia*.

I.: *le chi'o' bey bey làado' ti' yàaniki'*.

the **Nance tree** is on this side like that, there it is [gesture 2 in Figure 7].



Figure 6. I. indicating the position of the house.



Figure 7. I. indicating the position of the Nance tree.

Contrary to his wife, I. did not use iconic gestures, but he rather used pointing gestures avoiding any speech cues corresponding to an intrinsic, egocentric or geocentric FoR. He only used deictic terms (“like this, like that, there”). But considering the layout of the object in the real world reveals that, in both cases, their gestures were consistent with the actual location of the tree standing north of the house.

Even though their gestures situated the tree “to the north of” the house, I. and S. never actually said this, and only used a linguistic intrinsic FoR (“in front of”) or deictic expressions. But since both are looking to the west, their gestures could be only coincidental with the location of the objects. In order to “challenge” I.’s representation of the location of the Nance tree, he was further asked to listen to the interviewer’s directions given through “free oriented” gestures. In this case, the FoR used would be intrinsic, considering only the intrinsic orientation of the house and its relation to the tree, but not corresponding to the layout of the house and the tree in the real world. In order to do so, I. was asked to take the video camera and film the interviewer sitting in front of him.

O.: *wáa kinwa'ik tech* : “*tèene'*, *ich nah yàanen*,

If I say to you “I’m in the house,

táan inpaktik umàatasil chi', beya', bey bàanta' (...) *bey bàanta'ila''*.”

I’m looking at the Nance tree, like this, this way (...) it is in **this direction**” [gesture in Figure 8].

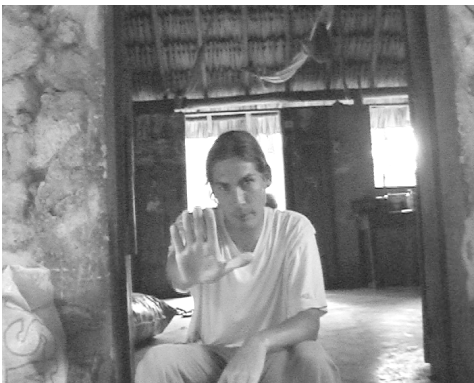


Figure 8. Intrinsic gesture.

This intrinsic gesture, considering the interviewer's position (toward the east), was not in conformity with the orientation of the tree and the house in the real world. I. accepted this utterance *per se*, but had one objection:

I.: *pero wáa e'esbil kamèetik ma' ma' bey bàanta'ila'*,

but if you indicate it (gesturally), no, it's not in this direction (**east**) [gesture 1 in figure 9]
bey bàanta'ila'.

It is in this direction (**north**) [gesture 2 in Figure 10].



Figure 9. I.'s comprehension of the interviewer's gestural direction giving.

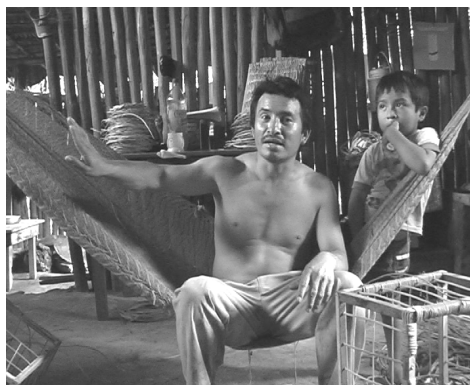


Figure 10. I.'s correction.

If I. had indeed accepted the intrinsic utterance, it makes no sense to him by itself. Gesture, the Yucatec Maya direction giving, must rely on a geocentric FoR. This is the reason why he corrected the interviewer's attempt. As the interviewer stretched his arm, he was innocently indicating the east. So I. tried to make clear that the Nance tree was not "east from" the house (Figure 9), but "north of" it (Figure 10). The interesting point here is that he never actually said it using the name of the cardinal direction, but only pointed to them gesturally.

Conclusions

Examining French and Yucatec examples of giving directions demonstrates the importance of studying gestural deixis. Crucially, only considering a speaker's speech in the case of the Yucatec Maya is not sufficient to determine which FoR the speaker is relying on. The study of gestural deixis used to indicate directions, combined with the real world orientation of a GPS survey has allowed us to show that the cognitive maps of Yucatec Maya are in accordance with a non-linguistic geocentric FoR.

This study, along with experimental and ethnographical data collected among the Yucatec Maya (Le Guen 2006), might support a challenge to the Whorfian hypothesis recently reintroduced (Gumperz & Levinson, 1996; Lucy, 1992a, 1992b) and nuanced by some researches referring "moderate linguistic relativity"¹⁰ (Mishra, Dasen, & Niraula, 2003; Wassmann & Dasen, 1998). Recent research by the Max Planck Institute for Psycholinguistics team studying spatial cognition (Brown, 2001; Brown et al., 1993, 2000; De León, 1994, 2001; Levinson, 1991a, 1991b, 1996, 2003; Levinson, Kita, Haun, & Rasch, 2002; Pederson, Danziger, Wilkins, Levinson, Kita, & Senft, 1998), has suggested that language (that is, the

¹⁰ Wassmann and Dasen introduced the concept of "moderate linguistic relativity" based on the results of experiments (animals in a row and Steve's Maze) carried out in Bali. They indeed show a "moderate link between language specific verbal coding and the conceptual representation involved in solving non-verbal tasks" (1998: 706).

structure of a language crystallized in specific linguistic frames of reference) is a major influencing factor in spatial cognition. More precisely, these researchers claim that the dominant frame of reference used in a language affects cognition, so that verbal and non-verbal frames of reference are congruent.

Based on the data presented in this chapter, we see that the Whorfian hypothesis is not supported. On the contrary, Maya speakers use different linguistic Frames of Reference in speaking, but in gesturing, they align them with a geocentric, often non-linguistically salient, frame of reference. Indeed, this frame of spatial reference can sometimes even be masked by different linguistic FoR.

Although these differences in direction giving may appear superficial, they have profound implications for spatial cognition and memorizing processes. When a speaker is relying on an egocentric FoR, a listener should understand and remember his/her gestural indications as if he or she was looking “through the speaker’s eyes” at every segment. So when you get at point *x*, a left hand indication means that you should make a left turn. On the other hand, when a listener tries to decode gestural indications from a speaker that relies on a geocentric FoR, he/she must be aware that the orientation of the gestures correspond to layout of the object in the real world. So, in decoding geocentric gestures, you are not required to see through the speaker’s eyes. On the contrary, you have to remember that a left hand indication, pointing towards the east, at point *x*, does not mean a left turn: it means that you should go towards the east. This is true, no matter where you are looking at (or where the speaker was looking at when he/she gave his/her direction giving).

These differences have other deep implications on cognitive reasoning, especially in the way people take perspectives (see for instance the work of Danziger, 1998, 2001). In geocentric direction giving, information should be understood, memorized and updated without considering the person’s point of view or the objects’ intrinsic orientation, but the layout of the objects according to cardinal directions.

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**METHODOLOGY, STATISTICS, AND
PSYCHOMETRICS**

An Examination of Acquiescent Response Styles in Cross-Cultural Research

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Response styles constitute a formidable challenge for cross-cultural research. In this article, three different response styles are discussed (acquiescence, extremity scoring, and social desirability). Acquiescence responding (*ARS*) is then integrated into a larger classical test theoretical framework, which allows for an examination of the various roles that *ARS* may play in cross-cultural research. A new meta-analytical method is proposed to examine the prevalence and nature of *ARS*. Preliminary evidence suggests that *ARS* has only a small, but systematic effect on survey responses. The meaning of *ARS* is explored through correlations with nation-level indicators. Implications for future research are discussed.

What is Style and What is Bias in Cross-Cultural Comparisons?

Response styles have long been identified as a major threat to survey research (e.g., Guilford, 1954). This problem may be aggravated in cross-cultural research since individuals of different cultural backgrounds may use answer-response scales in different ways (Smith, 2004). Therefore, the aim of the current manuscript is to investigate to what extent response styles are operating in a cross-cultural context and how they can be isolated. Three types of response styles are discussed in the next section (acquiescence, extremity scoring, and social desirability). Then, the literature on a specific and commonly discussed type of response style (acquiescence) is being reviewed. Finally, one possible approach to investigate direct effects of acquiescence across cultures is proposed and preliminary data are presented that investigate the prevalence and meaning of *ARS*.

Three Common Types of Response Styles

Three major types of response styles have been discussed in the literature. The first is acquiescent response style (*ARS*), which is the tendency to either agree or disagree independent of item content (Cheung & Rensvold, 2000). *ARS* usually leads to a shift of the mean of the item in an upward or downward direction. The second type is extreme response style (ERS), which is the tendency to use either (only) moderate or extreme categories of rating scales. Irrespective of item content, individuals either agree or disagree with an item content strongly or they tend to use only the middle categories (modesty style). The third response style often mentioned in the literature is social desirability responding (SDR; Crowne & Marlowe, 1960). This is a tendency to respond in a socially desirable way, which amounts to responding in a way that is expected to get approval by significant others of the respondent. Paulhus (1991) distinguished between impression management and self-deception. Impression management is a conscious strategy to appear or present oneself in a positive light, whereas self-deception is an unconscious tendency to see and portray oneself in a socially acceptable way. The notion of self-deception introduces an important new element in the conceptualization of response styles. These styles may reflect important personality features that cannot be simply dismissed as

measurement disturbances that should be eliminated (as seems to be the conventional wisdom, e.g. Guilford, 1954). It has been argued that social desirability is an aspect of Agreeableness (McCrae & Costa, 1983). Conceptually, the three styles are distinct, even though in particular *ARS* and *SDR* may seem to refer to related, if not identical constructs. However, *SDR* is by definition directly linked to the item content (Paulhus, 1984), whereas *ARS* is the tendency to use certain response categories independent of item content (Cheung & Rensvold, 2000). The three styles should also be assessed and analyzed independently. However, if there are only positively or negatively phrased items (all items are scaled in the same direction), *ERS* and *ARS* are confounded and cannot be separated (Baumgartner & Steenkamp, 2001; Chun, Campbell & Yoo, 1974).

Acquiescent Responding

Acquiescent Responding (*ARS*) has to be viewed as method bias that has a systematic impact on scores and can affect the nature and size of cross-cultural differences. Previous research has found that individuals' *ARS* was negatively associated with socioeconomic status, level of education, and acculturation status, and positively with age; furthermore, some studies found ethnic differences (Bachman & O'Malley, 1984; Carr & Krause, 1978; Greenleaf, 1992; Marin, Gamba, & Marin, 1992; Phillips & Clancy, 1970; Ross & Mirowsky, 1984; Winkler, Kanouse, & Ware, 1982; Yu & Murphy, 1993). These differences have been explained in different ways, countries scoring higher on *ARS* were looser (in terms of norms and restrictions), more collectivistic, more feminine, lower in power distance and lower in Gross Domestic Product (GDP), while for uncertainty avoidance both a positive and a negative association has been found (Boldt, 1976; Johnson, Kulesa, Cho, & Shavitt, 2005; Smith, 2004; Smith & Fischer 2007; Van Herk, Poortinga, & Verhallen, 2004). These findings suggest that there is systematic variability in *ARS* at both individual and culture level. Observed scores are likely to be systematically influenced by response tendencies reflecting both individual difference variables (*IARS*, individual response styles) as well as cultural processes (*CARS*, cultural response styles).

The aforementioned discussion also suggests that *ARS* (overall *ARS*, independent of the source of variation) is not uniform but varies with method factors. Studies by Greenleaf (1992) and Baumgartner and Steenkamp (2001) suggested that *ARS* might be method dependent. Ray (1983) argued that *ARS* increases with ambiguity of the scale. These findings imply that there may be interactions between response tendencies and particular method variables. Acquiescence may increase if the number of response options does not allow individuals to express themselves adequately (Hui & Triandis, 1985, 1989). Particular scales or items might be more ambiguous than others. Therefore, *ARS* is likely to interact with specific method variables. Also, *ARS* may vary with content-related variables and may be stronger when assessing more personal domains (Van Dijk, Datema, Piggen, Welten, & Van de Vijver, this volume).

Investigating *ARS*

The classical test approach implies that trait scores (or true underlying scores) should capture most variance in observed scores, but there are likely to be consistent influences of method variables, which include response tendencies. Since *ARS* as part of a method component is supposed to be systematic rather than random, these effects could be investigated. Such an endeavor should focus on a variety of different and preferably uncorrelated theoretical variables. An important issue is the separation of *ARS* and substantive meaning. Examining theoretically related variables (in the absence of valid external criteria as is often the case in survey research), it is often difficult to evaluate the relative contribution of substantive factors and response styles to observed responses (Baumgartner & Steenkamp, 2001). Thus, examining

theoretically unrelated variables would serve the purposes of the present study since they would avoid confounding of substantive information and response style effects.

Collecting new data to isolate these effects is time-intensive and requires substantial resources. An alternative and powerful tool could be to meta-analytically review and summarize existing research. The main effects of *ARS* could be identified through an investigation of the mean across a large number of content-independent items or scales that have positively and negatively phrased items (Baumgartner & Steenkamp, 2001). Using instrument-based meta-analyses (Van Hemert, Van de Vijver, Poortinga, & Georgas, 2002; Van Hemert, Van de Vijver, & Poortinga, 2002), indicators for a range of unrelated constructs across a number of cultural groups could be derived. The sample means are first converted to a common metric (i.e., means are standardized to have a range of 0-1, Fischer & Chalmers, 2008). The standardized means are then averaged per culture (using weighting formulas provided by Lipsey & Wilson, 2001). This will provide an overall indicator of *ARS* per country (called here meta-analytic *ARS* index or *MARS*). The aggregated means across areas and instruments at a cultural group level could then be analyzed for patterns indicating uniform and consistent response styles (using correlational techniques, cluster analysis, factor analysis, multi-dimensional scaling analysis, variance-decomposition approaches; only the correlational approach results are reported in this chapter). Assuming *MARS* is based on a range of theoretically uncorrelated constructs measured in independent samples it can be seen as a true estimator of *ARS* and will allow us to examine whether there are uniform and consistent effects that threaten validity of survey research. Such a meta-analytical analysis by necessity would be conducted at the nation level and give only an estimation of *CARS* (*cultural response styles*). The impact of *CARS* on observed scores is especially important for cross-cultural ecological nation-level research (Hofstede, 1980) and the analysis would indicate to what extent such analyses are influenced by *CARS*.

It would be possible to derive similar indicators at the individual level. Re-analyses of existing large datasets could be used to simultaneously find indicators for *IARS* (*individual response styles*). Therefore, two complementary analyses at the cultural level using meta-analysis and at the individual level using re-analyses of existing datasets can be used to estimate the extent of *ARS* at the two levels. This analysis would show to what extent *ARS* is systematic and stable at each level.

Second, meta-analysis could be used to investigate the influence on *CARS* of the type of scale being used, number of response options or ambiguity of items. Similar analyses of *IARS* could be conducted through re-analyses of existing data sets. Large cross-cultural data sets also enable the study of *IARS* and *CARS* in the same data set. Thus, Smith and Fischer (2008) investigated interactions between *IARS* and *CARS* in a large data set using organizational data from various cultures.

Table 1. Variables Influencing Response Styles

	Individual level	Nation level
Psychological variables	Personality	Norms and values
Sociological/economical context variables	Socio-economic status, education	Macro-economic (affluence) and political indicators

Finally, as stated before, we investigate to what extent *ARS* is stable at both levels. The current assumption in the literature is that *ARS* is a specific type of a systematic method component. As a consequence, it would be possible to examine the sources of variation underlying *ARS* at the individual and cultural level. Our literature review above indicates that both psychological and contextual variables might be associated with response tendencies. Education and income are contextual, non-psychological variables, whereas personality and

values are psychological variables (Table 1). Using the *IARS* and *CARS* (*MARS*) indicators described above, it would be possible to test relationships between response tendencies and contextual variables at the two levels empirically. The overall response style indicators can be correlated with cultural as well as economic, religious, education, population, mass communication and ecology indices at the nation-level. However, it is important to use contextual indicators for these analyses that are not based on rating scales since such an approach would confound the method (ratings of contextual variables) with the construct of interest (acquiescent responding when answering rating scales). In the next part we will demonstrate our meta-analytic approach by presenting some preliminary data on the main effect of *CARS* and explore some potential meanings of *CARS*.

Method

Variables recorded in meta-analysis

Separate meta-analyses for the following scales and instruments were conducted: Stait-Trait Anxiety Inventory (Spielberger, Gorsuch & Lushene, 1970), General Health Questionnaire (Goldberg, 1972), Achievement Goal inventories (Elliot & Church, 1997; Middleton & Midgley, 1997), Self-Esteem (Rosenberg, 1965, 1979), Organizational Commitment (various scales, Fischer & Mansell, in press), Organizational Justice (various scales, Fischer, 2008) and Transformational Leadership (Bass, 1985). These scales are used in a variety of disciplines (clinical, educational, health, organizational, social and personality psychology) and capture self-ratings (anxiety, general health, achievement goals, and self-esteem), self-ratings in relation to some referent (e.g., commitment to one's organization) and ratings of others and external entities (organizational justice, transformational leadership). The latter type of ratings have been shown to be less affected by common method variance (Crampton & Wagner, 1994), increasing the validity of our approach. Literature search to retrieve relevant studies were conducted in PsycINFO, Social Sciences Citation Index; other relevant electronic sources and reviews were also consulted. The data presented here are preliminary since coding is continuing (for non-English articles on GHQ, self-esteem, STAI, transformational leadership; and for articles published prior to 1990 on self-esteem and GHQ). The number of participants and countries for which data are available for each instrument and its subscales (including brief definitions of the scales) are reported in Table 2.

We recorded the mean or sum reported in each individual study. Since these instruments used different response scales (typically Likert format ranging from agree - disagree format to 100 point scales) and different numbers of items, we standardized each mean or sum, by dividing calculated means by the number of response options. Therefore, all indicators have a possible range from 0 to 1 (Fischer & Chalmers, 2008).

Other variables used for analyses

Indicators of acquiescence responding. A number of large-scale studies have reported indicators of response styles. First, Smith et al. (2002) reported the mean reliance of managers on a number of different sources of guidance across situations. Higher scores are thought to capture greater acquiescence (Smith, 2004). Mean value ratings across all 57 values in the Schwartz Value Survey (SVS; Schwartz, 1992) are available from Schwartz (2004) and Spini (2001). Finally, McCrae, Terracciano and 78 members of the Personality Profiles of Culture Project (2005) reported acquiescence scores based on observer ratings of personality dimensions across a large number of countries and targets.

Control variable: We used the quality index provided by McCrae et al. (2005), which is the mean of a number of quality-related indicators of a large personality study (number of missing information on response forms, number of individuals not discriminating between items, translation adequacy, etc.).

Ecological and economic indicators were derived from Georgas and Berry (1987) and Van Hemert et al. (2002b). Indicators included average annual growth rate of GDP between 1980 and 1987; GDP in 1987; population density in 1987; income inequality in 1999 (as measured by the Gini index); Purchasing Power Parity in 1997 and Human Development Index in 1987. These variables are indicators of socioeconomic and contextual variables at the nation-level (Table 1) and are not derived from rating scales.

Table 2. Descriptive Information on Available Measures

Instrument & Subscales	Definition	General Sample Characteristics	Participants & countries (available data)	
<i>STAI-Trait Anxiety</i>	Habitual or constant anxiety levels	General population and clinical control groups	26,402	28
<i>STAI-State Anxiety</i>	Transient or temporal anxiety levels	General population and clinical control groups	19,844	30
<i>GHQ</i>	General mental health	General population and clinical control groups	76,852	21
<i>Achievement motivation goals Performance approach goals</i>	Orientation to display or prove ability and outdoing others	Adolescents (primarily high school)	32,264	13
<i>Achievement motivation goals Mastery goals</i>	Orientation towards learning new things, improving ability or understanding, and mastering the material or task	Adolescents (primarily high school)	29,372	12
<i>Achievement motivation goals Performance avoidance goals</i>	Goals aimed at avoiding failure, protecting oneself from being embarrassed, and being judged by others as lacking ability and competence	Adolescents (primarily high school)	22,352	13
<i>Self-esteem</i>	General self-esteem	General population and student samples	40,086	24
<i>Organizational commitment Affective commitment</i>	Identification with and internalization of the goals and values of the organization	Working adults	105,335	49
<i>Organizational commitment Continuance commitment</i>	Calculation of costs and benefits associated with staying in the organization	Working adults	15,734	30
<i>Organizational commitment Normative commitment</i>	Feeling obliged to stay because of social pressures	Working adults	12,204	30
<i>Organizational Justice Distributive justice</i>	Evaluation of the rewards received	Working adults	30,528	29
<i>Organizational Justice Procedural justice</i>	Evaluation of the formal procedures used during organizational decision-making	Working adults	76,367	29
<i>Organizational Justice Interactional Justice</i>	Evaluation of the enactment of procedures by one's supervisor	Working adults	67,060	23
<i>Transformational Leadership (MLQ)</i>	Assessment of leadership behavior	Working adults	20,236	14
<i>Schwartz Value Survey (Schwartz, 2005)</i>	Mean rating across 55 human values	Students, Teachers	41,968	69
<i>Schwartz Value Survey (Spini, 2001)</i>	Mean rating across 55 human values	Students	3,787	21
<i>NEO-Acquiescence Other Rating (McCrae et al., 2005)</i>	Acquiescence rating of personality observer ratings	Students	12,156	51
<i>Sources of Guidance (Smith et al., 2002)</i>	Acquiescence rating across all sources of guidance for business leaders	Business leaders	7,091	47

We also used a range of political rights and democracy-related indicators (taken from Van Hemert et al., 2002b). These indicators were derived from work by Humana (1986, Human Rights index for rights and freedoms), Freedom House (n.d., index of political rights and civil liberties), Vanhanen (1997; index of democratization), Gupta, Jongman and Schmid (1994; observance of civil rights), Inglehart (1997, levels and stability of democracy). These indicators are all used to examine whether there is any systematic variation in response tendencies. All these control indicators are not assessed using rating scales and therefore can be used for our purposes, measuring socio-cultural and socio-political context variables at the nation-level (Table 1).

Finally, we used indicators for prevalence rates of various neuropsychiatric disorders as reported by Van Hemert et al. (2002b; derived from World Health Organization indicators). The disorders used were unipolar major depression, bipolar affective disorder, obsessive-compulsive disorders, panic disorders and psychosis. These variables are not based on ratings and capture psychological (and potentially biological) variability across cultural contexts.

Results

Prevalence of Acquiescence at Culture-Level

First, we correlated all indicators (including the previous indicators of acquiescent responding taken from the literature) to get an overall estimate of the shared variance. In line with other ecological analyses (e.g., Hofstede, 2001), we used Spearman rank-order correlation ($Rho = \rho$) since this coefficient is not susceptible to outliers (which can have a big influence, particular in smaller samples). The expected value for the null hypothesis to be true would be .00. The observed mean overall correlation at the culture level was .096. This mean correlation is significantly higher than zero: $t(152) = 3.82$, 95% Confidence Interval: $.046 < \rho < .146$. This correlation indicates a small effect size according to Cohen (1988). Richard, Bond, & Stokes-Zoota (2003) reported that 30% of published studies in social psychology in the last 100 years reported a correlation of .10 or less, which have been interpreted as meaningful and substantive effects. The acquiescence indicator by McCrae et al. (2005) was derived from mean responses to balanced sets of positively and negatively phrased personality items. This may be a relatively pure indicator of *ARS* (Baumgartner & Steenkamp, 2001). The average correlation with all the variables on record is .081, which is very similar to the overall mean correlation in this study. It can be concluded that *CARS* can be seen as a consistent country characteristic that has a small, though relatively consistent influence on scores.

We also investigated patterns of correlations between previously reported indicators of acquiescence and our meta-analytic indicators. It is important to consider whether single response style indicators are actually pure indicators of response styles or whether they also capture some substantive variance (Baumgartner & Steenkamp, 2001; McCrae & Costa, 1983). An examination of these correlations suggests that previous indicators of acquiescence might have substantive meaning. For example, the source of guidance mean reported by Smith et al. (2002) was significantly correlated with state anxiety ($\rho = .44$) and the correlation with normative commitment also approached significance ($\rho = .41$, $p = .06$). This suggests that managers rely more on all sources of guidance in contexts where transitory anxiety is relatively high and people feel higher levels of pressure from social groups. Considering all sources of guidance might therefore help to alleviate this pressure and anxiety.

Second, the correlation with *the Schwartz Value Survey* (Schwartz, 2005) mean ratings also suggests some substantive meaning of the mean value ratings. Average value ratings at the country-level were significantly correlated with higher state anxiety ($\rho = .42$); greater identification with one's organization ($\rho = .43$), greater normative pressure from social groups ($\rho = .70$) and performance approach goals were marginally higher ($\rho = .49$, $p = .09$). This suggests a motivational component of the mean value rating. Commitment (both affective and normative) is often seen as an indicator of motivation. Together with the association with

performance approach goals, this pattern suggests that higher overall value ratings are indicative of greater motivation overall (which might be higher in contexts where there is a need to reduce anxiety). Fontaine, Duriez, Luyten, Corveleyn, and Hutsebaut (2005) reported similar results at the individual level. Therefore, our analysis suggests that single acquiescence indicators of positively phrased questions relating to specific concepts or domains (leadership guidance sources, values) could well have substantive meaning. It is therefore imperative to derive acquiescence indicators across a range of constructs and domains.

Explaining Acquiescence at Country Level

Having established that *CARS* is relatively stable, we then proceeded to explore the meaning of *CARS*. We computed *MARS*, the meta-analytically combined 'true' estimate of *CARS* across all reported indicators in Table 2. Collapsing across all indicators was supposed to minimize or even eliminate the influence of the specific domain carried by each indicator and therefore present a relatively pure estimate of *CARS*. One score was calculated for each country separately. Since there were missing data for various countries and indicators, we computed the mean if there were at least three indicators available for each of the countries. We arrived at an acquiescent response style estimate for 41 countries. Using Spearman rank-order correlations to avoid undue effect of extreme scores, a number of significant correlations between *MARS* and country-level indicators emerged (all reported effects are significant at $p < .05$ at least). *MARS* (as indicator of *CARS*) was related to survey quality derived from McCrae et al. (2005) ($\rho = -.50$), GDP ($\rho = -.39$), Purchasing Power Parity ($\rho = -.49$) and the Human Development Index ($\rho = -.55$). Income inequality was positively associated with *MARS* ($\rho = .38$). Population density and average annual GDP growth were not significantly correlated with *MARS* ($\rho < .30$).

The democracy indicators showed consistent findings across indicators. *MARS* was higher if citizens had less civil rights ($\rho = -.43$), civil liberties ($\rho = -.52$), and political rights ($\rho = -.52$) and *MARS* was lower if democratic institutions were more stable ($\rho = -.42$) and the level of democratization was higher (Vanhanen index: $\rho = -.63$; Humana index: $\rho = -.43$; level of democracy in 1990 and 1995: $\rho = -.46$; $\rho = -.53$, respectively).

Finally, a number of significant correlations with neuropsychiatric disorder prevalence rates emerged. *MARS* was associated with higher unipolar major depression rates ($\rho = .33$), bipolar affective disorder ($\rho = .39$), obsessive-compulsive disorder ($\rho = .40$) and panic disorder ($\rho = .42$). The correlation with psychosis prevalence rates was marginally significant ($\rho = .27$).

Discussion

These preliminary results suggest that the main effect of *CARS* is relatively small. The indicators used in this study came from a number of disciplines across a large number of independent samples and populations. The relatively low shared variance compared to some other studies that used secondary data analysis (e.g., Smith, 2004) is noteworthy. On one hand, it may suggest that means derived from published articles are less dependable (due to coding or typing errors, missing information in reported studies, etc.) and therefore our meta-analytic indicators may underestimate the prevalence of *ARS*. However, the number of significant and consistent correlations with other nation-level variables reported above suggests that these indicators have validity (see also Fischer & Chalmers, 2008, Fischer & Mansell, in press, Fischer & Smith, 2003; Dekker & Fischer, 2008; for the validity of meta-analytic approaches with means). *CARS* have a small, though consistent influence on the size of cross-cultural differences. Moreover, the patterning of our correlations suggests that differences between less and more affluent and less or more democratic countries are somewhat amplified by *CARS*.

Some of the previous *ARS* indicators have substantive meaning that increases correlations with other nation-level indicators. To derive independent indicators of response styles, data across a number of conceptually independent constructs would be needed. The current results suggest for example that both mean ratings across sources of guidance for

leadership decisions (Smith et al., 2002) and human values (Schwartz, 1994) might have some substantive meaning (in addition to capturing some acquiescence). Re-analyses of existing datasets focusing on specific topics (such societal or work-related issues; e.g., European Social Survey, Eurobarometer, organizational climate-type surveys) may overestimate the prevalence of *CARS* (or *IARS*).

Our present analysis just investigated the main effect of *CARS*. It is important that the interactions with method factors are also explored. This could be done by examining interactions with specific method factors (such as type of response scale or response labels used, number of response options, and clarity of items). This might even suggest a more substantial effect of *ARS* overall.

Exploring the Meaning of ARS at Culture Level

Our analysis indicates that the impact of *CARS*, although having only a relatively small main effect on survey responses, is rather systematic than random. This means that any shifts in means at the nation level have substantive meaning rather than being random error or bias. Table 1 outlined some potential correlates of *ARS* at individual and culture level. Our analysis included some of these indicators and they show an interesting and revealing picture of potential underlying processes of *CARS*. For example, increased survey means are associated with lower economic development, fewer experienced civil and political rights and lower levels of democracy. Similar correlations in magnitude and direction were also observed with the SVS, sources of guidance and acquiescence indicators derived from McCrae's et al. (2005) personality research (available from first author). Answering surveys has to be understood within the particular socio-cultural and socio-political context. At the nation level higher means to survey responses could mean that the socioeconomic conditions are lower and that democratic institutions are not very strong. Higher responses could be seen as a form of compliance. We could speculate that survey responses are systematic indicators of culturally appropriate expressiveness that are also reflected in the larger socio-political climate of the societies.

Higher mean levels to surveys are also associated with greater rates of displayed (and diagnosed) rates of psychiatric disorders. This is an intriguing finding which is stable across the various acquiescence indicators used here. Unipolar major depression, bipolar affective, obsessive-compulsive and panic order disorder rates are all positively and significantly correlated with the four different acquiescence indicators (2 correlations are marginally significant and 3 correlations out of 16 are not significant, but in the same direction, overall mean correlation = .31). A visual inspection of the correlations also suggests quite substantial levels of heteroscedasticity. Levels of *ARS* are around the midpoint of the scale for countries with lowest levels of prevalence rates. Increasing prevalence rates are then associated with higher *ARS* means but also greater variability of *ARS*. In nations with low levels of neuropsychiatric disorders, *ARS* is around the mean of the response scale (around .5 since all means were standardized to range from 0 to 1). With increasing levels of psychiatric disorders, the *ARS* mean increases, as does the spread of means, with some countries with high psychiatric disorder rates having very low *ARS* and others with similarly high levels of disorder rates having very high *ARS* rates. Two potential explanations could be put forward at this stage. First, these findings may reflect the economic development levels in such contexts (e.g., the extent to which countries have sufficient wealth to afford reliable administration systems and also allowing individuals access to health care so that they can be reliably diagnosed). This is a partial explanation since controlling for Human Development in 1987 leads to a reduction of observed correlations. The mean correlation drops from .31 to .21. Nevertheless, some of the correlations still remain significant (e.g., correlations between value-based acquiescence and unipolar/bipolar depression are least affected by partialling human development). Some correlations with *ARS* even increase, for example, the correlation between our meta-analytic

acquiescence index and rates of psychotic disorders increases and becomes highly significant, $r_{\text{partial}} = .99, p < .001$ (based on 31 countries). These findings therefore call into question the validity of these disorder rates. Since they are based on clinical examinations and judgments of experts within that particular cultural context, they could be an indicator of cultural processes (e.g., is it socially acceptable to diagnose individuals with disorders that may be seen as socially desirable or undesirable in a given cultural context?). It may point towards some culturally specific ways how partly biologically determined disorders are socially displayed and accepted. Our findings are preliminary and based on only one indicator of prevalence rates, however, the consistency of these results across a number of different variables, populations and methods point out that this area is awaiting much needed further exploration.

It is clear from these results, that survey responses from individuals coming from different cultural backgrounds may not be directly comparable, due to systematic variations in the environmental context of the individual. Researchers and practitioners need to consider this in their use of surveys across cultural groups. Even a small mean shift may have considerable implications for any decisions when the answers are evaluated without consideration of the particular context (e.g., when making decisions on policy issues that involves individuals from different cultural groups, decisions in court). However, it should also be noted that the current results only apply to results at the group level (culture level). No information about effects at the individual level can be made based on our analysis.

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Acquiescence and Extremity in Cross-National Surveys: Domain Dependence and Country-Level Correlates

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Likert-type rating scales are susceptible to response styles, such as acquiescence and extremity scoring. Although it is widely acknowledged that response styles can seriously invalidate findings of cross-cultural research, their theoretical underpinnings are hardly explored. The current study analyzed domain-dependency and country differences in acquiescence and extremity scoring in a large dataset of the International Social Survey Program. The hypothesis that response styles are more likely in domains with a high personal relevance compared to domains with a low personal relevance was tentatively confirmed. Correlations with various cultural, psychological, and economic variables were investigated. We found that acquiescence was negatively related to affluence, individualism, and well-being, while extremity was only negatively related to well-being. Positive associations were found between uncertainty avoidance and both acquiescence and extremity.

Responses to survey questions, particularly Likert-type rating scales, do not always reflect valid information about the targeted attitudes or behaviors. Responses may be influenced by characteristic ways respondents give answers to questions. Systematic differences in the data, as the result of this characteristic patterning of answers, are known as response styles. In the current study, two response styles were examined, namely acquiescence response style (ARS) and extremity response style (ERS) using data from the International Social Survey Programme (ISSP, www.issp.org). Acquiescent responding, also called agreement bias, refers to a tendency to agree with questions, regardless of item content (e.g., Martin, 1964). Extremity scoring is the tendency to choose the endpoints of a rating scale, independent of item content (e.g., Hamilton, 1968).

Cross-cultural differences in ARS and ERS have been reported both in cross-national studies and in single-country comparisons of different ethnic groups (e.g., Baumgartner & Steenkamp, 2001; Grimm & Church, 1999; Van Herk, Poortinga, & Verhallen, 2004; Watkins & Cheung, 1995). However, the nature of the cross-cultural differences is not well understood (Fischer, Fontaine, Van de Vijver, & Van Hemert, this volume). Response styles can be dependent on characteristics of the culture, of the participants, of the instrument (e.g., the question format, wording and context) or their interaction (e.g., Hui & Triandis, 1989; Johnson & Van de Vijver, 2003; Schwarz, 1999). The current study focuses on characteristics of the culture and the instrument. An example of a country variable associated with response styles is conformity (e.g., Bond & Smith, 1996). Individuals and countries with higher scores on conformity are also more likely to display response styles in their responses to survey questions. In this view, response styles should be incorporated in models of cross-cultural communication differences. Smith (2004) endorses such a view when he speaks of acquiescence as “an

expression of the differing styles of communication that characterize specific national cultures” (p. 51).

The ISSP, which is a large multicountry survey that is conducted annually, has covered various topics in the past, thereby enabling us to investigate ARS and ERS in different content domains. Smith (2004) investigated the domain dependence of response styles and found that country estimates of acquiescence from different studies became more consistent when the content of the (Likert-type) items was more personally relevant. We hypothesize that country differences in ARS and ERS indices are larger in more personally relevant domains compared to less personally relevant domains. Furthermore, we expect that due to both response styles, within-country variance are smaller in the surveys involving more personally relevant domains.

We used aggregated country means of ARS and ERS indices on the different ISSP surveys as proxy for country level acquiescence and extremity, respectively. Results from studies with countries as the unit of analysis often differ from results with individuals as unit of analysis (Triandis, 2001). Thus, to investigate the influence of country characteristics, we addressed the patterning of correlates with aggregated ARS and ERS scores at the country level. The ISSP data set includes many countries which allows for a meaningful study of country-level correlates of response styles. Studies that correlate response style indices at country level with measures of cultural components can provide useful information for a theoretical framework necessary for an explanation and understanding of response styles. With a few recent exceptions (e.g., Baumgartner & Steenkamp, 2001; Van Herk et al., 2004), most cross-cultural comparisons of response styles are confined to two or three cultural groups, which limits generalizability. A few recent studies have studied the influence of cultural dimension with secondary analyses of large datasets representing large numbers of countries (e.g., De Jong, Steenkamp, Fox, & Baumgartner, 2008; Fischer et al., this volume; Johnson, Kulesa, Cho, & Shavitt, 2005; Mylonas, Pavlopoulos, & Georgas, 2008; Smith, 2004; Van Hemert, Van de Vijver, Poortinga, & Georgas, 2002). However, the results obtained thus far are not entirely consistent.

Some studies have addressed the relation between response styles and the Hofstede dimensions (Hofstede, 1980, 2001). For the present study, specific expectations were formulated at first for the Hofstede dimensions. Individualism is characterized by self-expression, independence, and a strong emphasis on individual opinions. Collectivism, on the other hand, is associated with modesty and interpersonal harmony. It can thus be expected that extreme responding is positively associated with individualism (e.g., De Jong et al., 2008; Smith & Fischer, 2008) and acquiescence is negatively related with individualism (e.g., Harzing, 2006; Johnson et al., 2005). Masculine cultures stress assertiveness and decisive behavior, which is likely to result in selecting the strongest options on a rating scale. The masculinity dimension is thus expected to correlate positively with ERS (e.g., De Jong et al., 2008; Johnson et al., 2005). Conversely, feminine cultures emphasize gentleness, modesty, and social harmony. These characteristics can be expected to be associated with more agreement; therefore, we expect a negative relation of ARS with masculinity. Acquiescence can be expected to correlate positively with power distance, because this dimension describes cultures high in power distance as more focused on authority and conformity (e.g., Harzing, 2006; Smith & Fischer, 2008). No specific relationship is expected between ERS and power distance, because findings thus far have been inconsistent (e.g., De Jong et al., 2008; Johnson et al., 2005; Smith & Fischer, 2008). Finally, cultures strong on uncertainty avoidance have many rules and intolerance for ambiguity. Choosing an endpoint of a rating scale can be seen as an expression of a clear, unambiguous opinion, so a positive relation is expected for ERS and uncertainty avoidance (e.g., De Jong et al., 2008). Here, no specific relation is expected for acquiescence.

In addition to the Hofstede dimensions, various other country-level variables regarding economic variables, well-being, values, and personality were examined to gain further insight in

the nature of cross-cultural differences in acquiescence and extremity. Johnson et al. (2005) reported a negative relation between GNP and acquiescence, but not for ERS. GNP is one of the most widely used indicators for affluence. These results give rise to an additional hypothesis that ARS is negatively related to affluence. Other country variables were chosen, because most of these have been used in previous studies of country-level psychological constructs which enables a comparison of results (Georgas, Van de Vijver, & Berry, 2004; Van Hemert et al., 2002).

Method

Data Source

ISSP data were included if items of a Likert-type format on an agreement scale were used, with response categories ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). This inclusion criterion led to the selection of eight questionnaires, covering five content domains: "Social Inequality" (ISSP1987, ISSP1992), "Religion" (ISSP1991, ISSP1998), "Family" (ISSP1988, ISSP1994), "National Identity" (ISSP1995), and "Role of Government" (ISSP1996) (the years following the acronym indicate the year in which the study was conducted). *Government* dealt with issues regarding the role of the government and its influence (e.g., "The average citizen has considerable influence on politics"). *Religion* involved items related to religious matters (e.g., "Looking around the world, religions bring more conflict than peace"). *National Identity* involved items about national pride and opinions about immigration (e.g., "I would rather be a citizen of (R's country) than of any other country in the world"). *Social inequality* involved questions about the (dis)approval of inequality in society (e.g., "Large differences in income are necessary for (R's country) prosperity"). Finally, *Family* related to questions about the arrangement of the household (e.g., "All in all, family life suffers when the woman has a full-time job"). The number of countries represented in these data ranged from 9 (ISSP88) to 31 (ISSP98), with European countries constituting the largest number. The analysis of domain dependence is based on a subset of 16 countries with values for all five different domains: Australia, Bulgaria, Canada, Czech Republic, East-Germany, Hungary, Italy, New Zealand, Norway, Poland, Russia, Slovenia, Sweden, United Kingdom, USA, and West-Germany. Sixteen countries was the largest possible number to maintain equal group sizes between the five domains.

Items in the ISSP are designed to adequately cover domains but they are not designed to constitute factorially pure scales with high internal consistencies. The possibly poor psychometric properties are usually no problem for response style research. It is indeed common in such research to use items about heterogeneous topics, because ARS and ERS are often assumed to be independent of item content. Given our interest in different kinds of domains, we conducted psychometric analyses. For all eight questionnaires, Cronbach's α coefficients were computed per country; most values were well above .60. Data from the few countries with values below .40 were removed. The unifactorial exploratory factor analysis yielded factor scores that explained between 22.53% and 27.63%.

Response style indices. There are numerous ways in which an acquiescence index can be computed (cf., Johnson et al., 2005; Marín, Gamba, & Marín, 1992; Narayan & Krosnick, 1996; Smith, 2004; Watson, 1992). Van Herk et al. (2004) used an index for acquiescence based on bipolar scales. We computed proportions of acquiescent or non-acquiescent responses to positively and negatively formulated items separately, and their mean was taken as the acquiescence index. This index has a range from -1.00 to 1.00, and the corresponding formula reads as follows:

$$ARS_{weighted} = \{ [(NP_{pos} - NP_{neg}) \div NP_{tot}] + [(NN_{pos} - NN_{neg}) \div NN_{tot}] \} \div 2, \quad (1)$$

where NP and NN represent positively and negatively formulated items respectively, the subscript pos represents the count of positive responses (score 1 and 2), the subscript neg the count of negative responses (score 4 and 5), and the subscript tot stands for the total number of items.

A similar procedure was followed to calculate a weighted index for extremity responding:

$$ERS_{weighted} = [(NP_{ext} \div NP_{tot}) + (NN_{ext} \div NN_{tot})] \div 2, \quad (2)$$

where *NP* and *NN* represent positively and negatively formulated items respectively. The subscript *ext* represents the count of extreme responses (score 1 and 5), and the subscript *tot* stands for the total number of items.

The weighted index of extreme responding was based on the calculation by Bachman and O'Malley (1984). The index ranges from .00 to 1.00, with values close to 1.00 denoting a high incidence of extreme responding. For both ARS and ERS individual scores were computed. Most of the analyses reported below involve the means and standard deviations of these indices at country level. The latter is an index for within-country variation of response styles.

Country-Level Variables. Ecosocial, economic, and psychological variables were taken from Van Hemert et al. (2002), unless described otherwise. Countries with missing values were left out of the analyses using pairwise deletion. As a consequence, reported correlations can be based on different sample sizes (ranging from 4 to 27 countries). *Ecosocial factors* came from a study by Georgas and Berry (1995) who factor analyzed several indicators to obtain five factors: *Economy factor* (e.g., per capita measures of gross national product), *Education factor* (e.g., total adult illiteracy and pupil-teacher ratio in the first level), *Population factor* (e.g., life expectancy at birth and infant mortality and population increase), *Ecology factor* (e.g., highest and lowest monthly temperatures), and (*Mass-Communication factor* (e.g., per capita number of televisions). Finally, a factor solution for all five ecosocial factors was used as an indicator for *affluence* (explaining 69.7% of variance).

Economic variables included were the GINI coefficient (which measures income inequality; a higher value on this index denotes more inequality; World Bank, 1999), Purchasing Power Parity (PPP; this index indicates the price level of a fixed basket of consumer goods and services in US dollars; World Bank, 1999) and the Human Development Index (HDI; this index measures development by combining life expectancy, adult literacy rate, and gross domestic product per capita indices in relation to other countries; United Nations, 1996).

Different *psychological variables* were used. Data on *Individualism*, *Masculinity*, *Power Distance*, and *Uncertainty Avoidance* were taken from Hofstede (1980, 2001). Hofstede formulated four dimensions of values. Individualism refers to a society where people are independent and expected to look after him or herself. The opposite, collectivism describes societies as interdependent and in which people are integrated in strong, cohesive groups. The masculinity-femininity dimension refers to the degree a society is governed by masculine values (assertive and competitive) versus feminine values (modest and caring). Power distance reflects the degree of inequality within a society and to what extent this inequality is accepted by less powerful members. Uncertainty avoidance deals with tolerance for uncertainty and ambiguity. This dimension describes societies as highly regulated with strict laws and security measures (uncertainty avoidant) versus tolerant and few rules (uncertainty acceptant).

For *subjective well-being*, both the indices from Diener and colleagues (Diener, Diener, & Diener, 1995; Diener & Diener, 1995), and Inglehart (1997) were used. The data from Diener were based on scores from several surveys. Inglehart's measure of subjective well-being was derived from the World Values Survey (Inglehart, 1993, 1997). Subjective well-being refers to how people evaluate their lives. The evaluations are in the form of life satisfaction and positive moods. Both indices are country means of individual scores.

Schwartz (1994) formulated seven *value dimensions*. Georgas et al. (2004) factor analyzed the country means of these seven value dimensions. Two bipolar factors emerged, labeled autonomy and hierarchy. The first factor describes a value distinction between an emphasis on conservatism versus an emphasis on intellectual and effective autonomy. The second factor refers to harmony versus mastery and hierarchy.

Eysenck Personality Questionnaire. Country means on the four scales of the Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975), corrected for scale length, were used as personality indices. The four scales are Psychoticism (EPQ-P), Extraversion (EPQ-E), Neuroticism (EPQ-N), and Social Desirability (EPQ-L). These data are based solely on the 1975 version of the EPQ and collected from 153 different studies, as described in more detail in Van Hemert et al. (2002).

Results

Analysis of Domain Specificity

We first established the level of personal involvement of the domains by administering a questionnaire to 41 Dutch respondents. The questionnaire consisted of a representative selection of items from four of the domains, with a total of 40 items. The ISSP96 (government) could not be included because this survey was not administered in the Netherlands. Each item was rated for personal relevance on a seven-point Likert scale (with a range from totally not personally relevant to totally personally relevant). A one-way repeated measures ANOVA was conducted to compare scores on the four domains. There was a significant effect for domain ($F_{3, 38} = 15.47, p < .001$). Post-hoc analyses (paired t tests with Bonferroni correction) revealed that the mean scores of both the social inequality ($Mn = 4.24$) and family ($Mn = 4.21$) domains were significantly larger than religion ($Mn = 3.57$) and national identity ($Mn = 3.51$)—all $p < .05$. This result implies that both the social inequality and the family domains are perceived as personally more relevant compared to the other two domains.

In the ISSP data set, we expected to find larger country differences and smaller within-country variation in more personally relevant domains (i.e., family and social inequality). For country-level means and standard deviations for both ARS and ERS a multivariate analysis of variance model was applied. The four dependent variables were the mean and standard deviation of aggregated ARS country scores and the mean and standard deviation aggregated ERS country scores, while domain was the independent variable. The multivariate main effect of domain was significant ($F_{16, 221} = 10.71, p < .001$). Both the means and standard deviations of acquiescence differed significantly across domains ($F_{4, 75} = 4.74, p < .01$, and $F_{4, 75} = 49.01, p < .001$, respectively). The mean scores for extremity also differed significantly across domains ($F_{4, 75} = 2.77, p < .05$), but the standard deviation scores failed to show a significant difference, ($F_{4, 75} = 0.94, ns$). The partial eta squared value of the aggregated standard deviation scores for acquiescence was .72, which is a very large value. Partial η^2 for acquiescence mean scores was .19, for extremity mean and standard deviation scores, partial η^2 values were .13 and .05 respectively.

Results for post-hoc Tukey (HSD) tests are summarized in Table 1. Cell values represent the means of the respective aggregated 16-country scores. The results indicate that across all countries, the social inequality and national identity domains showed the highest acquiescence scores, and the government domain the lowest. For the aggregated *SD* scores, the family domain had the lowest value. It can be concluded that acquiescent responding is more homogeneous within countries when questions are more personally relevant. A similar pattern of significant differences was not found for ERS. No significant differences between the domains were found for either mean or *SD* scores on extreme responding.

The domain specificity of the between-country differences was further analyzed using partial η^2 values in the multivariate analysis of variance described above; partial η^2 values are given in Table 2. With the exception of the low value of the social inequality domain of .06, the results are in line with our expectation for both response styles. These findings support our hypothesis about the domain-dependence of response styles.

Table 1. Means for Aggregated Within-Country Values of Mean (*Mn*) and Standard Deviation (*SD*) for Five Domains

Style	Dependent Variable	Social Inequality	Family	Religion	National Identity	Government
Acquiescence	<i>Mn</i>	.20 ^a	.15	.13	.19 ^a	.07 ^b
	<i>SD</i>	.32 ^a	.24 ^b	.26 ^c	.28 ^c	.30 ^a
Extremity	<i>Mn</i>	.26	.30	.31	.25	.23
	<i>SD</i>	.21	.21	.22	.22	.21

Note. Significant differences (Tukey's test for post-hoc comparisons) are denoted by different superscript indices within each row.

Table 2. Effect Size Measures: Proportion of Variance in Response Style Accounted for Across the 16 Countries

Topic	Year	ARS	ERS	<i>Mean</i>
Social Inequality	1992	.06	.20	.13
Family	1994	.23	.17	.20
Religion	1998	.12	.03	.08
National Identity	1995	.15	.08	.12
Government	1996	.04	.08	.06
<i>Mn</i>		.12	.11	.12

Note. Cohen's cutoff values of effect sizes: .01 (small), .06 (moderate), .14 (large). ARS = Acquiescent response Style. ERS = Extreme Response style.

Country-Level Correlates of ARS and ERS

We calculated correlations between country mean ARS and the ecosocial, economic, and psychological variables. The same was done for country mean ERS. This resulted in a series of correlations, one for each questionnaire. The strength of the correlations mentioned in the two sections below is based on the median values of the eight correlations pertaining to the respective questionnaires. We calculated median values, presented in Table 3, instead of means, because the median is more robust in the presence of outliers.

Acquiescence. Among the ecosocial factors a consistent, negative relationship was found between acquiescence and the economy, education, and communication factors. These results indicate that higher economic development, educational level, and mass communication in a country comes with less acquiescent responding. A positive, moderate relationship was found with the population factor. This indicated that more populated countries show more acquiescence. The negative relation between acquiescence and the affluence factor indicates that more affluent countries show less acquiescence. For HDI, PPP, and to a lesser extent GINI, also clear negative relations with acquiescence were found. In all, we clearly found that higher economic standards of a country are associated with a less acquiescent response style.

Consistent with our hypothesis, a clear negative relationship was found for the individualism measure. Power distance showed a fairly consistent pattern of positive correlations, but only showed a modest median value. Uncertainty avoidance was found to be positively related with acquiescence whereas the Diener and Inglehart subjective well-being variables were both negatively related with acquiescence. Both Autonomy and Hierarchy (Schwartz Value Survey) showed a consistent small negative relationship with acquiescence. There was a tendency for countries with high scores on autonomy and hierarchy to score lower on acquiescence.

Table 3. Median Correlations (Pearson) between Response Style Scores and Country-Level Variables

Country Variable		ARS	ERS
Ecosocial Factors	Economy	-.47	-.05
	Education	-.40	-.16
	Population	.31	-.15
	Ecology	.26	.20
	Communication	-.47	-.06
	Affluence	-.48	-.00
Economic Variables	HDI	-.52	-.21
	PPP	-.50	-.29
	GINI	-.20	-.37
Hofstede's Measures	Individualism	-.55	-.29
	Masculinity	.17	.25
	Power Distance	.25	.06
	Uncertainty Avoidance	.37	.64
Subjective Well-being	Diener	-.46	-.55
	Inglehart	-.46	-.53
Schwartz's Values	Autonomy	-.31	-.15
	Hierarchy	-.41	-.13
Eysenk Personality Questionnaire	EPQ-P	.24	.04
	EPQ-E	-.29	-.32
	EPQ-N	.18	.07
	EPQ-L	.35	.53

ARS = Acquiescent response Style. ERS = Extreme Response style. HDI = Human Development Index. PPP = Power Purchasing Parity. GINI: a measure of income inequality. EPQ: Eysenck Personality Scale which has the following subscales: P = Psychoticism, E = Extroversion, N = Neuroticism, and L = Lie Scale (social desirability).

Extremity. For the ecosocial factors including the affluence factor no relation was found (all median values $|r| \leq .20$). These findings indicate that unlike acquiescence, extreme responding is not dependent on any ecosocial factor.

As hypothesized, a clear, positive relation was found for uncertainty avoidance. This finding implies that extreme responding is higher in countries that have a low tolerance for uncertainty and ambiguity, an expected outcome. A fairly consistent patterning of positive correlations between masculinity and ERS is in support with our hypothesis, but the median value remained modest at the most.

Finally, extreme responding seems to be low when country scores on subjective well-being are high. When country scores are high on EPQ-E, extreme response style seems to decrease. EPQ-L was also positively correlated with extremity (ERS) scores at the country level, so extremity and social desirability seem to be positively related.

Discussion

The first topic we addressed in this study was domain dependency. We expected country differences in ARS and ERS indices to be larger in more personal and sensitive domains. This hypothesis was tentatively confirmed. The results show that country differences in response styles tended to be larger in more personally relevant domains (i.e., family and social inequality), while within country variation is smaller compared to other domains.

Additionally, we looked at the patterns of correlations between country level measures of ARS, ERS and several ecosocial, economic and psychological indices. The main finding is the observed negative association of acquiescence with affluence, while no such association

was found for extremity. Moreover, we found that both ARS and ERS are negatively related to well-being. ARS was found to be negatively related to individualism, which is in line with previous reports and our hypothesis. It should be noted that we observed a negative correlation between individualism and ERS, but correlations were quite low. Nonetheless, the patterning was fairly consistent. However, Johnson et al. (2005) did not find any relation between extremity and individualism. The inconsistencies in findings point to the need for further studies. In line with our hypothesis, we found a positive relation between ERS and uncertainty avoidance. This supports our argument that intolerance for ambiguity is related to a preference for using the endpoints of a rating scale. However, we observed an apparent positive relationship between ARS and uncertainty avoidance as well. Previous studies did not find any relation (Smith, 2004) or found a negative relation (Johnson et al., 2005). Although we did not expect this result, a possible rationale for our positive relation could be that countries that show high scores on uncertainty avoidance tend to rely more on external control and procedures, which could be associated with more acquiescence and conformity. Our hypotheses about the associations between masculinity and ERS were partially supported. The hypothesized relation between femininity and ARS was not supported at all. In sum, these relations remain largely inconclusive. The same holds for the assumed positive relationship between ARS and power distance, which was only weakly supported with a fairly consistent patterning but modest median value.

Our study also provided evidence that instrument-related variables can be important antecedents of response styles. Domains with more personal relevance tend to show more susceptibility to response styles. Particularly in these domains, acquiescence and extreme responding can seriously affect cross-cultural questionnaire data. We agree with Smith (2004) who argued that ARS and ERS are personally relevant biases. Our findings also suggest that the acquiescence and extremity scoring are not nuisance variables that should be avoided and eliminated, but more likely they represent communication styles of individuals and cultures. If, as argued here, the expression of these response styles are influenced both by individual and cultural factors, it would therefore be interesting to look at specific interactions between personally relevant topics and cultural dimensions. Our data did not permit us to investigate such interaction effects, but it seems that tendencies to answer in specific ways increase as a result of the interaction between cultural dimensions such as individualism, well-being, power distance, masculinity, and uncertainty avoidance, and the degree of personal relevance of the items.

Despite the wealth of data that the ISSP questionnaires offer, there are some drawbacks which need to be considered as well. First, the ISSP questionnaires were not developed as unifactorial psychometric scales. Construct equivalence was therefore not studied here. Reliabilities (Cronbach's α) of the questionnaires were generally quite satisfactory in the present study; yet, the factor analyses revealed relatively low eigenvalues of the first factor. However, although the domains used in this study are certainly not based on approved statistical grounds, they are nevertheless informative, meaning that the employed survey items are strongly related to one another. A stricter test of our hypotheses would have required stronger first factors.

Second, it is important to realize that the measures of acquiescence and extremity were not based on direct measures of these concepts, but rather constructed post hoc from data that were primarily designed for other purposes. It should be acknowledged that this way of computing response styles indices leads to indirect and presumably suboptimal measures.

Much still needs to be investigated about the nature and the impact of both extremity and acquiescence. Acquiescence and extremity clearly do exist and exhibit culture-related properties. However, our understanding of the nature of cross-cultural differences in these response styles is still largely incomplete. Many new studies will have to be conducted to build up a coherent set of knowledge about the relation between response styles and cultural factors.

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Reducing Bias in Cross-Cultural Factor Analysis through a Statistical Technique for Metric Adjustment: Factor Solutions for Quintets and Quartets of Countries

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Differential item functioning or item bias is a usual threat in psychological research and many experts in the field such as Kline (1993), Nunnally and Bernstein (1994), and others have suggested various methods for its detection and removal. Item bias *in terms of culture* has been addressed by Poortinga, Van de Vijver, Leung, Muthén, and others, with most of the proposed methods attempting to minimize variance explained by culture itself by detecting and deleting culturally-biased items from the analysis. This is done through the detection of inequivalent –in terms of factor structure– items and their elimination before comparing for factor equivalence using “culture-free” correlation matrices. The currently proposed alternative statistical technique is to estimate indices of country eccentricity through individual differences Euclidean distance scaling models for the respective weirdness index to be computed and then proceed with variance and raw-scores adjustment, accounting for each item’s variance caused in terms of culture only. Analyzing the before-adjustment and the after-adjustment correlation matrices through covariance structure analysis and Procrustean rotations, we might be able to evaluate the profits from the adjustment itself. The illustration data for this method were 20 measures from six countries (N=1,655) as presented in the Georgas et al. (2006) 30-nation study on family issues. Following the initial analysis of all six countries, all quintet and quartet combinations of countries were examined and evaluated for the before and after adjustment outcomes. For all 22 combinations, factor loadings after metric adjustment were slightly higher; also, for a large number of country sets, items not included in the factor structure before the adjustment were now entering it. Factor identities were not affected to a large extent, but the factor identities were somewhat altered, revealing interesting facets within each of the broader areas defined by the initial –before the raw score adjustment– factors.

Many types of bias such as method bias, content or construct bias, and item bias have been described in the methodology and psychometrics literature in respect to the extraneous variables causing them and in terms of detecting them (e.g., Anastasi, 1990; Christensen, 1988). Item bias or Differential Item Functioning (DIF) has been given wide attention, as in most cases it is the item parameters that differ across the subgroups in a sample (Nunnally & Bernstein, 1994). Methods and statistical techniques have also been proposed to neutralize or avoid such effects which silently and seriously threaten internal validity (Christensen, 1988; Kline, 1993). For Kline (1993), evidence of test bias can be found through analysis of variance, internal consistency estimates, standard item analyses and Item Response Theory models, and also through exploratory factor analysis, with comparable solutions for each of the groups under consideration. Van de Vijver and Leung (1997) have focused on these sources of bias, seeking their detection and their possible avoidance in favor of “equivalence”, a notion with large implications especially under the cross-cultural research scope.

One major cause of bias in cross-cultural research is culture itself. Poortinga (1989) has discussed several ways of dealing with the artefacts caused by “bias in terms of culture”. Their elimination from cross-cultural comparisons has also been attempted through various ways proposed by Poortinga and other theorists. In a satisfactory cross-cultural study there is no variance left to be explained in terms of culture (Poortinga & Van de Vijver, 1987) and cultural variance should be reduced to zero to derive comparable measures and cross-culturally meaningful structures. Thus, inequivalence in cross-cultural studies can be mainly attributed to variance in terms of culture, which has to be reduced to null for the factor structures to be

meaningful. Following these initial theses, and with respect to any quantification, differences in scores between cultural groups can reflect valid differences in the construct measured or they can result—at least partially—from measurement artefacts or bias.

It has been supported that removal of item bias does not necessarily lead to scalar equivalence and that bias in general, cannot be merely reduced to item bias, and that a biased item can be treated as a disturbance at the item level that has to be removed (Van de Vijver & Leung, 1997). However, removal of items can easily affect the validity levels of a scale (i.e., if too many items are removed, even content validity can be threatened). In order to circumvent such a problem, a number of statistical methods have focused on bias detection and in some cases on bias elimination in order to achieve invariant scales across cultures. Psychometric-statistical methods may be used, e.g., merging the confounding variables in the design of the study (Poortinga & Van de Vijver, 1987) followed by a covariance or hierarchical regression analysis. Valencia, Rankin, and Livingston (1995) tried to account for cultural variance by controlling for age, gender and ability for an intelligence test through partial correlation coefficients; they found more than 50% of the items to be biased. Such an attempt though simply detects the source of bias but does not *per se* remedy for it. A methodological approach is to circumvent the bias effect by controlling for external criteria, such as gender, age, ability and other confounding variables, specific in each culture. Other approaches have focused on actually reducing bias by aggregating countries in terms of their common characteristics, such as ecosocial indices (Georgas & Berry, 1995), or of information contained in items of correlate measures collected for the same samples (Gari, Panagiotopoulou, & Mylonas, 2009; Mylonas, Gari, Panagiotopoulou, Georgiadi, Valchev, & Papazoglou, in review).

Yet, if a factor equivalent structure for a set of countries is the target, and if some biased items may be threatening this equivalence, then—reversing the argument—the items to be factor analyzed could also be themselves a possible source of bias estimation. That is, for a set of items across countries, we would ideally compute an index which might contain information about the variance explained only in terms of culture. Thus, such an approach would account for a specific variance component by estimating—for a set of items—the amount of variance caused by “culture” from the information contained in these same items and not by using external measures (such as control variables).

Along these lines of using item-inherent information, certain techniques may be applied which can multivariately gather variance-component information from each item in a scale. Such statistical techniques—amongst others—could be factor analysis and/or multidimensional scaling. Factor analysis in cross-cultural psychology is directly linked to data equivalence which is the key-issue for this analysis in the sense that construct bias may confound factor structures, as computed for more than one cultures. Kline (1993, p. 167) has argued that one criterion for the absence of differential item functioning is that “In factor analyses of the items the factor loadings of the items should be the same for both groups, within the limits of the standard errors.” Van de Vijver and Poortinga (2002) extended the Covariance Structure Analysis proposed by Muthén (1994; 2000) into factor analysis in order to compute factor equivalent solutions—if possible. Although this method is effective in terms of acceptable equivalence levels, this is accomplished most of the times in the expense of erasing non-equivalent or biased items from the final structure.

Multidimensional scaling on the other hand has been widely used outside the cross-cultural research borders, but has also been employed to model cross-cultural similarities and differences; one striking example is the Schwartz studies (e.g., 1992; 1994; 2006; 2007) on values for the last 15 years or so. Even more, sophisticated ways to model similarities and differences simultaneously are available, such as the individual differences Euclidean distance model, through which we can compute as many as possible underlying dimensions for a set of countries and at the same time compute the relative importance of these dimensions for each country, in terms of dimension weights. A “weirdness index” computed for each country is also available, which corresponds to the proportionality of the individual dimension weights to the overall average

weights, thus depicting the eccentricity of each country's similarity matrix in respect to the overall dimensions in the data. However, the *ALSCAL* algorithms (e.g., MacCallum, 1981) usually employed in this procedure are calculated on proximities (Everitt, 1996), which reflect similarities or dissimilarities among measures and not correlations, thus the solutions derived cannot really satisfy the construct equivalence criterion (Kline, 1993; Van de Vijver & Leung, 1997).

Any of these two statistical techniques would describe the multivariate properties for a number of scale items from two different statistical perspectives, but this was not the aim in the current attempt; we were in the specific need of finding some way of estimating the bias-in-terms-of-culture component in a dataset of two or more country samples. If we accept bias in terms of culture as "unwanted" variance, since it leads to inequivalence, the first thing that comes to mind is the usual approach in overriding unwanted variance; that is, partial correlation or similar-derivative statistical computations, such as covariance analysis or variations of structural equation modeling or multiple hierarchical regression modeling. So the basic aim would be to assess this bias in the simplest way possible and remove it from the original raw measures.

A rather simple method for partialling out error variance in any correlational study is the standard deviation adjustment method for a variable y . The method is a bivariate one with y and x measures assessed at least at the interval level of measurement. For these measures, the correlation coefficient (Pearson r) can be computed and then squared to satisfy formula (1).

$$s = \sqrt{s^2 - s^2 r^2} \quad (1)$$

The above rationale (Paraskevopoulos, 1990, p. 172) can be derived directly from the bivariate normal distribution model (Winer, 1971, p. 765) with its properties (mean and standard deviation, respectively) calculated through (2) and (3) for the distribution of y .

$$y_{j|x} = y_j + (X - x_j) \quad (2)$$

$$\frac{2}{y_{j|x}} = \frac{2}{y} (1 - r^2) \quad (3)$$

Through formula (1), an adjusted standard deviation for the target measure can be computed and then employed to compute adjusted raw scores, through formulae (4) and (5).

$$z = \frac{X - \bar{X}}{s} \quad (4)$$

$$X = zs + \bar{X} \quad (5)$$

The adjusted target measure retains its original mean but its variance has been "relieved" from the x variable effect.

Earlier cultural and cross-cultural studies conducted by the author and his colleagues (Gari, Panagiotopoulou, & Mylonas, 2009; Sidiripoulou, Mylonas & Argyropoulou, 2008; Veligeas, Mylonas, & Zervas, 2007), have incorporated multidimensional scaling in its traditional form to model measurement scales by employing a two-dimension trigonometric transformation proposed by the author (Mylonas, 2009). An extended method has been employed in the current study, on a set of six countries and a scale of 20 items assessing father's roles in the family.¹ This extended method has been specifically introduced only in the 2009 article, discussing a part only of the overall outcomes to be presented hereon (as an illustration of the proposed method and as applied to the six-country set only). The overall method proposed is a combination of a) factor analysis, b) multidimensional scaling in its traditional *ALSCAL* form but also employing the individual differences Euclidean distance model and the resulting "weirdness" index, and c) covariance

¹ I would like to thank Professor Emeritus James Georgas of the University of Athens and his colleagues for the kind permission they gave me to analyze parts of the 30-nation family-study data set (for technical reasons three countries could not be analyzed). The entire project has been authored by Georgas, Berry, Van de Vijver, Kagitcibasi, & Poortinga (2006); this volume was awarded the 2007 *Ursula Gielen Global Psychology Book Award*, American Psychological Association, Division 52.

structure analysis as extended to factor analysis by Van de Vijver and Poortinga (2002). The combination of individual differences scaling solution indices with factor analytic techniques should first address the similarity/dissimilarity matrix across the variables of interest taking into account the country identity for each of the cases. If eccentricity in the similarity matrices computed for each of the countries separately could be depicted in terms of variance, then we could correct for this “noise” and then compare the factor analysis outcomes before and after this correction. The eccentricity in this case is represented by the weirdness index, to be used as a multiple r^2 index and the adjustment is the standard deviation one, in order to arrive into adjusted raw scores within each country and for each case separately. For each stage (before and after adjustment) the Muthén method, as extended to factor analysis by Van de Vijver and Poortinga, should be employed to arrive at the best possible “universal” factor solutions across countries. The factor solutions across the two stages should then be compared. In the current study, this procedure was conducted for six countries (the procedure itself, its statistical rationale and its outcomes have been extensively presented in Mylonas, 2009) and then to test for the method’s potential in reducing bias in terms of culture, the procedure was generalized to all quintet and quartet combinations of these countries.

To briefly summarize, in the present study we focused on bias in terms of culture by employing two statistical techniques: factor analysis and multidimensional scaling for a scale of 20 items. These items assessed father’s family roles for a set of six countries, and the statistical procedures on bias detection and removal were conducted for this six-country set, and for all its subsets of five countries followed by all its subsets of four countries.

Measures and procedure

The measures used in the current illustration of the proposed method are 20 items regarding paternal roles in the family such as provision of emotional support, keeping the family united, protecting the family, resolving disputes, managing the finances, etc. (see also Table 1). The responses were provided by university students in respect to their own families. The measurement scale was a 6-point one with 6 meaning that father undertakes the role within the family.

Overall sample and sample combinations

We initially selected six countries out of the 27 available ones on the basis of their geographic location. First we selected six such geographic locations, representing different and distant parts of the world. We randomly selected one country from the specific countries composing each of these six initially selected globe regions. Greece was an exception, as it was selected for the illustration in a non-random way. The final six countries selected were Greece, Georgia, USA, Germany, Indonesia and Pakistan, with a total number of respondents of 1,655. Affluent and non-affluent countries are included in this set; a number of religious denominations are also present; finally, “western” and “eastern” countries are also represented in the set. Apart for representing basic socio-economic and geographic properties in the set, the main aim in selecting these countries was to employ as diverse countries as possible for the illustration, either at the unit level, or at the subset level (i.e., the USA & Germany subset can be considered diverse to the Georgia, Pakistan –and possibly Indonesia– subset). The countries were first analyzed as a set of six and then, for the second stage of the analysis, all “quintets” and “quartets” of countries were employed and tested for the proposed method.

Statistical procedures, Results and Discussion

The basic input for the analyses were the actual individual level country data, as follows: Greece N=350, Georgia N=200, USA N=263, Germany N=153, Indonesia N=239, and Pakistan N=450. The countries were not weighted for sample fluctuations because the overall multidimensional scaling solution was of no interest. However, one could of course employ country weights to remedy for possible sampling over- / under-representations (in terms of N).

The first step in the analysis was to compute the means for each of the 20 father's roles for each country and plot them in order to be certain that at least some variability existed in the data (Figure 1). That is, if selection of countries was to satisfy as much stringent testing as possible, then there should be considerable range for the means across countries for each item. The country profiles showed that there is large variability for most of these roles and little for a few of them. The patterns for those means are similar for most countries participating in the overall 30-country study. As the procedure described hereon has been applied to the six-country data set and separately to each "quintet" and "quartet" of countries, the outcomes of the analysis were 22 recalculations for all combinations of countries (six-country set inclusive). One example from the "quintet" combinations and one example from the "quartet" combinations will be outlined, along with the six-country set outcome, but the summary of all combinations' outcomes will be, of course, outlined and discussed later.

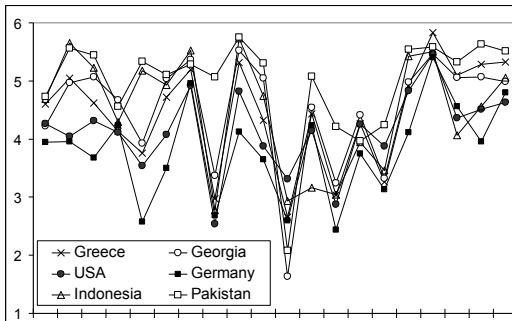


Figure 1. Means across countries.

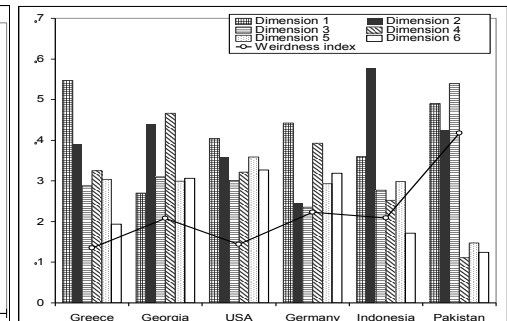


Figure 2. Country dimension weights (6-dim. MDS solution) and weirdness index levels for each country.

The next step was to factor analyze the data, through the Muthén method (1994, 2000) as extended to exploratory factor analysis by Van de Vijver and Poortinga. The pooled within and the between groups correlations matrices produced by the Muthén algorithm were factor analyzed and a Procrustean rotation followed. A 3-factor structure, produced without any adjustment of the raw data, was retained (Table 1) for further comparisons with the second stage factor structure, which would follow after the intervention-adjustment would have taken place; thus 22 factor structures, one for each combination (six-country set, quintets, quartets) of countries were available *before* adjustment.

The intermediate stage in the analysis was to compute an individual differences Euclidean distance scaling solution for each of the 22 combinations (six-country set, quintets, quartets) and calculate the respective weirdness indices based on six dimensions in all recalculations. Plots and tables in the same fashion with Figures 1 and 2 and with Table 1, were produced during each recalculation for each of the combinations of countries but obviously are not reported here.

The adjustment stage was based on the computation of *z*-scores for the raw data and the recalculation of raw scores based on adjusted standard deviations. The adjustment for standard deviations was carried out through formulae (1), (4), and (5). In formula (1) r^2 is replaced by the weirdness index; this is reasonable, since this index can be considered as variance explained by the eccentricity of the similarity matrix per country. Thus, its effect can be removed from the original raw scores by adjusting for the standard deviation of each item within each country. However, we must note here that the statistical assumptions underlying this substitution of the r^2 statistic have not yet been defined. The means of the original raw scores were of course not affected by the intervention, but, as intended, the standard deviations were altered, producing adjusted correlation coefficients and therefore, an adjusted factor structure was expected for the same pool of items. The standard deviations for the six countries after the adjustment, in respect to their difference from the non-adjusted ones, showed that for some countries and some items, the

adjustment was rather large, although in other instances these adjustments were trivial. This indication implied that for the second stage factor analysis, the adjustments of the correlation coefficients in the matrices employed could vary in magnitude.

Table 1. Unadjusted and adjusted raw score factor solutions for the six-country set

Paternal role items, <i>Father...</i>	F ₁	F ₂	F ₃	F ₁ '	F ₂ '	F ₃ '
provides emotional support	.68	.19	.14	.69	.16	.20
keeps the family united	.77	.31	.00	.77	.32	-.01
keeps a pleasant environment	.77	.25	.14	.78	.28	.10
conveys traditions to children	.57	.01	.38	.57	.04	.33
conveys religion to children	.65	.14	.13	.66	.22	.02
preserves family relations	.69	.26	.15	.69	.31	.11
supports grandparents when in need	.53	.26	-.05	.55	.23	.02
takes care of grandparents (cooking, shopping)	.27	.27	.14	.32	.44	.05
protects the family	.63	.47	-.04	.66	.44	-.03
resolves disputes	.50	.40	.04	.49	.48	-.04
does housework	.01	-.15	.55	.03	.31	.61
does the shopping, pays bills, etc.	-.03	.55	.55	-.05	.61	.51
takes children to school	.22	.22	.60	.22	.33	.47
plays with children	.39	.04	.57	.41	.01	.62
helps children with homework	.36	.14	.65	.36	.17	.62
teaches manners to children	.64	.35	.20	.66	.33	.22
contributes financially	.16	.65	.03	.19	.52	.16
manages finances	.03	.77	.21	.03	.77	.22
gives pocket money to children	.29	.67	.18	.29	.67	.19
supports career of children	.36	.53	.13	.36	.50	.19

Key: F_{1 to 3}: factor structure before metric adjustment. F₁', F₂', F₃': factor structure after metric adjustment. All underlined loadings are higher in the after-adjustment solution. All italicized loadings (in the after-adjustment solution) are lower than the respective ones before adjustment.

The six-country factor structure after the adjustment was similar to the first stage structure *but for* two main differences. First, the item that did not load on any of the factors before the adjustment, was now a part of the second factor (shaded loading, Table 1). Another difference was that a large number of the loadings originally observed in the before adjustment factor structure were now higher for the adjusted factor structure (underlined in Table 1). Although the profit seemed small, it indicated that the factor structure, after the standard deviation adjustment contained clearer information than the one computed for the unadjusted data. The generalization of computations followed (21 recalculations for the 15 quartets and the six quintets).

One example of the “quartets” of countries is Greece, Germany, Georgia and Pakistan. For the before and after adjustment solutions, Tucker’s ϕ indices (Tucker, 1951) were calculated to assess the levels of factor agreement and three pairs of identical factors emerged. However, there seem to be quite a few changes before and after the adjustment (Table 2) mostly in the factor identities which might better clarify the final structure. For example, there is stronger emphasis in family cohesion and protection of grandparents and children in the second factor, whereas this was not so clear before the metric adjustment.

Another example, one of “quintets” of countries (involving Greece, Germany, United States, Indonesia and Pakistan) resulted into Tucker’s ϕ coefficients indicating factor equivalence for two out of three factors for the before-after adjustment solutions; again, there are quite a few changes in the factor identities, and this time they do not only clarify but they also alter the interpretation of the final structure. Thus, the “contributes financially” item is now a part of the non-traditional roles factor, and such a shift is allowing for an alternative interpretation of the specific factor. Also, the “conveys religious tradition to children” item is now a part of the first traditional roles factor only; other changes also exist between the two stages of analysis for this example.

Table 2. Unadjusted and adjusted raw score factor solutions: Quartet example (countries participating: Greece, Germany, Georgia, Pakistan)

Paternal role items. <i>Father...</i>	F_1	F_2	F_3	F_1'	F_2'	F_3'
provides emotional support	.58	.22	.18	.40	.45	.29
keeps the family united	.71	.31	.21	.69	.42	.19
keeps a pleasant environment	.72	.23	.31	.75	.31	.22
conveys traditions to children	.44	-.03	.48	.39	.03	.45
conveys religion to children	.56	.18	.38	.79	.08	.24
preserves family relations	.63	.23	.30	.62	.37	.22
supports grandparents when in need	.48	.28	-.08	.26	.48	.06
takes care of grandparents (cooking, shopping)	.53	.10	.18	.71	-.01	.17
protects the family	.59	.48	.06	.68	.46	.02
resolves disputes	.55	.31	.15	.77	.15	.01
does housework	-.24	.10	.46	.39	.19	.62
does the shopping, pays bills, etc.	-.04	.50	.51	.29	.24	.47
takes children to school	.13	.20	.68	.54	-.02	.48
plays with children	.22	.08	.58	.08	.30	.57
helps children with homework	.22	.16	.70	.46	.02	.61
teaches manners to children	.57	.38	.30	.68	.35	.23
contributes financially	.04	.73	-.11	-.03	.79	-.03
manages finances	.07	.72	.14	.31	.56	.07
gives pocket money to children	.29	.66	.16	.52	.55	.10
supports career of children	.31	.53	.18	.35	.54	.17

Key: $F_{1 \text{ to } 3}$: factor structure before metric adjustment. F_1', F_2', F_3' : factor structure after metric adjustment. All underlined loadings are higher in the after-adjustment solution. Shaded cells denote structural differences between the two solutions.

Table 3. Unadjusted and adjusted raw score factor solutions: Quintet example (countries participating: Greece, Germany, USA, Indonesia, Pakistan)

Paternal role items. <i>Father...</i>	F_1	F_2	F_3	F_1'	F_2'	F_3'
provides emotional support	.68	.22	.14	.74	.16	.26
keeps the family united	.76	.31	.01	.81	.34	-.04
keeps a pleasant environment	.77	.25	.16	.81	.34	.05
conveys traditions to children	.56	-.02	.41	.51	.12	.30
conveys religion to children	.67	.19	.10	.71	.38	-.15
preserves family relations	.70	.25	.17	.72	.34	.11
supports grandparents when in need	.52	.25	-.04	.58	.09	.16
takes care of grandparents (cooking, shopping)	.36	.32	.14	.31	.69	-.07
protects the family	.64	.48	-.02	.75	.37	.05
resolves disputes	.51	.42	.07	.56	.56	-.09
does housework	.01	-.18	.56	.04	-.46	.57
does the shopping, pays bills, etc.	-.05	.54	.58	-.10	.69	.49
takes children to school	.22	.23	.58	.28	.58	.19
plays with children	.37	.02	.60	.35	-.09	.71
helps children with homework	.37	.16	.62	.34	.32	.45
teaches manners to children	.65	.36	.18	.72	.33	.17
contributes financially	.14	.63	.01	.20	.25	.41
manages finances	.01	.74	.26	.02	.71	.36
gives pocket money to children	.27	.67	.19	.32	.68	.24
supports career of children	.35	.55	.14	.39	.49	.25

Key: $F_{1 \text{ to } 3}$: factor structure before metric adjustment. F_1', F_2', F_3' : factor structure after metric adjustment. All underlined loadings are higher in the after-adjustment solution. Shaded cells denote structural differences between the two solutions.

The main outcomes for all 21 quintet and quartet combinations of countries stemming from the comparisons of the before and after metric adjustment factor structures can be summarized as follows: **a)** the mean difference in number of items participating in each structure (before and after the adjustment) was 1.57, that is, one to two additional items were on average part of the structure after the adjustment, whereas they were not present in the structure before the adjustment. In more detail, for 29% of the before-after pairs of factor structures, up to two items were “lost on the way”, but in most cases (52% of the factor structure pairs) there was a “gain” of at least one and up to six items. **b)** The mean number of items with higher loadings in the “after” solution was 8.19, whereas the mean number of items with lower loadings in the “after” solution was only 3.05. **c)** Tucker’s φ indices as computed for each before-after pair separately, indicate a 68% overall factor identity, a 21% factor similarity and a 11% factor dissimilarity. **d)** Finally, the mean loadings of items in each of the factors were significantly higher (as tested through Student’s t criterion for related samples), especially for the first and strongest factor in each of the solutions.

Conclusion

Our conclusions drawn from this combinatorial “exercise” are promising, as the loadings for the items participating in the factor structures increase in all combined country sets after the raw score adjustment. This may initially sound like a statistical artefact, but we are able to refute this possibility in two ways: **a)** for a rather large number of items not loading on the factors before the adjustment, the loadings decrease after the adjustment, whereas, if there was a general artefact inflating the loadings, those loadings would have increased too, and **b)** since the interaction among the item error-terms is reduced *due to the adjustment* and *not due to random or extraneous reasons*, our outcomes are not a type I error, but on the contrary, power has been enhanced in the analysis by taking out as much “noise” as possible.

Another interesting conclusion is that the “Takes care of grandparents (cooking, shopping)” item loads on one of the factors after metric adjustment for eight country combinations and this is true for the six countries initial set as well. Thus, we might support that if we gathered data on these 20 paternal roles from five or four countries 100 times, for 52 of these times we would “profit” with at least one item in the structure after having adjusted our standard deviations and correlations analyzed through the weirdness indices.

A final conclusion is that the meaning of the “after” factors is not the same in most country combinations. Thus, for the “before” structures the main factor identities are: **a)** Father’s traditional family roles, **b)** Traditional financial responsibilities for the family, and **c)** Non-traditional roles. For the “after” structures the main factor identities are: **a)** Traditional roles along with his emotional involvement with children, **b)** Financial obligations along with father’s care for the previous generation (grandparents) and for the next one (offspring), and **c)** Non-traditional roles, including the item “father contributes financially”. Although the latter sounds like an *oxymoron*, is it not, as this paternal role of being solely responsible for the family finances may not be considered a “traditional” one anymore for many cultures. In support of this, and according to an untested author’s opinion, “Contributes” may have been misinterpreted by some or many participants; the initial meaning assigned to it implied that father attends to *a part* of the family finances, but it looks as if this was mistakenly interpreted by the participants as “father *takes full care* of the family finances”, at least in some of the countries. This misinterpretation may be “traced” in the before the adjustment factor structures, as it partly affects those and places the item alongside the traditional paternal roles. Happily and quite interestingly, this method-metric “mistake” has also become apparent and corrected for in the after the adjustment factor structures for all combinations of countries in our illustration.

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Enhancing Psychological Assessment in Sub-Saharan Africa through Participant Consultation

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There are few psychological tools developed and standardized for use in sub-Saharan Africa. Consulting with target populations provides a potentially powerful procedure to develop and adapt measures for this population. This review identifies and describes methods used to consult target populations in sub-Saharan Africa. Relevant studies were identified using PsycINFO and PubMed, supplemented by a review of relevant books. We further illustrate the role of participant consultation in psychological assessment with examples of our work in Kilifi (Kenya). Three major approaches are described: focus groups, individual interviews, and participant observation. Participants have been consulted to generate items, identify appropriate assessment procedures, clarify the language used, and define constructs. It is concluded that participant consultation has contributed to the enhancement of construct, content, and criterion validity of studies conducted in sub-Saharan Africa.¹

In sub-Saharan Africa (SSA), like in many developing regions of the world, the lack of psychological research has significant implications for intervention and research (Mpfungu, 2002b). We are particularly interested here in the absence of culturally appropriate, reliable, and valid psychometric measures (Holding, Taylor, Kazungu, Mkala, Gona, Mwamuye, Mbonani, & Stevenson, 2004; Kathuria & Serpell, 1998). Importing standardized tests from Western countries may seem to provide the easiest solution for this shortage. However, the transfer of tests to a non-Western context is frequently accompanied by test bias and limited validity (Greenfield, 1997; Van de Vijver, 2002). This bias may be due to a lack of familiarity with test demands (Mulenga, Ahonen, & Aro, 2001), poor translation of test items (Van de Vijver, 2002), stimulus unfamiliarity (Sigman, Neumann, Carter, Cattle, D'Souza, & Bwibo, 1988; Sonke, Poortinga, & de Kuijer, 1999), and incomplete coverage or poor sampling of behaviors associated with a construct (Sternberg, Grigorenko, Ngorosho, Tantufuye, Mbise, Nokes, Jukes, & Bundy, 2002; Van de Vijver & Tanzer, 2004). Two approaches, adaptation and assembly, seem to provide the most satisfactory solutions to the shortage of assessment measures in SSA (Malda & Van de Vijver, 2005). Adaptation involves retaining some and changing other features of a Western instrument to increase the suitability of the instrument for the new context; assembly involves the construction of a new assessment measure.

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Participant consultation, through techniques such as focus group discussions, in-depth interviews and participant observations, may provide a useful means of gaining the necessary insight to carry out adequate adaptation or assembly. We define participant consultation as any procedure that uses an interactive approach with local populations to gain in-depth information of local knowledge, behaviors and beliefs with the aim of improving the validity of psychological measures, the cultural adequacy of the testing procedures, the involvement of the participants in the testing procedure, and the usefulness of the results for the participants. Participant consultation may have a role to play at different stages of test development. The significance of using participant consultation in instrument development and adaptation has long been recognized and advocated for (Haynes, Richard, & Kubany, 1995), although it has been rarely used (Vogt, King, & King, 2004). The purpose of the current chapter is to identify and describe how participant consultation can and has been used to enhance the validity of psychological assessments in SSA. Specifically, the current review sets out to answer the following questions:

- Is participant consultation carried out in psychological studies in SSA?
- If so, which methods have been used?
- What has the contribution of these consultations to test development been?

Review method

A search in Pubmed and PsycINFO identified articles for inclusion in the current chapter. The search term “Africa” was combined with one or more of the following terms: “Psychological Research”, “Psychological Assessment”, “Participatory Research”, “Test Development”, “Test Adaptation”, “Focus Group Discussions”, “Interviews”, and “Observations”. Approximately 440 studies were found through this search. We supplemented this with a search of relevant textbooks identified by checking references of identified works. From the initial pool of identified studies we selected those using participant consultation, if they: 1. Had been conducted in sub-Saharan Africa; 2. Had collected empirical data; 3. Had reported the development or adaptation of cognitive, neuropsychological, or developmental assessment techniques; 4. Had applied psychological assessment techniques; 5. Had targeted the description of the indigenous definition of a psychological construct.

The review of relevant studies was further supplemented with examples from our fieldwork in predominantly rural communities in Kilifi District, Kenya. The majority of families in Kilifi depend upon subsistence farming; more than half (66.8%) of the population in the District lives below the poverty line (Government of Kenya, 2001). Most families are polygamous and live in homesteads containing several buildings. Members of the extended families share in child rearing responsibilities. After they have been weaned, most children are left under the care of older siblings and spend little time in a dyadic interaction with an adult. The interactions between people of different generations are regulated by cultural norms that guide all aspects of children’s relations with adults including greetings, style of communication, and patterning of spatial positions (Wenger, 1989). Systematic observations have shown that there are almost no shop-bought play materials and most children use homemade play items, often produced by older siblings (Taylor & Katana, 2004).

Is Participant Consultation carried out in psychological studies in SSA?

The review identified published works in SSA that have consulted with target populations. A total of 15 studies that met our inclusion criteria were identified. Table 1 presents an overview of the identified studies.

What are the methods used to consult with participants in Africa?

Focus group discussions, individual in-depth interviews and participant observations were identified as the approaches applied by investigators to consult with target populations. In some studies the investigators used a multi-method approach to collect their data. The following section

presents a description of how each of the methods was applied, illustrated with examples taken directly from listed studies.

Focus group discussions. Patel, Simunyu, Gwanzura, Lewis, and Mann, (1997) used focus group discussions to identify and generate items for the development of an indigenous measure of mental illness, namely the Shona Symptom Questionnaire (SSQ). The discussions with primary caregivers of psychiatric patients (nurses, relatives, traditional healers and community-based workers) were held to elicit idioms of mental distress. Generated items were used to develop a preliminary questionnaire which was then compared to the World Health Organization (WHO) Self-Report Questionnaire. This comparison revealed that only 9 out the 20 WHO items were similar to the locally developed items both in terms of conceptualization and wording. All the WHO items and the local items were taken through a series of piloting and item selection. The final selection of items was based on psychometric analysis and the final questionnaire (the Shona Symptom Questionnaire) included items both from the WHO questionnaire and locally derived items. The internal consistency of the measure was excellent (Cronbach's $\alpha = .85$, Guttman's split half coefficient = .84). The measure also had a high sensitivity (67%) and specificity (83%). Additionally, a good agreement level with the patients on perception of emotional well-being was found. Furthermore, participants identified as having a mental disorder both by caregivers and by the Revised Clinical Interview Schedule (Lewis, Pelosi, Araya, & Dunn, 1992) had significantly lower mean scores in the SSQ compared to controls. These results indicate that the measure has acceptable validity and sensitivity.

Table 1. Studies in Sub-Saharan Africa (SSA) that Employed Participant Consultation

First author and publication year	Country	Aims	Methods of consultation
Adejuwon (2005)	Nigeria	To generate items for a measure of adolescent behavior	Focus group discussion
Bolton (2001)	Rwanda	To develop a procedure for criterion validation of a mental health questionnaire	In-depth interviews
Bolton (2002)	Uganda/ Rwanda	Identify items for a measure of functional impairment	In-depth interview (free listing)
Grigorenko (2001)	Kenya	To define the construct of intelligence	Semi-structured interviews and focus group
Ice (2005)	Kenya	Item and vocabulary generation for a measure of perceived stress.	In-depth interviews and focus group
Kambalmetore (2000)	Malawi	To define the construct of adaptive behavior	In-depth interviews, focus group, and participant observation
Mpofu (2002a)	Zimbabwe	To define the construct of intelligence	Written interviews
Mullin (2000)	South Africa	To define that concept of quality of life	Interview
Mung'ala-Odera (2004)	Kenya	To clarify the way the respondents understood the items in a measure that screens for neuro-impairments.	Focus group
Ngara (2004)	Zimbabwe	To define the construct of giftedness	Written interviews
Ogunnaike ^a (2002)	Nigeria	To identify and generate items for a measure of infant mental development	Focus groups
Patel (1997)	Zimbabwe	To identify and generate items for a measure of mental illness	Focus group Open-ended interviews.
Serpell (1993)	Zambia	To define the construct of intelligence	In-depth interviews
Sigman (1988)	Kenya	To generate items for a measure of mother-infant interaction	Participant observation
Sternberg (2001)	Kenya	To identify and generate items for a measure of practical intelligence	In-depth interviews with healers

^a items used were identified in focus group discussion by Aina, Agiobu-Kemmer, Etta, Zeitlin, & Setiolane (1993).

Mung'ala-Odera, Meehan, Njuguna, Mturi, Alcock, Carter, and Newton, (2004) initially used the translation and back translation method to produce a Kiswahili version of the Ten Questions Questionnaire (TQQ), a screening tool to identify children with neurological impairments in Kilifi. Pilot results using the translated version of the TQQ indicated that an unexpectedly large group of children were identified as impaired. A series of focus group discussions were then held with randomly selected groups of mothers from the community to identify the sources of error. Mothers' interpretations and understanding of each question in the questionnaire were also discussed. The authors discovered that the mothers misunderstood some questions because the translation of some of the items to the local dialect was ambiguous. For instance, the question asking whether or not the child had a hearing impairment could also have been translated to mean that the child was inattentive. The focus groups made it clear that modifications had to be made to item wording and provided new wording for the final items in the scale. The results from the adapted instrument showed prevalence rates similar to those from other developing countries. The measure had an excellent test retest and inter-rater agreement.

Holding and Kitsao-Wekulo (in press), working in Kilifi, identified activities for inclusion in a quality of life measure through semi-structured discussion groups with children aged 11 to 15 years. Children were requested to list enjoyable activities and those they did not enjoy. Additionally, they were asked to mention any taboos or restrictions on participation in the listed activities. The generated items were used to provide substitute items and relevant probes in the adaptation of the Childhood Asthma Questionnaire (French & Christie, 1995). In another application of focus group discussions to generate test items for a measure of infant mental development, Ogunnaike and Houser (2002) used material drawn from a series of focus groups by Aina, Agiobu-Kemmer, Etta, Zeitlin, and Setiolane (1993). The focus groups indicated that Yoruba caregivers encouraged children to identify and name items in their immediate environment. The items identified as commonly used were included in relevant sections of the Yoruba Mental Assessment Scale, a measure of mental development for infants. This measure was found to have adequate internal consistency.

Individual interviews. Serpell (1993) made use of individual in-depth interviews with village elders to examine the conceptualization of intelligence among the Chewa of Zambia. Elders were requested to choose a child who could perform a task at a level that required more than the average skill at his/her age. They were then asked to justify their choices by describing the special characteristics the child possessed. The terms used to describe the child were content analyzed to identify characteristics which the respondents associated with intelligence. This information has been used to describe the Chewa conceptualization of intelligence. Similarly, Mpofu (2002a) and Ngara and Porath (2004) used written individual interviews with university students and lecturers to find the local definition of intelligence and giftedness among the Shona in Zimbabwe. According to Ngara and Porath (2004), the Shona viewed giftedness as an extraordinary gift persons receive from their ancestors; this gift enables them to perform way above the others in challenging tasks. According to the Shona speakers, giftedness is characterized by, among others, problem solving abilities, creativity, interpersonal relationships, and spirituality. Furthermore the Shona believed that gifts are entrusted to an individual for the society, hence the saying 'chipo chako chipo chedu' meaning your gift is given to you for us.

Bolton (2001) describes a method where the target population can be involved in evaluating the criterion validity of a measure in the absence of a gold standard. In-depth interviews were administered to key informants in a Rwandese community to identify people suffering from agahinda gakabii (a locally described grief syndrome). Criterion validity was evaluated by the level of agreement between the key informants' assessment of the presence of agahinda gakabii and the presence of depressive symptoms as described through the Hopkins Symptoms Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). Results indicated a relationship between grief and depression similar to that reported in Western countries. This study suggests that, in the absence of a gold standard key, informants from the community can provide a means of assessing criterion validity. Bolton, Wilk, and Ndogoni (2004) have applied the same methodology to assess

depression in a region that is severely affected by HIV/AIDS in Uganda; the authors confirmed the suitability of the approach provided for assessing criterion validity.

Participant observations

In Kilifi we applied participant observation to identify appropriate test stimuli, test administration methods and scoring procedures for developing an adaptation of the Symbolic Play Test by Lowe and Costello (1976). We observed children aged less than 3 years in both natural and staged environments. Members of the family, especially older siblings were requested to collect and provide the play materials used by the children. Play materials were photographed and catalogued (Taylor & Katana, 2004). This process was continued until there were no new materials forthcoming and this was observed after approximately 10 households. Items were selected for inclusion in the play tests and for assessing the materials available in the home in the measure of the home environment based on this catalogue. Children's play behavior (who, how, and what they played with) was also directly observed and recorded. Overall, approximately 21 households were visited. We began by recording children's play activities in their natural setting. Notes taken focused on the patterns of interactions between the child and the strange visitor as well as between the child and other members of the household. Observations indicated that children were reluctant to engage in play activities in the presence of a strange adult. Subsequent play sessions were structured sessions to help familiarize the child with the stranger. Three stages of child-stranger/assessor interaction were introduced, "modeling", "instructions", and "free play". By incorporating interaction at these three levels of intensity of interaction, we were able to observe reduced reluctance of children to participate in play activities with the stranger/assessor.

In Embu (Kenya), Sigman et al. (1988) carried out observations in the home to identify the type of behaviors that could be objectively assessed in a structured observational measure of mother-child interaction. Field workers spent a total of 18 months observing activities in the child's home. This study developed a relatively simple and reliable approach for assessing mother-child interaction, which had high inter-observer agreement. The coefficients of concordance between observers ranged from .80 to .98 in the six home rearing behaviors observed. This measure has been adopted and successfully applied by other research teams in East Africa (Drotar et al., 1997).

Multimethod Approach. Several of the identified studies have combined more than one consultation method to meet their stated aims. Some studies used triangulation to verify information obtained through different methods. Other studies sequence their methods so that initial information collected using a single technique was supplemented and fine-tuned by application of other techniques. Ice and Yogo (2005) used a combination of individual interviews and focus group discussions to generate items for a measure of stress among grandparent caregivers of orphans in the Luo community of Kenya. Idioms and items for their questionnaire were generated through individual written interviews with anthropologists from the Luo community. The investigators then held focus group discussions with grandparent caregivers of HIV orphans. The grandparents were asked to evaluate the questionnaire by explaining what each idiom meant to them. The measure had good psychometric properties. The internal consistency of the measure (KR-20) was .75. Concurrent validity was supported by observing correlations in the expected direction with measures such as social support, care-giving intensity, socioeconomic status and depression.

Grigorenko, Geissler, Prince, Okatcha, Nokes, Kenny, Bundy, & Sternberg (2001) collected data in a series of ethnographic studies that involved open-discussions, semi-structured interviews, and group discussions with children and adults. Respondents were asked to identify the most salient qualities of a "good child" and provide vignettes exemplifying these good qualities. This information was used to identify and describe the Luo conceptualization of intelligence. Kambalame, Hartley, and Lansdown (2000) used a multimethod approach involving in-depth interviews, focus group discussions, and participant observation. They examined local concepts of adaptive behavior and identified everyday skills fostered in a Malawian community for inclusion

in a measure of psychosocial development. Participants included psychologists, social workers, parents, grandparents, and children in the target age group (aged 4-5 years). As a final example, Alcock, Holding, Mungala-Odera, & Newton (2008) used a combination of focus group discussions and individual interviews to generate items and examples to be included in a measure of verbal knowledge. During the first step a list of items was generated through a combination of literature review and individual interviews. Focus group discussions were then held with randomly selected groups of people from the community (teachers, parents, adults randomly selected from the community, and secondary-school pupils) to select item from the generated items. The groups used card-sorting procedure to select items from the list. The inter-form reliability of this measure was slightly below the acceptable level (.52). However, the test-retest reliabilities were adequate, reaching an average of .63.

What has been the contribution of these consultations to test development?

The answer is, construct definition. Participant consultation can suggest salient information about both universal and culture-specific aspects of psychological constructs in a non-Western context. Examples of these constructs include intelligence, mental health, and adaptive behavior. The value of the works described in this chapter lies in their potential to: “a) reveal limitations in Western psychological constructs; b) add to understanding of psychological theories and constructs; and c) inform culturally sensitive psychological practices in African settings” (Mpofu, 2002b, p. 183). Obviously, empirical cross-cultural studies are needed to examine to what extent participant consultation lives up to this potential by testing the adequacy of insights gained in participant consultation.

Serpell (1993) presents one of the earliest studies that describe the African concept of intelligence. According to this study, intelligence among the Chewa of Zambia is understood in terms of four indigenous constructs: *nzelu* (wisdom) and *chenjela* (aptitude) which represent the cognitive aspects of intelligence; and *tumilika* (responsibility) and *khulupikila* (trustworthiness) which represent the social aspects. A common finding from studies in Africa is that intelligence has both social and cognitive aspects. Grigorenko et al. (2001), working among the Luo of Kenya, reported four facets to the Luo conceptualization of intelligence: *rieko*, *luoro*, *winjo*, and *paro*. *Rieko*, which refers to smartness, knowledge, ability, skill, competence and power, is the only aspect that correlated positively with scores from Western ability tests. The others *luoro* (social qualities such as respect and willingness to share), *winjo* (child’s ability to comprehend what is going on and understand what is appropriate or inappropriate in a certain circumstance) and *paro* (innovativeness, creativity and the ability to follow through with tasks) did not significantly correlate with academic performance or formal tests. These studies indicate that the African conceptions of intelligence are not limited to cognitive abilities only.

Kambalmetore et al. (2000), working in Malawi, report that a well-adapted child is described as one who understands social responsibilities, carries out age-appropriate chores, and observes social conventions. This is achieved by attaining the quality of *umunthu* (being cultured). Children aged between 4 and 5 years display this quality by participating in household chores such as carrying water and going for small errands, by participating in make-believe play, and by showing an understanding of and respect for relatives. They conclude that, as no Western instrument captures this concept adequately, there is a need to develop a culture-specific instrument to provide a contextually valid measure of child development.

Tool development and adaptation. Participant consultation has contributed to different facets of tool development and adaptation, including identification of inappropriate items, generation of substitutes or additional items (Ogunnaike & Houser, 2002; Patel et al., 1997) and the evaluation of the clarity of expression used (Mung’ala-Odera et al., 2004). For instance, only two of the 15 questions in the original format of the Childhood Asthma Questionnaire (French & Christie, 1995) were retained without modification in the adaptation by Holding et al. (in review) described earlier. These two questions, “missed school because of not feeling well” and “which picture de-

scribes how you feel most of the time?” were found to be equally relevant and applicable in the African setting. Other items were found to have unfamiliar prompts (e.g., “watch television” and “go to the swimming pool”) and were replaced with activities that were familiar to the children (e.g., “chores in the house and on the farm” and “running errands”). Preliminary analysis indicated that the authors could identify the hypothesized factor structure. Furthermore, an adequate level of internal consistency was found (which indeed compared favourably to the Cronbach’s α value of the original scales) reaching levels ranging from .56 to .91. This measure was also sensitive to disease effects as it showed children suffering from chronic illness had significantly lower scores.

Having developed through participatory consultation what they felt to be a locally valid measure of infant development, the Yoruba Mental Development Scale, Ogunnaike and Houser (2002), compared its performance to that of the Bayley’s Mental Infant Development Scales (Bayley, 1993). The Yoruba Mental Development Scale charted age-appropriate maturational changes, with a significant correlation found between age and performance ($r = .44, p < .001$). In contrast, the non-adapted Bayley’s Mental Infant Development Scales indicated a regression in skill development, with younger children scoring significantly higher than the older children. Furthermore among the Yoruba, intelligence and mental maturity are assessed and encouraged through errand sending. A child is considered to be mature if he/she can take part in household chores and run errands, such as purchasing items and putting away objects. The Yoruba Mental Development Scale significantly correlated with errand running, while Bayley’s Mental Infant Development Scales did not have significant correlations with any of the tasks assessed. These results indicate that the locally developed measure of infant development was assessing children’s ability more validly in context. In summary, application of information generated through participant consultation has contributed to the development of measures that are reliable and valid for use in SSA.

Discussion

Our review describes the ways in which target populations in studies in SSA have been included in test construction and adaptation. The inclusion of the community in the process of test development has led to a broader conceptualization of constructs, clearer language reducing ambiguities and the identification of acceptable administration procedures. Participant consultation has been found to enhance construct, content and criterion validity of the measures used while maintaining good internal consistency and test re-test reliability. Researchers have been able to access vocabulary, idioms and appropriate behaviors for inclusion in assessment measures. Moreover, they have identified locally acceptable and theoretically adequate administration procedures for the assessment tasks.

Although admittedly non-exhaustive, our review provides a detailed overview of current practices in consulting target populations in Africa. The most common forms of consultation identified were focus group discussions, in-depth interviews and participant observation. Previous work in both psychology and anthropology indicates that each of these methods has inherent limitations; therefore, the use of triangulation to collect data might provide the most valuable approach. More work needs to be carried out to improve our understanding of the strengths and weaknesses of various procedures used in consulting target groups, and the applications to which each method can make its strongest contribution.

Sub-Saharan Africa harbors a remarkable diversity of cultures, although diversity may not preclude the observation of important similarities between cultures. Consulting target populations has proven useful in defining constructs of which the most widely studied constructs are intelligence and mental health. In the studies of intelligence in Africa, several commonalities such as the inclusion of both cognitive and social aspects to the definition of intelligence have emerged. Nevertheless, other psychological constructs may show much more cross-cultural variability, even within SSA. There is a need to synthesize the information gathered regarding local definitions of constructs in diverse contexts; such a synthesis will enable us to build a knowledge base for professionals in SSA and it may help to direct future efforts by identifying areas that are still un-

known. Our review indicates the reasons for participant consultation and methods used in SSA are consistent with those observed in other parts of the world where target populations have been involved in item generation, evaluate item wording and stimuli (Haynes et al., 1995; Vogt et al., 2004). This may potentially indicate that the lessons learned from other regions can be used to inform and further build up this practice in SSA.

While participant consultation brings benefits to the process of test development, several challenges accompany it. For instance, it is often a long and expensive process; members of the target populations may not talk with the same voice and the suggestions and input may not be feasible or reliable. Other potential limitations include a reliance on an inadequate number of informants, capitalization on culture-specific features of a construct or instrument (at the cost of identifying universal features), and communication problems because crucial words cannot be translated; for instance, there are no words for numbers or certain mood states in some African languages. Early in the research planning, investigators need to prepare on how to deal with these potential challenges.

The current review has a two-fold limitation. The first involves the relatively few studies that could be identified as having used participant consultation. Two potential explanations exist for this low number. Firstly, it may be an indication of a low prevalence in systematic consultation with target populations in the region. Secondly, the paucity may be an indication of a publication bias, because few studies publish details on tool development and adaptation procedures. It is fairly common for authors to indicate that tools were piloted without presenting the details. Additionally, there is a chance that most articles detailing tool development have been published in local journals that were not captured through our search. However, our aim was not to carry out an exhaustive systematic search rather we aimed at highlighting the main issues and features relating to participant consultation in SSA. The second limitation is related to psychometrics; most of the studies reviewed have presented limited information on the validity of their work and the adequacy of the methodology used to collect data. We have evidence of content, criterion and in certain cases construct validity. However aspects such as the predictive validity have yet to be fully assessed. This is understandable, given that most of what has been reviewed, is pioneer work in the area. Furthermore, most of the findings are based on single samples and populations, which may limit their generalizability. Therefore to be able to fully document the extent of the value of participant consultation, there is a need for further validity research and an evaluation of the adequacy of the methodology employed.

In summary, we are able to make the following recommendations: a) Consulting target populations at all stages of psychological research to enhance the validity of data collected, its interpretation and evaluation, should be considered a key aspect of cross-cultural psychology; b) In the process of consulting the target population, researchers need to pay special attention to sampling procedures as these relate to the validity of the information received and to the value of the informant. In selecting the people to consult, several considerations must be taken into account. One of the most salient of these considerations is the cultural knowledge of the people selected to inform the researchers on behalf of the target population. Therefore, sampling should take into consideration aspects such as participants' age, educational level, knowledge of the local culture and residence (urban/rural) to ensure the adequacy of the information collected for the whole population under study; c) Diverse methods of participatory data collection should be used together during participant consultation. A multimethod approach, in which different consultation methods such as in-depth interviews and focus groups are combined, can increase the validity of measures in communities that are not familiar with these data collection methods.

We hope our overview will stimulate further discussion and research relating to participant consultation. We believe that close cooperation with target populations is beneficial to both researchers and members of the target population, as researchers gain new insights in universal and culture-specific features of their theories and assessment devices, and as the needs of target populations may be taken care of more adequately if their viewpoints are better represented.

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Relating Self-Complexity to Coping and Adaptation with Chinese College Students: A New Measurement Perspective

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Research into self-complexity has been hampered by problems with its measurement. The present study was designed to test the generality of Western findings about self-complexity and improve the measurement and our understanding of this construct by examining the relationships of four measures of self-complexity to coping and psychological adaptation with 347 Chinese college students. A new measure, the Self-Complexity Task was developed to obtain the number of self-aspects and the average distinction among self-aspects separately, and was employed in parallel to Linville's *H* measure as the overlap among self-aspects in terms of their descriptive traits. As found in Western cultures, the positive correlation between the *H* statistic and overlap supports the position that *H* is not an appropriate measure of self-complexity. Among the four measures, the average distinction is the most powerful indicator of self-complexity in terms of its relationship with coping and adaptation variables in the sample of Chinese college students. Although higher average distinction implies the use of more effective coping strategies, it may be the latter which directly affects adaptation in the long run. Implications of these findings are discussed for future research of self-complexity from a cross-cultural perspective.

Although considerable evidence suggests that stressful life events have an impact on well-being level, their correlations are often low to moderate (Elliott & Eisdorfer, 1982; Schroeder & Costa, 1984). In response to this, stress investigators have proposed different moderating variables characterizing individual differences in vulnerability to stressors, such as coping efforts (e.g., Folkman, Lazarus, Gruen, & DeLongis, 1986), social support (e.g., Cohen & Wills, 1983), and personality (e.g., McCrae & Costa, 1986). In recent years, the structural feature of the self has been addressed by many self researchers (e.g., Campbell, Trapnell, Heine, Katz, Lavellee, & Lehman, 1996; Marsh & Hattie, 1996) not only because of its importance in examining self processes, but also because of its adaptation consequences. The structure of the self describes how the knowledge components of the self are organized (Campbell et al., 1996). In the last two decades, a variety of structural variables have been proposed from different perspectives to describe the structural characteristics of the self. Among these variables, self-complexity (Linville, 1985; 1987) has received much attention in both social and clinical psychology for its presumed coping benefits.

According to Linville (1985, 1987), people with similar actual experiences may differ in the number of aspects they use in thinking about the self and in the way they cognitively organize these aspects about their relationships. "Greater self-complexity involves representing the self in terms of a greater number of cognitive self-aspects and maintaining greater distinctions among self-aspects" (Linville, 1987, p. 663). Linville's (1985; 1987) self-complexity model assumes that when people experience a stressful situation the thoughts and feelings evoked by this stressful experience about the most relevant self-aspect will spill over and color the thoughts and feelings about associated self-aspects. As a consequence, for those high in self-complexity, "the impact of a stressful event will tend to be confined to immediately relevant self-aspects, thus affecting a relatively small part of their self-representation and leaving many other self-aspects to serve as buffers against the stressful event" (Linville, 1987, p. 665).

Most studies of self-complexity measured this construct using the trait-sorting task developed by Linville (1985, 1987). In Linville's trait-sorting task, participants were supplied with

a list of 33 cards with a feature in each card, such as ‘individualistic’, ‘organized’, etc. They were then instructed to select and organize self-relevant traits into groups, each group representing one aspect of the self. When doing this task, participants could create as many groups as they wanted, they could omit irrelevant cards, and they could repeat using the same cards to describe different aspects if necessary.

The sorted data of each participant were then translated into the self-complexity measure H , which is calculated in the following way:

$$H = \log_2 n \left(\bullet \sum_i n_i \log_2 n_i \right) / n \quad (1)$$

Wherein, n is the total number of traits (33 in Linville’s case), and n_i is the number of traits that appear in a particular group combination ($n = \bullet \sum_i n_i$) (see Linville, 1987, p. 666, for a more detailed explanation).

According to Linville (1985; 1987), the single H statistic is a combined measure of both components of self-complexity: the larger the number of self-aspects and the less the overlap or redundancy across self-aspects, the larger is the H statistic. However, some researchers have found that the relationship between overlap and H is contrary to this expectation. For example, Rafaeli-Mor, Gotlib, and Revelle (1999) analyzed the relationship of the H statistic to the number of self-aspects formed in the trait sorting task (*NASPECTS*) and the overlap among self-aspects (OL) calculated as follows. In effect, OL is the average ratio of the number of common traits between each two self-aspects to the number of endorsed traits in each self-aspect.

$$OL = \bullet \sum_i \left(\bullet \sum_j C_{ij} / T_i \right) / k * (k - 1) \quad (2)$$

Wherein C_{ij} is the number of common traits in the i^{th} and j^{th} aspect, T_i is the total number of traits in the i^{th} referent aspect, i is not equal to j ($i, j = 1, \dots, k$), and k is the number of self-aspect groups in a person’s sort.

Rafaeli-Mor et al. (1999) found that although H was positively correlated with *NASPECTS* ($r = .71$), it was also positively correlated with OL ($r = .24$), which was contradictory to Linville’s prediction. The positive relationship between H and OL was replicated by Luo and Watkins (2008, $r = .43$). In response to the problem in the H measure, some researchers suggest that the two components of self-complexity be assessed separately in order to better understand their mechanisms as a stress buffer (e.g., Luo & Watkins, 2008; Lutz & Ross, 2003; Rafaeli-Mor et al., 1999; Rafaeli-Mor & Steinberg, 2002).

Rather than using overlap based on the trait-sort data as a measure of the distinction component, some researchers assess it through a direct rating method. As noted above, Linville’s self-complexity focuses on the cognitive representation of the self and the distinction component describes the cognitive distinctiveness among different self-aspects. To study the perceived distinctiveness, Evans (1994) used a self-report method to directly assess the cognitive independence among different self-aspects. In Evans’ Self-Complexity Inventory (1994), there were eight scenarios, depicting stressful experiences in various domains, e.g., failing a test that one has studied hard for. Participants were instructed to imagine the situation in each scenario, and indicate, along a three-point scale, the degree to which they would be affected in each of the eight domains. It should be noted that this measure taps only the second component of Linville’s self-complexity. Although these preset self-aspects are commonly important areas, some of them may not be relevant to all subjects, especially those from different cultures (Watkins & Regmi, 1999). However, the Self-Complexity Inventory supplies a direct way to measure the perceived “spill-over” degree among life domains. The less the spill-over, the smaller portion of the whole self is changed, and thus the unaffected self-aspects can act as buffers against stressful life events.

Combining Linville’s trait-sorting task and Evans’s Self-Complexity Inventory, a Self-Complexity Task was developed by the authors to measure the two components of self-complexity separately. Except for the number of self-aspects (*NASPECTS*) and the average distinction among self-aspects (*DIST*), Linville’s H statistic and the overlap among self-aspects in terms of their descriptive traits (OL) can also be obtained by this task. Therefore, by using this new measure, we can examine both the inter-relationships among these different self-complexity

measures and also their relations to other external variables. Linville (1987) proposed that people high in self-complexity cope more successfully with stressful events than do those low in self-complexity, so coping strategies and psychological adaptation were concerned in the current study. In particular, this study investigated the relationships among the four self-complexity measures, and their relationships with coping strategies, coping effectiveness, and psychological adaptation with a sample of Chinese college students.

Although a number of studies in the literature have examined the relationship of self-complexity with adaptation, partly due to the problems in the *H* measure, the results are inconsistent (for reviews, see Koch & Shepperd, 2004; Rafaeli-Mor & Steinberg, 2002). Is *H* also problematic with Chinese respondents? Despite the difference in self-construals between Western and Eastern cultures (Markus & Kitayama, 1991; Triandis, 1989), we predicted that the *H* statistic would also be problematic for Chinese college students. In particular, based on the findings of previous research, it was expected that *H* would be positively correlated with both the number of self-aspects and the overlap among self-aspects in terms of the traits describing them. In addition, it is reasonable to infer that people can have high average distinction among self-aspects no matter how many aspects are represented in their self-structure. Therefore, we expected that the average distinction would be relatively independent of the number of self-aspects, or there was a modest correlation between them.

It was assumed that these four self-complexity measures would show different relationships with coping and adaptation. As analyzed above, the single *H* statistic could not assess self-complexity as conceptualized by Linville (1985; 1987). In addition, the number and the distinction components of self-complexity might not have the same adaptation consequences. Although Linville (1987) addressed that self-complexity only had stress-moderating effect, in the present study, we expected that regardless of the number of self-aspects, the distinction averaged across all self-aspects would be directly associated with psychological well-being. Moreover, we also expected that the average distinction would be more important for people in Chinese culture than in Western cultures because the self-views of people in collectivistic cultures tend to be more situation specific in order to fit in and maintain harmonious interdependence with others (Markus & Kitayama, 1991; Triandis, 1989).

Method

Participants

Three hundred and fifty Chinese university students (273 freshmen, and 77 sophomores) participated in this study. These participants (112 males and 238 females) were aged from 17 to 23 years, with a mean of 19.74 ($SD = 1.01$).

Measures

Self-complexity. The Self-Complexity Task included two subtasks: a trait-sorting subtask, and a distinction rating subtask. It should be noted that the self-aspects to be rated in the latter subtask were generated in the trait-sorting subtask, rather than preset by researchers.

The trait-sorting subtask was similar to that of Linville's (1987), while the trait list was generated by Chinese college students themselves through a pretest procedure to make it more culturally appropriate for Chinese respondents. One hundred and seventy-nine undergraduates (94 females and 85 males) from two universities in Mainland China were invited to generate adjectives to describe their typical characteristics. Then, a trait list was developed by selecting traits based on three criteria: the frequency, the valence (positive or negative) and the correspondence of each word to big five personality factors (Costa & McCrae, 1992). The words were generally categorized into five classes corresponding to the five personality factors in order to avoid that synonymous words were chosen and assure that the trait list could cover all the five factors. Unlike Linville (1987) who used 33 traits with a 2÷1 ratio of positives to negatives, a list of 44 traits with 22 positives and 22 negatives was established so that participants could have more negative words to form groups if necessary. Examples of the traits include responsible,

righteous, kind, peacockish, lazy, introvert and so on.

The distinction rating subtask directly measured the “spill-over” degree among self-aspects as explained by Linville (1985; 1987): the less the spill-over of thoughts and feelings evoked by a stressor from the most relevant self-aspect to other self-aspects, the smaller is the change of the whole self, and as a consequence, the larger number of unaffected self-aspects will act as buffers against the stressful life event. To measure the distinction component, Evans (1994) had participants imagine a negative scenario for each self-aspect and rate the change of other aspects in the negative direction; in contrast, participants in the distinction rating subtask were instructed to think about a situation when either positive or negative happenings occurred and resulted in the change of their self-evaluation of one aspect, and rate the general change of their feelings about each of all the other self-aspects. The rating was based on a 5-point scale, ranging from 1, no change at all, to 5, as much change as the referent aspect. The following is the English version of the instructions obtained by translating and back translating the original Chinese instructions.

For some people, all the aspects in their life are closely associated, and if their feelings about one aspect have changed because of positive or negative happenings, their self-evaluation on other aspects will be much influenced. For example, when they encounter some setback or achieve some achievements in their study or job, their self-evaluation in family life and interpersonal interactions will be influenced a lot. For other peoples, all the aspects in their life are not closely associated, and the change of self-evaluation on one aspect will not much affect their self-evaluation on other aspects either.

As to the aspects you have just generated, imagine that your self-evaluation on one aspect is changed because of some positive or negative happenings, and then point out the degree to which your self-evaluation on other self-aspects will also be changed.

If your self-evaluation on the following aspect has changed because of some positive or negative happenings, will your self-evaluation on each of the other aspects be changed? And by how much will they be changed? Please rate the degree of the change in each of the other aspects on the following 5-point scale, ranging from 1= no change at all, to 5 = as much change as the referent aspect.

Each self-aspect was taken as the referent aspect once, and the change on all other aspects was rated. A computer program was designed to administer the two subtasks, with the self-aspects generated in the trait-sorting subtask automatically read into the distinction rating subtask. This program also made the calculation of the four measures of self-complexity very convenient. *NASPECTS* was the number of self-aspect groups generated in the trait-sorting subtask; *DIST* was indicated as the average distinction score between all the idiosyncratic self-aspects generated by each individual. *DIST* was formulated as follows:

$$DIST = \frac{\sum_{i=1}^k \sum_{j=1}^k X_{ij}}{k(k-1)} \quad (3)$$

Here, k is the number of self-aspect groups, and X_{ij} is 6 (for a 5-point scale) minus the change score on the j^{th} self-aspect when the i^{th} referent self-aspect is changed (i and j are unequal). The higher the *DIST* score, the larger is the average distinction among self-aspects.

Based on the “0, 1” sort matrix obtained in the trait-sorting subtask, the *H-Comp* program of Nielsen (1996) was used to compute the *H* statistic and another self-designed program was used to calculate the overlap value as defined by Rafaeli-Mor et al. (1999).

Coping. Through the back-translation procedure, a Chinese version of the brief COPE (Carver, 1997) was obtained to measure the use and perceived effectiveness of 14 coping strategies: Active Coping, Planning, Positive Reframing, Acceptance, Humor, Religion, Using Emotional Support, Using Instrumental Support, Self-Distraction, Denial, Venting, Substance Use, Behavioral Disengagement, and Self-Blame. To measure coping use, participants were instructed to rate the frequency of each coping effort they usually use when experiencing stressful life events in their daily life on a 5-point scale, ranging from 0 (never) to 4 (a lot). The use score of each coping strategy was obtained by dividing the sum use score of each coping strategy by the total use score

for all 14 coping efforts. To assess coping effectiveness, participants were asked to rate whether they had ever adopted each coping strategy and if so, the general effectiveness of each strategy for them to reduce stress and solve problems on a 5-point scale, with 0 indicating never used, and 1 to 4 indicating no use to very helpful. Each coping mechanism was given an effectiveness weight by its average effectiveness score. Then the overall coping effectiveness index was formed by dividing the weighted use score by the total use score.

Psychological adaptation. Psychological adaptation was represented with four well-being variables in this study: global self-esteem, depression, loneliness, and perceived stress. The Chinese version (Robinson, Shaver, & Wrightsman, 1997) of the Rosenberg Self-Esteem Scale (SES, Rosenberg, 1965) was used to measure global self-esteem. The Chinese version (Wang, Wang, & Ma, 1999) of the Self-Rating Depression Scale (SDS, Zung, 1965) was employed to tap the frequency that depression occurred in the latest two weeks. The 1988 third version of the UCLA Loneliness Scale (Russell, 1982; Russell, Peplau, & Cutrona, 1980) was translated into Chinese (Wang et al., 1999), and it was adopted to measure loneliness perceived in the last two weeks. To measure perceived stress in this study, Li's (2002) College Stress Scale was modified. This scale was designed to assess the perceived stress of Chinese college students resulting from both hustle and negative life events, including academic hustle (10 items), personal hustle (16 items) and negative life event (4 items). Before using this scale in the current study, ten items adopted from Adolescent Self-rating Life Events Check List (Liu et al., 1997) tapping negative life events perceived by college students were added.

Results

Three of the 350 cases with the largest three values on *OL* (.85, .73, and .70, respectively) were deleted to reduce the skewness (from 1.29 to 1.00) and kurtosis (from 2.24 to .94) of its distribution. With the three outliers deleted, the skewness and kurtosis of all the other three measures were less than .80. Across the remaining 347 cases, the number of self-aspects ranged from 2 to 13, with a mean of 6.18 ($SD = 1.99$), the average distinction (*DIST*) ranged from 1.92 to 5.00 with a mean of 3.64 ($SD = .63$), overlap (*OL*) ranged from .00 to .63 with a mean of .18 ($SD = .13$), and the *H* statistic ranged from .79 to 5.32 with a mean of 2.90 ($SD = .79$).

With the remaining 347 cases, internal consistency estimates (Cronbach's α) for the coping strategies and the effectiveness scales were excessively calculated, as each subscale is consisted of only two items. These estimates ranged from .49 to .93 across the 14 coping strategies, and for the effectiveness scales they ranged from .61 to .94. Since there are only two items in each subscale, these internal consistency estimates are acceptable. Satisfactory internal consistency coefficients for the four well-being inventories were obtained with Cronbach's α values of .87, .78, .90, and .94 for scales of self-esteem, depression, loneliness and perceived stress, respectively.

As shown in Table 1, there was a high correlation between *NASPECTS* and *H* ($r = .68$), and a positive correlation between *OL* and *H* ($r = .39$). The relationship between *H* and *OL* is also portrayed in Figure 1 and follows an inverted U-like curve and not a linear function. Curve estimation showed that a quadratic model [$H = (1.04 OL) - (.69 OL^2)$, $R^2 = .21$] fitted the data significantly better than a linear model [$H = (.39 OL)$, $R^2 = .15$]. In addition, there was a modest positive correlation between *NASPECTS* and *DIST* ($r = .24$).

The number of self-aspects was only slightly associated with Religion ($r = .11$), and it was not significantly correlated with overall coping effectiveness (see Table 1). *DIST* was significantly correlated with the use of 6 of 14 coping strategies: Planning ($r = .18$), Positive Reframing ($r = .31$), Acceptance ($r = .19$), Denial ($r = -.14$), Behavioral Disengagement ($r = -.12$), and Self-Blame ($r = -.22$); it was also positively correlated with overall coping effectiveness ($r = .24$). A stepwise linear regression was then conducted with *DIST* as a criterion variable, and the use of the 14 coping strategies as predictors. It was found that three coping strategies entered the regression equation to positively predict *DIST* and explained 12.8 percent of the variance: Positive Reframing (9.5%), Acceptance (1.8%), and Humor (1.5%).

OL was significantly correlated with 3 of the 14 coping strategies: Active Coping ($r = .13$),

Planning ($r=.12$), Self-Distraction ($r=-.13$); H was weakly correlated with Self-Distraction ($r=-.14$) and Behavioral Disengagement ($r=-.11$). Neither OL nor H was significantly correlated with overall coping effectiveness.

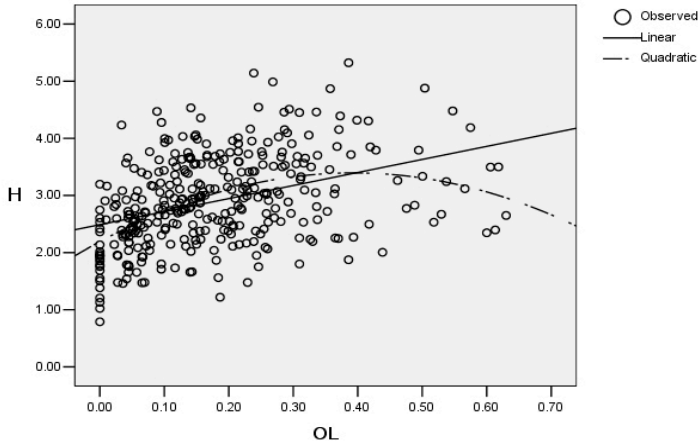


Figure 1. Relationship between H and OL .

Table 1. Correlations among Self-Complexity measures, Coping Use and Overall Coping Effectiveness

	<i>NASPECTS</i>	<i>DIST</i>	<i>OL</i>	<i>H</i>
<i>NASPECTS</i>		.24***	-.09	.68***
<i>DIST</i>			-.06	.08
<i>OL</i>				.39***
Active Coping	.03	.03	.13 [†]	.03
Planning	-.00	.18***	.12 [†]	.01
Positive Reframing	.06	.31***	.03	-.01
Acceptance	.01	.19***	.03	-.07
Humor	.06	.09	.04	.07
Religion	.11*	-.07	.03	.10
Emotional Support	-.02	-.10	.02	.06
Instrumental Support	.01	.03	-.00	.05
Self-Distraction	-.10	-.05	-.13*	-.14*
Denial	-.05	-.14**	-.03	-.04
Venting	-.01	-.06	-.03	.03
Substance Use	-.01	-.09	-.03	.02
Behavioral Disengagement	-.06	-.12*	-.09	-.11*
Self-Blame	-.09	-.22***	-.06	-.05
Overall Coping Effectiveness	.06	.24***	.09	.04

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

As presented in Table 2, $DIST$ was correlated with all the four well-being variables: high $DIST$ was associated with high self-esteem ($r = .23$), low depression ($r = -.22$), low loneliness ($r = -.18$), and low perceived stress ($r = -.31$). None of the other three self-complexity measures was significantly correlated with any well-being variable.

Because overall coping effectiveness was significantly correlated with the four well-being variables (r coefficients were .60, $-.57$, $-.45$, and $-.31$ with self-esteem, depression, loneliness and perceived stress, respectively), it was controlled for to examine the unique relationships of the four self-complexity measures with psychological well-being. As shown in Table 2, after controlling

for overall coping effectiveness, the correlation of *DIST* with self-esteem, depression and loneliness was substantially reduced; however, a quite noticeable correlation ($r = -.25$) between *DIST* and perceived stress was remained.

Table 2. Correlations between the Four Measures of Self-Complexity and Psychological Well-Being Variables

	<i>NASPECTS</i>	<i>DIST</i>	<i>OL</i>	<i>H</i>
Zero-order correlations				
self-esteem	.09	.23***	.10	.09
depression	-.07	-.22***	-.07	.00
loneliness	-.03	-.18***	-.04	.01
perceived stress	-.01	-.31***	-.05	.05
Partial correlations after controlling for overall coping effectiveness				
self-esteem	.06	.11*	.06	.09
depression	-.05	-.10	-.02	.03
loneliness	.00	-.08	.01	.03
perceived stress	.01	-.25***	-.02	.06

Note. * $p < .05$, *** $p < .001$

Discussion

Researchers' interest in self-complexity mainly stems from its presumed consequence of adaptation, that is, people with high self-complexity can better cope with stress in their life and thus can fare better. However, studies exploring the relationship between self-complexity and well-being have yielded inconsistent results (for reviews, see Koch & Shepperd, 2004; Rafaeli-Mor & Steinberg, 2002). According to some researchers, this inconsistency is partly due to the problems in the *H* measure, which cannot properly assess the distinction component of self-complexity (e.g., Locke, 2003; Rafaeli-Mor et al., 1999). Therefore, a more appropriate measure of self-complexity is needed before further empirical studies being conducted in this area.

As suggested by some researchers (e.g., Lutz & Ross, 2003; Rafaeli-Mor et al., 1999; Rafaeli-Mor & Steinberg, 2002), rather than employing the single statistic *H* to represent self-complexity, the current study designed a new measure, namely the Self-Complexity Task to assess the two components of this construct separately. The number of self-aspects was represented as the number of groups formed in the trait-sorting subtask. The average distinction was assessed by having participants report the perceived "spill-over" degree among self-generated aspects in the distinction rating subtask. By using this new measure, Linville's *H* statistic and the overlap among self-aspects in terms of their descriptive traits were also obtained.

The positive relationship between Linville's *H* statistic and overlap replicated that found in previous studies (e.g., Luo & Watkins, 2008; Rafaeli-Mor et al., 1999). More specifically, the relationship between *H* and overlap was like an inverted U curve, but because most overlap values were relatively small ($M = .18$), the general relationship between them was positive. This result provides additional support for the position that *H* is problematic as a measure of Linville's conceptualization of self-complexity (Locke, 2003; Rafaeli-Mor & Steinberg, 2002). As argued by Rafaeli-Mor (Rafaeli-Mor et al., 1999; Rafaeli-Mor & Steinberg, 2002), there is actually a mismatch between the *H* statistic and the theoretical model underlying Linville's conceptualization of self-complexity. The *H* statistic is used to describe the complexity of knowledge structure within a multidimensional model. Obtained in the trait-sorting task, the *H* statistic is directly determined by the redundancy among traits, rather than among self-aspects; for a specific number of self-aspects, the *H* statistic will arrive at its maximum when any two self-aspects are all half overlapped in terms of their descriptive traits (see Luo, Watkins, & Lam, 2008, for more detailed analysis of the *H* statistic). In contrast, the two components of Linville's self-complexity are better understood as within a categorical model—the number of categories and the distinction among the categories—and thus better examined separately. The low correlation between the number of self-aspects and the average distinction found in the current study indicates

that the two components are relatively independent with each other.

In the literature, few studies have attempted to examine the relationship between self-complexity and coping. One exception was given by Miller, Omens, and Delvadia (1991), which reported non-significant relationships between the 14 coping styles measured by the COPE Scale (Carver, Scheier, & Weintraub, 1989) and self-complexity indicated by the *H* statistic. In the present study, compared with the other three measures which were only correlated one or two coping strategies very weakly, the average distinction was correlated with the use of 6 of the 14 coping strategies, and only the average distinction was significantly correlated with overall coping effectiveness. In combination with the result of further regression analysis, it was shown that among all the coping strategies Positive Reframing was the most powerful predictor of the average distinction. This can be understood by an inspection into what this scale measures. The two items measuring Positive Reframing were “I try to see it in a different light, to make it seem more positive” and “I look for something good in what is happening.” With this positive thinking, the perceived stress activated by a stressful event will be reduced and localized to some degree, and the adverse impact of the stressful situation on psychological well-being will be moderated. As defined by Linville (1985; 1987), the average distinction is also a cognitive variable about the differentiation among self-aspects: with a large average distinction among self-aspects, the thoughts and feelings evoked by a stressful happening will also be constrained and reduced, and thus the adverse impact of this stressful situation on adaptation will be buffered. The other two coping strategies which entered the regression equation were Acceptance and Humor possibly because both of them also required participants to adjust their cognition to be more positive about stressful life events. In general, both high cognitive distinction among self-aspects and these three coping methods may help cognitively minimize, rather than overgeneralize, the stressful feelings evoked by a stressful life event, and thus, have adaptation benefits. In conjunction with the positive correlation between average distinction and overall coping effectiveness, these findings indicate that people with higher average distinction among self-aspects tend to cope more effectively with stressors by using cognitive coping strategies.

Among the four self-complexity measures, only the average distinction was significantly correlated with the four psychological well-being variables. This correlation suggests that people with high average distinction among self-aspects tend to have relatively high adaptation level. However, when overall coping effectiveness was held constant, the correlations of the average distinction with self-esteem, depression and loneliness, the three relatively chronic well-being variables, were substantially attenuated. The correlation between the average distinction and perceived stress, however, could not be accounted for by the overall coping effectiveness. Our tentative explanation of these results is that although people with high self-complexity may use more effective coping strategies and perceive less stress in their daily life, in the long run, it is the coping strategies used to cope with stressful situations that directly affect psychological adaptation. Further studies, especially those with longitudinal designs, are warranted to examine this proposal.

In sum, compared with the other three measures, the average distinction showed stronger relationships with coping and psychological well-being. Between the two components of self-complexity –the number of self-aspects and the average distinction, the latter was a relatively more powerful indicator of self-complexity, which was correlated with the use of six coping strategies, the overall coping effectiveness and all the four well-being variables. The more self-aspects in life, the more internal resources may be needed to meet the demands in different self-aspects. Therefore, although a large number of self-aspects may act as a buffer against a single significant life event, in the long run, the number of self-aspects might indicate a balance between situational demands and personal resources. However, with a large average distinction among self-aspects, the thoughts and feelings evoked by stressful life events in any life domain will be constrained to a small portion of the whole self, leaving a large number of unaffected self-aspects to act as buffers against these life events. Therefore, in the long run, it will be directly associated with psychological well-being. This direct association between the average distinction and psychological well-being has been reported by Evans (e.g., Evans, 1994; Evans & Seaman,

2000)

Relative to overlap, the average distinction might be a more appropriate measure of self-complexity. Overlap obtained in the trait-sorting task describes the similarity across self-aspects in terms of their descriptive traits. However, as noted by Koch and Shepperd (2004), the possession of inconsistent traits in different roles or situations may not truly represent the meaning of high cognitive distinction inherent in the conceptualization of self-complexity. Although some researchers posited that the overlap should reflect the integrity instead of the differentiation of self-structure (e.g., Lutz & Ross, 2003; Rafaeli-Mor & Steinberg, 2002), overlap did not show adaptation consequence of well-being in the present study. Thus, this position needs to be further examined.

However, the average distinction assessed in the current study may be discounted by some researchers who may argue that the self-reported measure can be influenced by the tendency of social desirability, or else it is another indicator of perceived stress. This possibility has been reduced to a large degree, if not eliminated in the current study. First, in the distinction rating subtask, participants were instructed to imagine that their feelings about each aspect were changed because of some reasons which could be positive or negative, and then they rated the general change in other self-aspects no matter it was in positive or negative direction. The measure of the distinction component is based on the "spill-over" mechanism of self-complexity proposed by Linville (1985; 1987): the less the "spill-over" of feelings or thoughts evoked by a life event, the smaller portion of the self is changed, and the unaffected self-aspects will act as buffers against the stressful life event. The spill-over degree measured in the present study was different from perceived stress and mental health outcomes, such as global self-esteem, depression and loneliness. In addition, in our recent research, it was found that the average distinction was actually not confounded with socially desirable response tendency. However, since the average distinction is the perception of the cognitive differentiation among self-aspects, like cognitive coping strategies and perceived psychological well-being, it could be affected by personal stress experience in the dynamic and recursive stress process (Lazarus, 2000).

The present study was conducted in Chinese culture and the problem with the *H* statistic found in Western studies was replicated in this study. However, it has been argued that people from Western and Eastern cultures have quite different construals of the self (Markus & Kitayama, 1991; Triandis, 1989). People in Western cultures seek to maintain their independence from others by attending to the self and expressing their unique attributes. In contrast, people in Eastern culture emphasize their relatedness to others, and thus, the self-construals in Eastern cultures are meaningful within the interpersonal context. The cognitive distinction among self-aspects may be more important for people from Eastern collectivistic cultures because their self-representations are prescribed to be more contextually flexible in order to maintain harmony with others and self-esteem (Campbell et al., 1996). Therefore, the adaptation benefits of the average distinction might be stronger in Eastern cultures than in Western cultures. Cross-cultural research is necessary to examine cultural differences in the nature of self-complexity and its adaptation functions. In addition, in future research, if the method to develop the Self-Complexity Task in the present study is employed for respondents from other cultural backgrounds, it is suggested that the traits used in the trait sorting task should be obtained for the particular participant population concerned. For example, the traits used in the current research to measure the self-complexity of Chinese college students were different from those in Linville's (1985; 1987) in that more traits in our new measure described relational aspects, instead of the inner aspects of the self. Furthermore, to measure the distinction of self-aspects, it is better to use the idiosyncratic aspects generated by each participant, rather than preset the same aspects for all participants.

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Taking Advantage of the Circular Structure of Human Values

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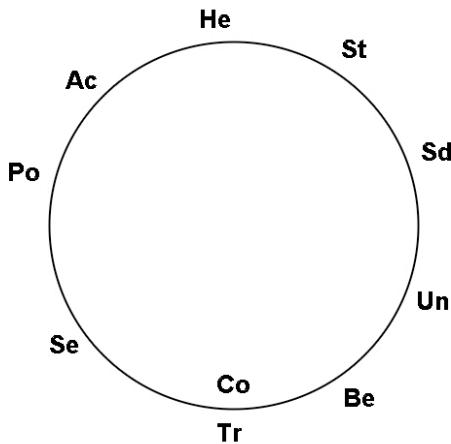
Schwartz (1992) has shown that Value Domains have a circular structure. The same circular structure has been observed in so many samples all over the world that we may assume that the circular structure is rather universal. Given this structure, the Value systems of individuals can be fruitfully characterized using only one score, which enables us to describe it extremely economically. The Value Circle score we suggest might be independent of response tendencies and cross culturally valid as well. The purpose of this chapter is (a) to show how such a score can be assigned to individuals and (b) to show the advantages and possibilities we have using such a score for analyzing the relation between religiosity and values.

As long as it was tried to measure Human Values it was asserted that not the absolute importance of values but their relative importance should be assessed (Vernon & Allport, 1931). Values by definition are rated highly by the large majority of people in a society or cultural group. To assess values in a sensible way it should be crucial to assess the priorities or relative importance people assign to values. Therefore all well known value scales have concentrated on ranking Values. The for the last decennia most influential scientist in this area, Milton Rokeach (1973) has chosen to base his scales on a very complex ranking process.

A consequence of that decision was that the data generated by these scales were psychometrically very problematic. The decision to rank values hindered to find stable and interpretable structures in the values. Only after Schwartz (1992) decided not to rank but to rate values he was able to find interpretable structures in the values. He was able to discern 10 Value Domains: clusters of values sharing the same motivational base. Furthermore he was able to show that the Value Domains could be ordered in a circle. Schwartz (1992) circle of Value Domains is shown in Figure 1. The Value Circle was repeatedly shown to be cross culturally valid. Schwartz's Value Circle was derived through WSSA (Weighted Smallest Space Analysis) a module of the HUDAP (Hebrew University Data Analysis Package) statistical package (Guttman, 1968; Lingoës, 1981) by analyzing ordinal distances between values (an approach similar to the non-metric multidimensional scaling one, although the distances computed were based on Pearson correlations between ratings given to the values in the Value List assessed).

In this chapter we propose to use the Value Circle to assign scores in respect to an overall Value system combining Schwartz's Value Circle with statistically innovative techniques on locating people along the circumference of a circle. One basis of our proposal is our interpretation of the Value Circle that one may expect: in a sample deviations in respondents' ratings from the value mean will be more or less in the same direction if these values are located in the same Value Domain. For instance values "Comfortable life" and "Pleasure" will elicit similar deviations from the means of these two values for a respondent, being both parts of the Domain Hedonism. This interpretation is consistent with the fact that Schwartz analyzed Pearson correlations. The essential part of that correlational approach is the sum of products of deviations from the mean. A Pearson correlation is higher as more deviations from the mean in a sample go together (Huismans & Van Schuur, 2003).

A second interpretation of the Value circle which will be emphasized in this chapter is that the place of a person on the circumference of the Value circle is the crucial information describing an important aspect of that persons whole value system. One score might summarize the crucial information in all ratings of a respondent on the 58 values scale.



Values belonging to Value Domains located near each other in the circle will elicit more or less the same deviations among the respondents in a sample. For instance the values 'Pleasure' and 'Exciting life', located in the neighbouring Hedonism and the Stimulation domains, would elicit similar deviations from their means. But values located in Value Domains at opposite positions of the Value Circle would elicit deviations quite different, maybe even opposite from each other.

Note: For the explanations of the symbols, see table 1. The Value domains Conformity (Co) and Tradition (Tr) are located at the same position on the circumference of the circle but at different distances from the center of the circle.

Figure 1. The Schwartz circular Value Structure as determined by the HUDAP software.

The score we hereby propose is computed through the profiles of 10 deviation scores, for each Value Domain a '0' or '1'. The score '1' is given if the respondent rates that Value Domain above the mean rating of the sample, the score '0' if the respondent rates it below the mean. From the fact that it is possible to locate respondents on a circle follows directly that many possible profiles of Value Domain scores are not admissible. For instance it is not admissible that respondents will have scores of "1" at opposite locations in the circle. Based on the fact that many profiles are not admissible, the second author has designed a method which, by systematically analyzing all profiles, finds the circle of Value Domains minimizing the number of not admissible profiles. The method has been formalized in the computer program CIRCUS (CIRCumplex Scale analysis) designed by the same author. CIRCUS suggests the circular order which minimizes the number of not admissible score profiles. (For a more detailed description of the method see Mokken, Van Schuur & Leeferink, 2001; Meijer & Van Schuur, 2003). The method of scoring of a subject's Value Domain profile is based on a nonparametric circumplex model (for theory and a range of applications of the circumplex model see Tracey, 2000) developed by Van Schuur that can best be regarded as an extension of the Mokken (1971) model (the probabilistic nonparametric version of the Guttman scale), and its extension to distance related data for the analysis of preference and development, the nonparametric version of one-dimensional unfolding analysis (Coombs 1964; Van Schuur 1984, 1993). The model assumes a single circular latent continuum (another example can be found in Sidiropoulou-Dimakakou, Mylonas, & Argyropoulou, 2008), on which items and subjects are represented by a single parameter (Leeferink 1997; Mokken, van Schuur & Leeferink, 2001; Huismans & Van Schuur 2003). The software is also capable of assessing the quality of a circle based on a priori order of variables.

After finding the circular order in Value Domains, a Value Circle score can be assigned to respondents. As soon as the Value Domains are ordered in a circle we are in a position to give the Value Domains a number based on the place the Value Domain has on the circle. Because CIRCUS

only determines the order of the Value Domains along the circle, any number that preserves the order of Value Domains is defensible, because no natural origin exists. We have chosen to assign the 10 Value Domains the rankings 1, 3, 5...19, beginning with the Value Domain of "Power". The score of a respondent on the Value Circle is determined by calculating the median score of the value domains selected by a respondent. We used the median because the scores assigned to the values are ordinal. A profile 0 0 0 1 1 1 0 0 0 0 means that positive deviations are found in the Value Domains 7, 9 and 11. The median is thus nine. Also profile 0 0 1 0 1 1 0 0 0 0 and 0 0 1 1 1 1 0 0 0 would get a nine. Note that the profile 1 0 0 0 0 0 0 0 1 would get the score zero because it is located on a circle. In the method paragraph we refer to the exact algorithm applied.

Firstly we address the question to what degree it is possible to assign scores to Value patterns in the way described above. It is quite possible that many people will get no score at all using our algorithm. Secondly, we decided to relate these scores to subjective religiosity of respondents. We used religiosity for two reasons. Firstly religiosity is a central variable in the area of Values and secondly Schwartz & Huisman (1995) showed what the relation was between subjective religiosity and values. The hypotheses tested in this chapter were based on the fact that Value Domains were located in a circular order. We showed that subjective religiosity was most positively related with Traditional Values and most negatively with Hedonism Values. Furthermore, we expected that the pattern of correlations would take a sinusoid form: decreasing in size from Power values to the Hedonism Values, then increasing in size to Traditional values and then again decreasing to Power values. In the Schwartz and Huisman paper we presented data fully consistent with the above hypothesis. However a statistical test for the hypothesis was not available at that time.

The answer to the second question is '*Quod Erat Demonstrandum*'. If we are able to show sensible relations between the Value Circle scores and other variables, we possess a promising tool that deserves to be improved in further research.

Method

Values were assessed in a sample of 267 first year students in Psychology and Educational Science through Schwartz' Value Survey. Respondents were asked to rate 58 values on a scale varying from minus 1 (against my principles) to 7 (extremely important). All values were presented in the standard order, but we added "SEXUALITY (a satisfying sexual life)" as value 31 and at the end "SELF INDULGENCE (do nice things)" as value 58. The added values were suggested by Schwartz (personal communication) to extend the Hedonism Domain. In this chapter we use the means of the ratings of Values in each of the 10 Value Domains as defined by Schwartz. (Table 1). Because the α coefficient assumptions are violated they are not reported here.

The Value Circle Scores were computed as follows: The basic problem for the construction of the Value Circle Score was that we have no real starting point. We needed an indication of the center of the area where a respondent's most important values are located. This place should be located opposite to the place where the relatively unimportant Value Domains for this respondent would be found.

If we did not find such an area, we would search for an area where the important values are located. The algorithm was defined in six steps described below: (See also Table 2 for examples).

1) First we constructed a profile of Value Domain scores consisting of ten zeros and ones. If a person scored equally or above the mean of a Value Domain, this person was given a "1" otherwise was given a "0" for that Value Domain. The profiles were the actual input for the

program CIRCUS. The output of the program showed that the profiles were consistent with a circle. The solution found is presented in Figure 2. The order of the Values approximates the structure which Schwartz has reported. Because the circle follows exactly the same order as the order used by Schwartz & Huismans (1995), we used this order as the basis for our Value Circle scores. In Figure 2 each Value Domain is connected with a number. Because our method is nonmetric, *any* series of numbers consistent with the order found through the Circus software could be assigned to the Value Domains. We decided to assign number 1 to the “Power” Domain and number 3 to the neighboring Domain “Achievement”. This leaves space for number 2, which only implies that a respondent is located between the two Domains. All other figures assigned to the Value Domains are presented in Figure 2.

Table 1. Descriptive statistical indices for the 10 Value Domains

Label	Location	Name	Items ¹	Mean	SD
Po	1	Power	3, 12, 27, 47	1.8	1.2
Ac	3	Achievement	35, 40, 44, 56	3.8	1.0
He	5	Hedonism	4, 31, 51, 58	4.8	1.1
St	7	Stimulation	9, 16, 25, 38, 54	3.6	1.2
Sd	9	Self direction	5, 21, 32, 42	5.0	0.9
Un	11	Universalism	1, 17, 24, 29, 30, 39	3.9	1.0
Be	13	Benevolence	34, 46, 50, 53, 55	4.9	0.8
Tr	15	Tradition	18, 33, 37, 45, 52	2.2	1.1
Co	17	Conformity	11, 20, 41, 48	3.9	1.0
Se	19	Security	8, 13, 22, 57	4.1	1.0

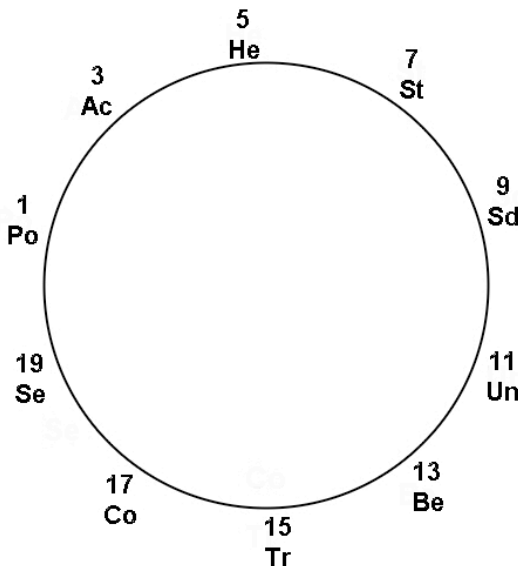


Figure 2. The circular structure as determined by CIRCUS software

Table 2. Examples of Value Circle scores

¹ After “31”, all value numbers are 1 point higher than in the 56 values version of Schwartz Value List.

Value Label and Location											Value Circle Score	Comment
Po	Ac	He	St	Sd	Un	Be	Tr	Co	Se	19		
1	1	1	1	0	0	0	0	0	0	0	4	Value 1, 3, 5, 7 are located after a series of six 0's the median is 4, the mean of the middle values.
0	1	1	1	1	1	1	1	1	1	1	11	The longest series of 0 is at value 1. The median of the values after this 0 is 11.
0	0	0	1	1	1	1	0	1	0	0	11	The values 7, 9, 11, 13, 17 are located after a series of four 0's.
1	1	1	1	0	0	1	0	1	1	1	1	The values 13, 17, 19, 1, 3, 5, 7 follow a series of two 0's. Note that here 1 is higher than 19.
1	1	0	1	0	1	1	1	1	1	1	17	No longest series of 0. The longest series of 1's is: 11, 13, 15, 17, 19, 1, 3. The median of this series is 17.
0	1	0	0	0	0	0	0	1	0	0	0	The median 17 and 3 is 0. Both values are located at distance 3 from 0.
1	0	1	0	0	1	1	0	0	1	1	-	No longest series of 0's or 1's. The pattern is unscorable. Note value 19 and 1 form a series of 1's.

2) Hereafter, in each of the profiles, the location of the longest series of zeros was identified. This was called the “dominant series of zeros”, the region where the Value Domains of a respondent are found to bear relatively low importance for the specific respondent.

3) Starting right after this dominant series of zeros the Value Circle score was defined as the median of the Value Domain Scores with a “1”. As a consequence of the fact that scores are located on a circle it could be that low scores are interpreted as higher scores (see example 4 in table 2). If such a region was found, the Value Circle score was assigned to the specific individual and the procedure stopped.

4) Else, if no dominant series of zeros could be found, the dominant series of ones was considered. This was the region where Value Domains of a respondent are found to bear relatively high importance for this respondent.

5) When such a series was found, the Value Circle Score was defined for this individual as the median of the Value Domains in this series of dominant ones.

6) Else if neither a dominant series of zeroes nor a dominant series of ones was found, no Value Circle Score was assigned to the individual. The value pattern was considered not admissible and thus unscorable.

Finally, *Religiosity* was assessed by a single question: to what degree do you consider yourself to be a religious person”. The answering scale varied from 0 (not at all) to 7 (very religious). It has been shown (Schwartz & Huismans, 1995) that this one question suffices as a general indicator of religiosity.

Results

In Figure 2, the order of values as determined by CIRCUS software is presented. The order of the Values approximates Schwartz's structure. One exception is that Conformity and Tradition are not at the same place (Figure 1), but the suggested circle is exactly the same as the circular order applied by Schwartz & Huismans (1995). The distribution of Value Circle Scores is reported in Figure 3. It appears that all possible scores are used up to a certain degree. Score 0, the position between Security and Power, is infrequent ($f = 3$, only). It was possible to assign scores to 246 (92%) of the 268 students, as for the remaining participants scores were inadmissible.

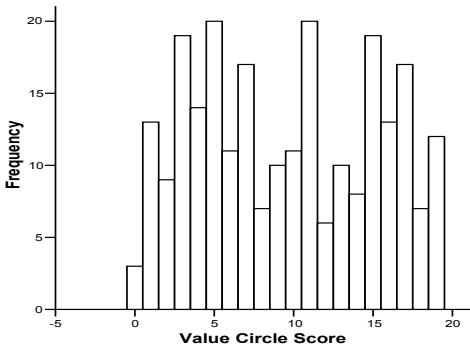


Figure 3. Distribution of the Value Circle Scores.

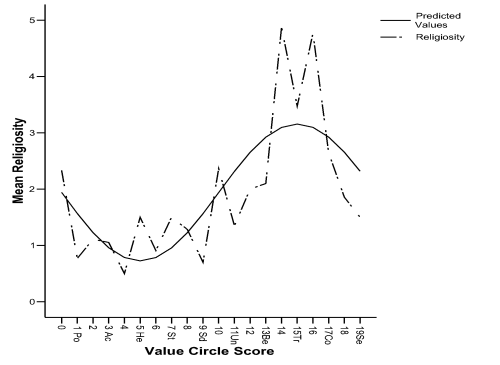


Figure 4. The relation between Value Circle Scores and religiosity.

Figure 4 shows that the expected relation between Value Domains and Religiosity is found in our data. Religiosity is primarily related in a positive way with Tradition Values and negatively with Hedonism Values. The form of the relation is a sinusoid. Using the Value Circle Scores we are in a position to test the hypothesis statistically using Nonlinear Regression by testing for the model:

$$E(Religiosity) = a + b \sin \left(\frac{Value\ Circle\ Score - c}{20} \right) \neq$$

with parameters *a*, *b* and *c*.

Notes:

- a. The basic part of the model is the sinus taken from the Value Circle score multiplied by 2π to translate the circle scores to radians. This score is divided by the scaling factor 20.
- b. Parameter ‘*a*’ defines the height of the curve, the baseline for the sinus curve.
- c. Parameter ‘*b*’ defines the width of the curve, and
- d. Parameter ‘*c*’ defines the starting point.

R^2 for the model, was .18 with $F(2, 242) = 26.4, p < .01$. From Figure 4 it can be inferred that the fit of the model would be improved if the distances from 13 to 0 would be enlarged. In principle, this is possible because the Value Circle scores are measured at ordinal level. We will return to this point in the discussion section.

Discussion

The Schwartz Value Circle implies the possibility to summarize important information concerning a person’s Value System in one Value Circle score. We have suggested a possible operationalization for this Value Circle score using the ideas of unfolding and nonmetric scaling. In this chapter we have shown that the so defined score is related to Religiosity in the expected way. Using the Value Circle scores we were able to test the expected sinusoid curve statistically. The Value Circle scores are defined on ordinal measurement level. The results have shown that the accuracy in describing the relation between Religiosity and the Value Circle score might be

improved if we would change the metric location of the Value Domains around the circle. Some distances between the locations on the Value circle might be enlarged. But for the moment we have no sound basis to do so. Possibly the accuracy of descriptions might be improved if we used even more reliable indicators of Religiosity and Value Domains. Furthermore, we might consider not only the direction of the deviations of Value Domain scores from the mean but also their size. But this also requires a more precise insight in circular structures than we have now.

It is encouraging to note that the Value Circle found by CIRCUS software was in principle the same as Schwartz's Value Circle, despite the fact that totally different procedures were found to construct the circle. Encouraging is also that we were able to assign Value Circle scores to the large majority of our respondents (92%). The remaining minority of the unscored profiles deserves further investigation. What does it mean that respondents have deviations at opposite locations of the Value Circle? What does it mean that respondents have value profiles with only zeros or ones.

Because Schwartz (1992) was able to show that his Value Circle was cross culturally valid, our scores have the advantage that they are interpretable across cultures. For example a Value Circle Score of '5' tells us that those people assign relatively high importance to Value Domains with Hedonism as a centre. The score gives insight in the relative importance people assign to certain Value Domains regarding their own cultural group. This interpretation is valid in every culture where we can show that the Value Circle describes the relations between Values.

Furthermore, we may expect that the proposed Value Circle score is immune to response tendencies like acquiescence and social desirability. People rating high on these tendencies will get a large number of ones in their profiles. But the number of ones is irrelevant to their position on the circle as long as not all Value Domains are scored with a "1". So a respondent with a tendency to answer positively can get the same place on the circumference of the circle as a respondent who is free of this tendency. The same might be true for social desirable answering. Schwartz et al. (1997) have shown that value ratings are more influenced by substantive considerations than by the tendency to respond social desirably. We believe that the Value Circle scores are even less vulnerable for social desirable responding. As long as respondents give the highest ratings to values that really matter for them, their place on the Value Circle can be inferred.

We believe that this study might contribute in solving the issue of ranking versus rating of values. Our proposal is a combination of the two methods. Schwartz (1992) has shown the advantage of using rating scores to assess the importance people give to values to find his Value Circle. But in this study, using the same ratings, two kinds of relative importance are introduced in the scores. Firstly we did not use the absolute rating but we analyzed the degree the ratings deviated from the mean ratings in the sample. Secondly to locate a respondent on the Value Circle we used the whole profile with all the ten Value Domains. It might be that a (possibly improved) Value Circle score contains the crucial information concerning a person's Value system because it uses information (1) of a person's culture (2) the existence of the Value Circle, and (3) information concerning the whole value system of the person.

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Meaning Constitution Analysis: A Phenomenological Approach to Research in Human Sciences

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Each and every thought, word, feeling or action of a person harbor a richness of meaning, opening on all the possible worlds accessible for him/her. A vision on those possible worlds, those open possibilities of action, should be of great interest for human science research. We believe that the phenomenological thinking of Edmund Husserl, reworked to adapt to the modern conception of the human sciences, can allow such an understanding of a person or a more or less large group, giving not a static picture of his mind, but a dynamic view of the ongoing process of constitution of meaning. In cross-cultural and/or intercultural comparative fields as well as developmental and educational fields, the researcher is confronted to language, in conversations, narratives, writings and texts studied, to understand the relations of individuals to their cultures. Collecting freely expressed narratives and texts, the researcher accesses the whole universe of the subject in all its richness, individual specificity and cultural and social characteristics. Hence the question of the meaning and interpretation of the narratives to be done by a lecture in intention to reconstruct the possible worlds of the subject by phenomenological analysis. MCA, "Meaning Constitution Analysis", explores the pluralities of the significations lying in the texts and implied by it. Software, MCA – Minerva, has been developed as an efficient tool in the work of text analysis. By MCA-method any kind of text can be analyzed in a rigorous and controlled way. By allowing also for different statistical treatment of the results of the process of analysis, it might render obsolete the now almost classical distinction between qualitative and quantitative methods.

Psychology, as a discipline in the social sciences, can be a science of behavior and a science of meaning constitution processes, of the way humans constitute their worlds and themselves. Is psychology, in the likeness of natural sciences, value neutral or is it a moral science, because any characterization of man must include, as a primary aspect, its being an ethical being? In the original Greek sense of *ethos*¹, implying an indwelling in an inter-subjective-natural environment hence where each step, decision, way of thinking, and acting has repercussions on this same way to relate to the environment (Sages, 2003).

Following the positivist formulation of psychology there come also methodological decisions, which are, not only choices of specific methods but have even epistemological and ontological bearing. The choices are oriented towards instruments which neglect the singularity of the person and tend to classify him/her *a-priori* as a group member, where the analysis is conducted top-down and where the person's decisions and ways of relating to his/her Life-World is transformed in numbers. Questionnaires are the typical example of this way of processing. Also, it is *a-priori* assumed as being fully possible to separate the knower from the known, the researcher from his/her object of study (Sages, 2003). Cross-cultural psychology has accumulated evidence, in all subjects and for all cultures and subcultures that this assumption, not only is not the case, but that it is impossible, by essence, to conceptualize an individual not influenced, in a way or another by her/his cultural/environmental background as well as current situation (Berry, Poortinga, Segall, & Dasen, 1991; Markus & Kitayama, 1991).

¹ "*ēthor*" is the Greek word for "moral".

Meaning Constitution Analysis

The phenomenological thinking of Edmund Husserl (1954a, 1976), reworked to adapt to the modern conception of the human sciences, can allow for an understanding of a person or a large group, giving not a static picture of his mind, but a dynamic view of the ongoing process of constitution of meaning. This is what will be discussed in the following pages, as the theory of meaning constitution analysis (MCA), a theory of the experiencing of consciousness. We are interested in getting at the meaning that activities, situations, relations and experiences can have for the person, and not at any kind of causal analysis of them, which would entail seeing them as facts, by definition devoid of meaning.

Human situations, interactions and encounters are characterized by being “meaning-laden”. They are encounters in a partly shared Life-World, which are made on the basis of more or less agreed ways of actions. The Life-World originates in and through the individual’s daily activity (Husserl, 1954a). It is anchored in the animated body, giving man its original bodily location and orientation. To share a Life-World means that individuals participate in common forms of activities. The ways of actions of particular subjects have bearing on the life-situation of themselves and/or of others, having in this way an ethical dimension (Husserl, 1982). This can happen under more or less co-operative, democratic and socially supportive conditions, but it always happens in a specific situation, characterized by cultural, individual and material (a particular physical environment, for instance) aspects, which should be taken into account at all moments of the research process. These aspects are ever changing, involved as they are in a continuous, mutually influencing process of change and development.

Intentionality is the fundamental aspect of all psychical phenomena (Brentano, 1928, Husserl, 1976). This concept stands for all conscious activities being directed toward an “X”, a “something” that is the aim of consciousness, the “X” toward which it is directed. To be conscious is always to be conscious of X, a percept, a judgment, an aesthetic appreciation, a memory, a fantasy, a future plan, a wish, an exigency... Consciousness is equivalent to the way it intends its object. The way it intends its object is the way it gives meaning to it.

This way of looking at things, that is, the reckoning with this transcendental noetico-noematic correlation, that is the correlation between the mental acts and the meaning constituted by those mental acts where the “object” of study is this correlation, is the transcendental attitude. It has to be contrasted with the way of looking at things in mainstream psychology and science in general, that is, the natural attitude. In it, the world as it appears to us in its “self-evidence” is taken for granted, and not seen as the result of a continuous process of meaning constitution and in continuous expectations and confirmation/disconfirmation of those expectations. Here lies a similarity between phenomenological thinking and cross-cultural psychology. In both, the most interesting propositions and facts to study, to uncover subjective/intersubjective processes of meaning constitution and/or the modulating effect of culture on mind and behavior, are the seemingly self-evident, everyday type. Here lies even a similarity with oriental thinking, especially in its Buddhist form, asserting that the world given in its immediate, unreflected form is an illusion and that this creates the need for another form of approach to reality, in order to discover its true nature. In phenomenology, this necessary turn toward the transcendental attitude is achieved by “the *epochè*” and the transcendental reduction (Husserl, 1976). “The *epochè*” means the suspension of all value judgments as well as an increased attention toward the phenomenon studied independently of any theoretical interpretation. The transcendental reduction is the method leading us toward the steps in the constitution of the meaning of the phenomenon under study. The concept of *Horizon* is the phenomenological ground for human creativity, which, as stated above, is a main characteristic of human beings. The possibilities for future expectancies as expressed in a *Horizon* also allow for the possibility of novelty, of unexpected behaviors and thoughts.

Meaning, is a continuously ongoing process. This process, this becoming, has its origin in subjectivity. Subjectivity is itself neither before nor after but is only in and with this process,

as Eugen Fink expressed it in the Sixth Cartesian Meditation (Fink, 1988). Again, as expressed by Fink, the primary aim here is the correlation subjectivity-world and not its separate members. It is not so that subjectivity is here and the world there, and in between them the relation of constitution, but the becoming of the process of constitution of the world is the self-realization of subjectivity. The concept of individual subjectivity becomes then of foremost importance to the research process. To study humans and human interactions necessitates the understanding of meaning; which implies, in turn, the necessity of describing meaning as a process, originating in an individual, always being in a particular, objectively, subjectively and intersubjectively determined situation. He/she is the one constituting meaning in and by his daily life activities and is then the only possible source of meaning. Only a careful analysis of meaning as it is constituted by the individual subject can give us indications for eventual generalizations and formulations of typologies and classifications above the individual level. The concept of the individual is in this way of the highest scientific value, being the sole valid basis for all efforts of scientific conceptualizations. Moreover, to affirm that meaning is individually constituted and that as a product of subjectivity, is also to affirm the necessity of reaching it with and by the concerned individual's own terms and expressions.

When research is seen as a making of meaning explicit instead of a blotting out of facts, each moment of revealing meaning, by necessity, will modify the ongoing view of the noematic content of the intentional object. The Life-World unveiled by a phenomenological revealing displays all the richness of meaning formed by and so forming a human being. To reveal means the unveiling of all, in subjective constitution grounded differences of experiencing as a necessary first step toward the search for eventual essential characteristics. Wittgenstein writes in his Lectures on the foundation of mathematics delivered in Cambridge in 1939: "We try to talk of very different things by means of the same schema. This is partly a matter of economy; and, like primitive peoples, we are much more inclined to say, 'All these things, though looking different, are really the same', than we are to say, 'All these things, though looking the same, are really different'. Hence I will have to stress the differences between things, where ordinarily the similarities are stressed, though this, too, can lead to misunderstandings." (Wittgenstein, 1975, p. 121).

It is no longer possible to define the being of the thing independently from the experiencing and studying of it. Not that reality becomes reduced to the process of construction of knowledge and its result, but its very determination is inaccessible outside of it. According to the present position, trying to reveal the meaning-intentions of individuals in relation to their works, their lives and their fellow-workers (for example, in a psychological study of an enterprise) implies a full acknowledgement of each individual's point of view (as seen from the individual's own perspective), that is, a recognition of its own internal validity. The experiencing of each and every person under study must be treated as equally valid from the beginning, without applying to it any kind of concepts or system of categories developed previous to the empirical study, which, whatever its quality, would entail a disregard of the meaning of life-experiences as projected by the individual himself. This is where an ethical aspect in the method is present, and, of course, as a result of the phenomenological way of orientation to problems in general, that is, the critical readiness in the effort to understand individuals in their own terms and from their own premises. We could add, it is only he who can give it to himself. It is no longer a question of approaching the text in extension but of understanding it in intention and to constitute the possible worlds of the speaker. To look for the plurality of the significances registered in each fragments of text, to make it resound in all the various significances it implies rather than to look for a single meaning seemingly appropriate to it. The phenomenological perspective finds its starting point in the person and her/his meaning constitution, starting from her/his own subjectivity and daily praxis in the lifeworld. That gives it: a) an ecological validity, b) a richness and abundance of details, c) a discovery of unexpected meanings and relations, contrary to the data obtained by usual investigations and

questionnaires. Another reason for a phenomenological approach is its greater flexibility and its rich possibilities of adaptation to the varying conditions of life and organization in work science research, to global and/or local differences in schools, pupils/teachers, educational systems, with its evident negative implications for classical quantitative methodology, based on a positivistic epistemology with no contacts whatsoever with the realities of individuals in their daily praxis. Quite the opposite for a phenomenologically based, flexible qualitative approach. It will have a clear ecological validity, making its results not only reliable but, and as a consequence, of clear and valuable practical application (Sages, Jakobsdóttir, & Lundsten, 2001).

The procedural aspects of the method

Phenomenology is extremely often associated with “description”. Certainly a pure description of phenomena is the aim of the working phenomenologist but its obtaining is the result of a complex procedure and is far away from the common sense understanding of the term of description. Furthermore, description in this phenomenological sense is only the first moment in a phenomenological analysis. But phenomenology is explicative or genetic when the obtained descriptions of lived experience are replaced in the stream of consciousness from where they originate. The method is mainly based on the first moment but develops also some aspects of the second one.

Then the researcher gives for each meaning unit the partial intention resulting from a possible reading or another combination of the wording. The latent possibilities of the subject universe can thus be explored. This is a way to explore and describe his/her motivation, behavior, opinions under all their possible aspects, not restraining the understanding to the first perception of the text. The repetition of this exercise on each meaning unit leads to the creation of a set of partial intentions which can be seen as a new corpus in extension (widening the first scope from a superficial reading). These partial intentions can be linked to the first categorization of meaning unit and statistically analyzed give an insight in the subject’s universe of perceptions and intentions.

The research proceeds often from a self-report. A person is asked to answer a carefully formulated question concerning the topic of research. The question should be phrased so that the person can express himself freely and without any restrictions whatsoever, i.e., the person should be able to freely associate “around” the question. A text may also be a transcript from an interview or a conversation between two or several persons and even a policy document from a company, trade union, local or central authority or some other organization. The MCA method of text analysis can be applied to any language. The software MCA-Minerva can as yet function only with texts written in the Latin alphabet.

The following is an example formulated by Falk (1995, p. 37): “Try to imagine the following: One day, a person comes to your place of work. He/she comes from a totally different culture, and understands nothing at all about what goes on where you work. How would you try to explain your job to him/her? Write exactly right off as you think, without worrying about wording, spelling, and the like –this is completely unimportant in this context! Leave your contribution in a sealed envelope at the reception as soon as possible, to be forwarded to me. Thank you for your cooperation!”.

A systematic study of a text

Analysis Phase of the text proceeds through three steps:

Step 1: The first application of “the *epoché*”. In this phase the text is being partitioned into meaning units.

Step 2: The second application of “the *epoché*”. The modalities and the pure meaning are being obtained.

Step 3: The application of the phenomenological reduction. The obtainment of the partial intentions is given by an intentional analysis.

Phenomenological Interpretative Phase of the text proceeds through five steps:

Step 1: Synthesis of the noematic kernel.

Step 2: Synthesis of the modalities.

Step 3: Synthesis of the complete noema.

Step 4: Temporalization of the noema by formulation of the Horizons.

Step 5: Formulation of the life world.

An early step in the analysis process must then be separating the meaning-core from its pertaining modalities by the application of the *Épochè*. The *epochè* involves putting the pronounced meaning in parenthesis, the bracketing of the existence-thesis implied in the propositions (or parts of propositions). One of the objectives is that one should, to the greatest extent possible, free oneself from all previous knowledge, whether they come from science or traditional, cultural thinking and open one's mind to the new knowledge that shows itself in the text. This is the phenomenological attitude. It enables us to discover the "self-evident theses" and assumptions which are always part of our experiencing, to study them in their meaning and origin and most important, to open us to new things, ideas, conceptions or forms of experiences which our natural attitude, our spontaneous, not reflected behaving in the world usually hide from us (Patočka, 1995).

The breaking down of the text in smaller meaning-units, rendering more difficult in this way the spontaneous process of interpretation from a preconceived Horizon, is a first step toward the aim of a pure vision of meaning. It starts from an already formed meaning with its unity and stability and strives to disentangle the several partial intentions constituting it, showing the many components contributing to the fullness of meaning. The striving to minimize as far as possible the size of the meaning-units follows as well from the theoretical need to disclose as much as possible of the partial intentions hidden in the propositions and satisfy also the methodological need of clarity and openness to critical validation. A more clearly defined partition of a person's report means that there is less room for uncontrolled interpretation. Smaller meaning units increase the credibility and the possibilities to validate the analysis in so far that other researchers will be able to more easily compare their results step by step and identify differences and errors or omissions that may occur. The meaning units do not need to be defined syntactically or grammatically in the original text. It is essential that every occasion in the text where the researcher notes that there is even the smallest shift in meaning, the text should be broken off. Therefore, the meaning units are normally relatively short which increases the exactness of the analysis. Each meaning should be numbered, which makes matters easier, as well in the later stages of the analysis as in comparative studies and validation.

The modalities and the pure meanings, which appear as a result of the application of the *epochè* follow the appropriate meaning units. The modalities give an understanding of the experience of the person, they are in the ways in which the acts of consciousness (the noetical processes) picture the noema (the meaning structure of the intended object) and, as such, belonging to the deepest parts of subjectivity, indicating the most profound and subjective aspect in the process of intentional constitution (Husserl, 1976). In other words modalities are the ways an individual experiences his/her life-world. The modalities give an understanding of the form of experiencing. They are an indication of the way of appearance through and in which is shown what appears (Patočka, 1995). That means that phenomenology is oriented not only on "what" appears but also its "how" of apparition. Modalities can be of different kinds and express the degree of belief, e.g. *doxa*, implying that there is no hesitation about them (absolute certainty), probability, possibility, hesitation, and assumption, etc. They can also express

function, such as ‘signitive’, imaginative, or perceptive (a direct perception, something that happens in “presence”). Examples of other modalities are degree of will, time, property, etc. Every produced meaning is always an acceptance of one or another form of existential thesis (like certainty, probability, possibility, or negation, according to the natural attitude), intending its intentional object in one or another form of function (perceptive, imaginative, or signitive), delineated by a time horizon (although every experience, by definition, always happens in the living present, it can be oriented toward it or toward the past or the future, always framing every living experience). On the other side, modalities like affect, will, and property, although of crucial importance in most, if not all (property), of human experiences (Heidegger, 1927; Husserl, 1954b), may or may not be present in a particular text. So modalities (see also Figure 1) indicate the attitude of the individual in relation to the expressed meaning.

The screenshot shows the MCA software interface. At the top, there is a menu bar with 'File' and 'Edit'. Below it is a text area containing an interview transcript. The transcript is as follows:

INTERVIEWER: Do you think it has been handled well?
 FEMALE: I think so considering what they are up against.
 INTERVIEWER: What do you mean by that?
 FEMALE: Well, I mean it is just like 9/11, you know? You never know when they are going to strike. You can have the east coast secure, yet we have Chicago, and St. Louis, and Denver, and all these big cities, and they are mixed up with all kinds of people. So nothing is for sure. I don't know if that answers your question or not.
 INTERVIEWER: What would you like to have, this or a new administration change in our country now and in the future?
 FEMALE: Well, I would like this war to end and I would like gasoline prices to go down.
 INTERVIEWER: What are your general feelings and visions about America today and in the future?
 FEMALE: I think considering the population and what we have here, the mix of different races and people from all over the world,

Below the text area is a toolbar with two icons: a circular arrow and a hand cursor. At the bottom of the screen is a table with two columns: 'Unit' and 'Meaning Unit'. The table contains the following data:

Unit	Meaning Unit
33	and they are
34	mixed up with all kinds of people.
35	So nothing is for sure.
36	I don't
37	know if that
38	answers your question
39	or not.
40	INTERVIEWER: What would you like
41	to have, this
42	or a new administration change in our country now
43	and in the future?
44	FEMALE: Well, I would like this war to
45	end
46	and I would like gasoline prices to
47	go down.
48	INTERVIEWER: What are your general feelings
49	and visions about America today
50	and in the future?
51	FEMALE: I think
52	considering the population
53	and what
54	we have here, the mix of different races
55	and people from all over the world.

Figure 1. MCA screen shot, from meaning unit codification to modality coding. The text (on top of the screen) is separated in meaning units (lower part of the screen) and coded according to MCA's modalities.

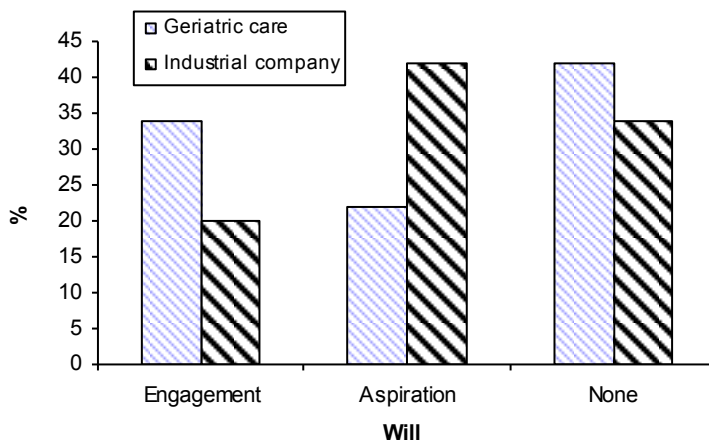


Figure 2. Analysis of the “will” modality.

Figure 2 illustrates the analysis concerning the modality Will that was obtained from self-reports answering the question: The meaning units were categorized into Will: Engagement, Will: Aspiration, and Will: None. Figure 3 illustrates a full description of modalities from texts obtained in answer to the following question: Please describe freely your experiences at your job. You may also describe your experiences about your job and outside your job (family and leisure).

The partial intentions are the result of passive syntheses, a guiding concept in the development of the method. In “Analysen zur passiven Synthesis” (Husserl, 1966) and “Cartesianische Meditationen”, fourth Meditation, §38, (Husserl, 1950) expresses and develops the idea that every synthetic activity of the mind, every noetical process is made possible and can happen only because of previously already synthesized “objects”, serving the purpose of underlying material for the actually occurring active synthetical process. There is then always an already “given”, itself already constituted in earlier syntheses, which forms the preconceived but not reflexively conscious meaning of the object as it is perceived as such in the natural attitude and which consequently needs to be made explicit for a full understanding of the noematic constitution of the intentional object.

This ‘explicitation’ gives the intentional meaning-content of whatever is the object of the active noetical processes, constituting the intentional-historical development of the meaning of the intentional object (Husserl, 1954a). This intentional analysis of the meaning content obtained by the epochè is the first step in the application of the phenomenological reduction. Here, every partial intention must be derived from the pure meaning obtained by the epochè and be illustrated as concisely as possible in all its general and individual aspects. This reduction which has nothing to do with any kind of reductionism but is an effort to lead, from the pure meaning, back to its origins in the lifeworld (Waelhens, 1967), discloses the intentional implications hidden in, but implied by a statement.

Statements as meaningful structures have their genesis of sense; they carry within it a kind of historical process. The phenomenological reduction makes possible its uncovering (Husserl, 1950).

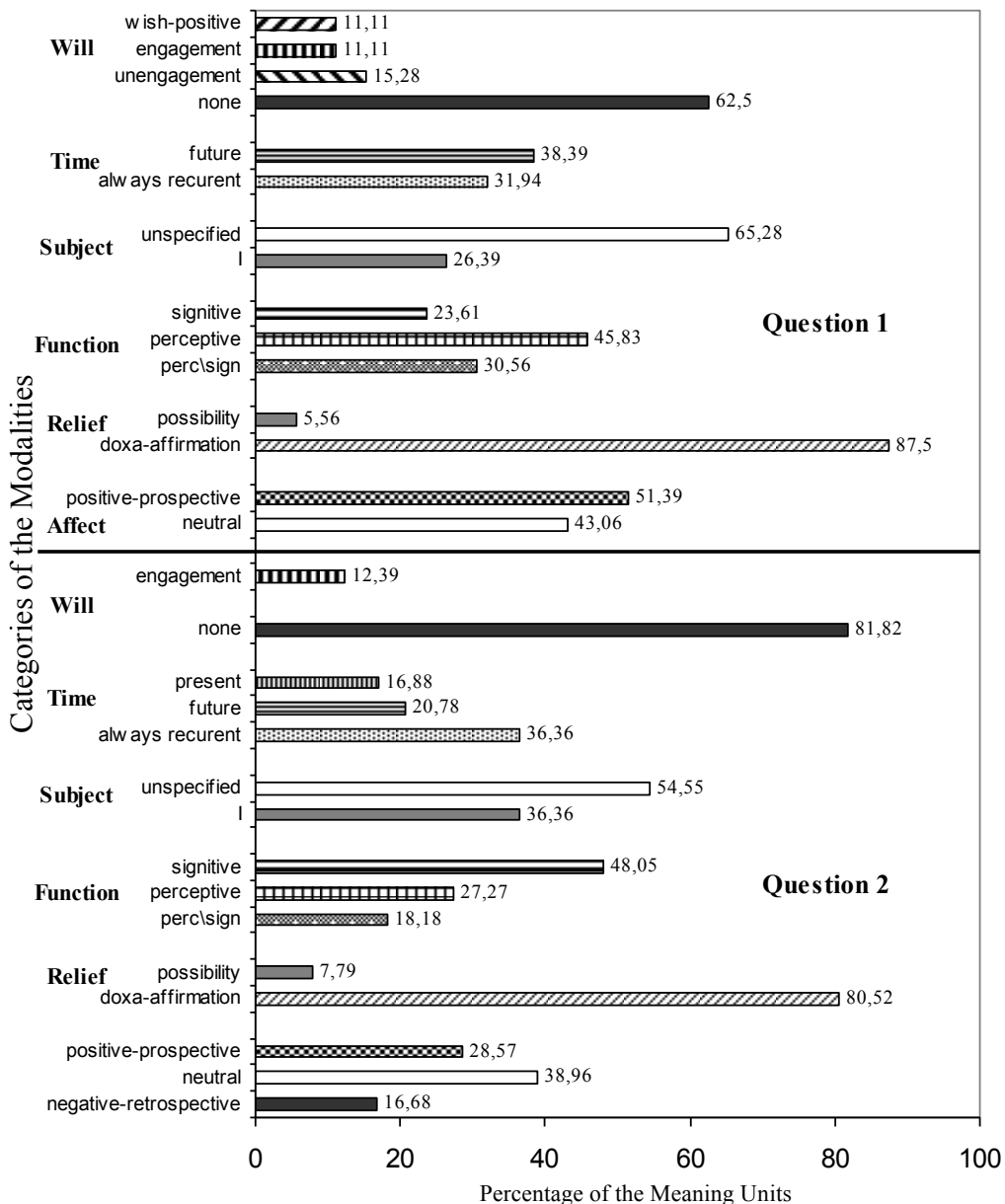


Figure 3. MCA analysis shot giving a detailed comparison of the subjects' answers on the following two questions: 1) What are you currently occupied with? and 2) How do you feel about your current life situation and what would you like to change in it if you could? (Burzynska, 2005, p. 42).

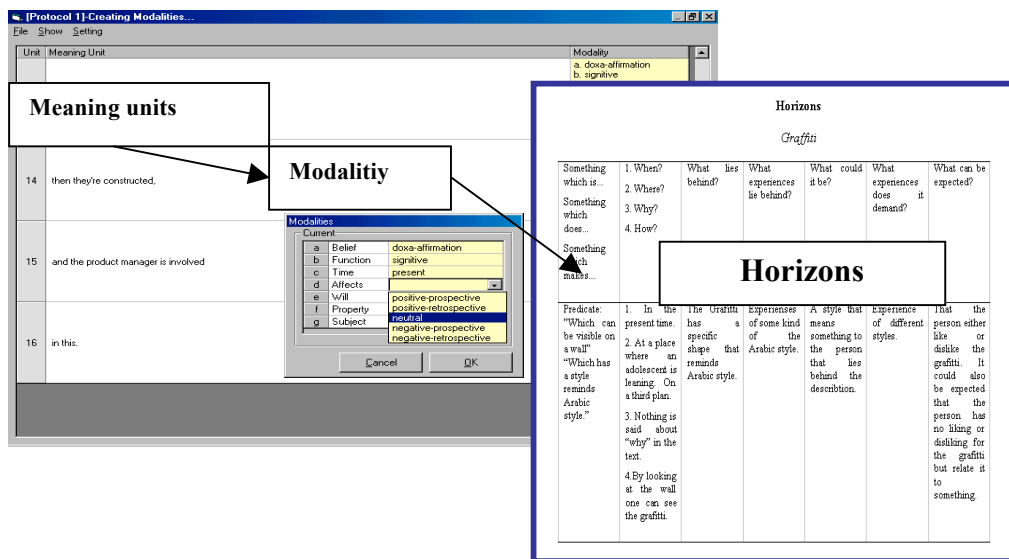


Figure 4. MCA-screen shot, from meaning unit codification to partial intention elicitation.

It is also important to realize that, as a result of the Époque, all partial intentions are considered of equal value in the beginning of the process of analysis. A partial intention contains part of the total meaning of the intentional object expressed in a way characteristic for the individual. The meaning contained in the partial intention is called the entity, and the way of expressing it, its predicate. An entity is what appears as something that “exists” for the experiencing individual. Each entity can be expressed by one or more predicates. The structure obtained by the modalities, entities and predicates constitute the full meaning structure, in Husserlian terms, the complete noema of the intentional object, that is, of the situation activated in the individuals responding to a question by that question itself as understood by the individuals and as expressed in their own terms. Here follows an example of the relationships between entities, predicates and modalities.

Table 1. MCA analysis shot, from a comparative study of a governmental and a private school aiming at the learning of the Swedish language to migrants

Entity	Predicate	Modalities
Teacher	Who became a link between Sweden and the participants' native cultures.	Neutral/past
Native language teacher	Who means contact with the new society	Neutral /empty
Native language teacher	Who can understand the participants' culture and tradition	Neutral /present
Native language teacher	Who can explain to the participants about the new culture in an easy way	Neutral /present

The comprehension an individual has of something, be it a thing, an event, a job situation or a family relationship is what phenomenology calls the Horizon (Patočka, 1995). The Horizon is inherently a temporal structure. It gives indications about the types and kinds of experiences necessary for an intentional object to get its sense (the past dimension) and it also gives indications about what sorts of more or less modified types and kinds of experiences the

individual is moving toward (the future dimension). The following two tables illustrate this process. The first table illustrates the partial intentions and modalities related to specific entities in a text.

Table 2. Partial Intentions classified by entity

Entity	Partial Intention	Modalities
Adolescent	Who leans to a wall	Doxa-affirmation, Perceptive, Present, Neutral
Architecture	To which graffiti makes one think	Doxa-affirmation, Signitive, Present, Neutral
Architecture	Which is from a Moslem monument	Doxa-affirmation, Signitive, Present, Neutral
Child	Who can be happy because he is in his element	Question, Signitive, Present, Neutral
Child	Who can seem happy because he has an example	Question, Signitive, Present, Neutral
Child	Who can think integration is possible because he has an example in mind	Question, Signitive, Present, Neutral
Child	Who seems happy	Doxa-affirmation, Perceptive, Present, Positive
Child	Who smiles	Doxa-affirmation, Perceptive, Present, Positive
Couple	Who is happy	Doxa-affirmation, Signitive, Present, Positive
Couple	Who seems to be mixed	Probability, Signitive, Past, Neutral
European	Which father can be	Doxa-affirmation, Signitive, Present, Neutral
European	Which one person from the couple seems to be	Doxa-affirmation, Signitive, Present, Neutral
Father	Who can be Maghreban or European	Doxa-affirmation, Signitive, Present, Neutral
Father	Who does not like relationship (between his daughter and her boyfriend)	Doxa-affirmation, Signitive, Present, Negative

Table 3. Meaning Horizons of the entity “Couple”

	1. When?	What lies behind?	What experiences lie behind?	What could it be?	What experiences does it demand?	What can be expected?
Something which is...	2. Where?					
Something which does...	3. Why?					
Something which makes...	4. How?					
Predicate:	1. In the present time.	I. Something which makes them happy.	I. Experiences of couples that are not happy (a prerequisite for the experience of a happy couple).	A relationship between happiness and differences concerning heritages or an exceptions from a rule implying that different heritages cannot lead to happiness.	Experiences of differentiations of people into heritages.	Interpretations of future happenings as related to differences concerning heritage.
I. <i>Who is happy</i>	2. At a place where an adolescent is leaning + On a third plan.	II. Different heritages that can be mixed.	II. Experiences related to differentiations of people into “heritages”. + Experiences of couples of the same heritage.			
II. <i>Who seems to be mixed</i>	3. Nothing is said about “why” in the text.					
	4. By looking at them one can see that they are happy and that they can be of mixed origin.					

In the Belief-modality most of the entities are expressed in doxa-affirmation, implying, as stated above, that there is no hesitation about them. Concerning the child who seems happy and the beliefs about what could be lying behind the happiness there are questions. Most entities are expressed in a signitive Function-modality, implying that they concern something abstract. However, the adolescent is leaning against something concrete, namely the wall. The entity “adolescent” is mentioned in a perceptive Function-modality. Every entity is expressed in a present time, except “Couple” which seems to be “mixed”. The “mix” is something taking place in the past. The entity “couple” is expressed in a positive Affect-modality, concerning the emotional state, namely “happy”. The attitude of the “father” to the relationship is expressed in a negative Affect-modality. The “father” is “against” the relationship.

The importance of the Horizon lies in allowing the researcher to move from “what an individual really thinks and feels” –the usual goal for hermeneutical and humanistic psychologies– towards “what can be seen as a plausible direction in the life of an individual”, the temporal-process aspect, goal and characteristic of phenomenology (Sages, 1996). Each entity in the noema, with its group of predicates and modalities, points toward a Horizon of comprehension which shows not only its actual but also its potential load of meaning, more often than not in interdependency with other entities or group of them. The group of Horizons taken together constitutes the life-world of the subject, the first and original ground of all experiences.

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**SOCIAL PSYCHOLOGY:
ATTITUDES, VALUES, AND SOCIAL AXIOMS**

Temporal Orientation and its Relationships with Organizationally Valued Outcomes: Results from a 14 Country Investigation

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In this investigation we were concerned with the cultural covariates of temporal orientation in 14 different national contexts. Data were collected from United States of America (US), Australia, Germany, Poland, Chile, Venezuela, Turkey, United Arab Emirates (UAE), India, Indonesia, Malaysia Japan, South Korea and China. Analyses show that collectivistic cultural orientation tends to be relatively important in the prediction of three facets of temporal orientation (i.e. emphasis on planning and scheduling; sense of time and attitude towards time).

Time and temporal experience are fundamental to human existence with research on international variations of time orientations being a central issue in cross-cultural psychology (Schrieber & Gutek, 1987; Bluedorn & Denhardt, 1988). Hofstede (2001) conceptualized short-term vs. long-term orientation as a dimension of cultural variation in his classic investigation of differences in organizational behavior related processes and outcomes across 40 countries and 10 regions of the

world. The work of Phillip Zimbardo emphasizes the importance of balanced *'time perspective'* for the optimal functioning of individuals. Time perspective refers to an individual's propensity to relate to psychological concepts of past, present or future (Zimbardo, 1999). An individual's time perspective is a relatively stable individual trait which is influenced by a number of factors such as one's cultural values, social background, religion, education, etc.

Temporal factors such as time perspective affect individual personality and motivation, moods and emotion, judgment and decision, stress and coping processes and even the construction of self (McGrath & Tschan, 2004; McGrath & Kelley, 1986). In an earlier classic work entitled "Patterning of Time", Doob (1971) discussed numerous interesting episodes reflecting strong international and cross-cultural variations in the way humans perceive time, develop a sense of time and attitude towards time. For example, he found that young adults from U.S. suburbs tended to have a faster biological sense of time than the objective sense of time as reflected in the movement of a clock compared to young adults from African rural areas. Young adults from the U.S. generally had the tendency to over estimate the objective flow of time whereas the young adults from Africa had the opposite tendency. Kastenbaum (1964, p. 98) noted that

"Temporal orientation serves the function of liberating the individual from dominance by his immediate concrete situation and offers a framework within which self identity develops, maintains, and transforms itself"

Individuals differ in their perception of time (Ancona, Okhuysen, & Perlow, 2001) and the kind of temporal orientation (a cognitive appraisal of the flow of time linking various causal events from the past, present and in the future) that one develops tends to interact with identical situations producing different outcomes (Bluedorn, 2002). Researchers agree that experience of time varies across situations and individuals (Bluedorn, 1988; McGrath & Rotchford, 1983). Time is central to many aspects of human behavior and it is important for us to understand cultural variations of temporal orientation.

Doob (1971) used the term temporal orientation to denote "the direction of awareness at a given moment or characteristically over a long period of time" (1971, p. 8). This orientation develops over a series of temporal judgments which are likely to be organized within the person. These temporal judgments: 1) are characterized by some degree of internal consistency 2) are socially and functionally significant in one's society, and 3) the structural complexity of these embedded temporal judgments depends on the modal cultural values of the society. Doob (1971) also advanced the notion that temporal orientation is a *subjective phenomenon* and it cannot be completely *communicable*. The point is that individuals develop temporal orientation in response to cultural values of their societies. Temporal orientations can and do indeed vary according to the fundamental dimensions of cultural orientations. For example, western individualistic societies would foster a kind of temporal orientation that is unlikely to be similar to the one found in individuals from collectivistic societies.

Following Doob's (1971) insightful analyses of the human temporal experience, we define temporal orientation of an individual as a cognitive construct composed of *sense of time*, *attitude towards time* and *emphasis on planning and scheduling*. This formulation was developed by Bhagat (1986), was reiterated in a qualitative study (Bhagat & Moustafa, 2002) and recently re-examined in an empirical study involving an occupationally heterogeneous sample of 387 employees (Bhagat, Billing & Babakus, 2008). *Sense of time* is conceptualized as the ability of an individual to discover the significance of time by thinking and reflection. The greater the number of categories used to think about time, the greater the sense of time. Time must be considered a discovery that is only made by thinking and therefore it is ideas that we create. The sense of time develops in the presence of adequate temporal symbols and accompanying objective information from the world. Doob's analysis also suggested that the ability to make correct temporal judgment gradually improves as one exposure's to world increases (Doob, 1971). *Attitude toward time* reflects an individual's personal affect toward the use of time in various domains of his/her life. Punctuality is a strong indicator of one's positive attitude toward time. Valuing one's time,

avoiding losses of time, etc. are also part of this construct. Another strong indicator of an individual's temporal orientation is emphasis on *planning and scheduling* (McGrath & Rotchford, 1983). Planning behavior refers to setting goals and priorities and can be part of an individual's work strategy. Planning involves action, which will achieve a future goal in a manner only partially or incompletely known from the past experiences. Triandis (1989) noted that when one engages in appropriate planning and scheduling of activities, one also increases one's sense of control over one's environment i.e., events that one has to perform fall into a predictable fashion. Individuals who are more sensitive to meaning, utility and significance of time are more effective in performing their duties and responsibilities compared to others who do not engage in planning and scheduling activities as well (Bhagat, 1983).

Cultural Variations in Temporal Orientation

In a recent international survey of how individuals and societies pattern their temporal experience, Levine (1997) assiduously noted that human experience of time had distinctive facets attached to it as a function of cultural differences. He made an interesting comment that '*time speaks with an accent*'. Societies differ in the way they emphasize *clock time* (i.e., valuing the starting and ending of activities and tasks according to the objective dictates of the clock). Then, there is *event time*. It is concerned with the emphasis that societies put on starting and ending of activities according to the degree of intrinsic satisfaction that one derives from performing such activities (Levine, 1997). Western cultures have a linear view of time and time is clearly viewed as a resource not to be whiled away or wasted in a frivolous manner (McGrath & Tschan, 2004). In contrast, in non-western, collectivistic and in rural areas, time is perceived in a non-linear sense and spending of time depends on interpersonal, social and cultural significance of the event and the context in which one spends time.

In a study on how non-Americans view American use of time, Bhagat and Moustafa (2002) found that non-Americans perceive the American use of time was primarily concerned with those activities that would enhance *private self* (the facet of self that reflects what one is, what one likes and what one's preferences are). Americans also show a strong preference for narrow segmentation of activities in accordance with the dictates of the objective clock. Hofstede (1991; 2001) found that individualistic cultures put greater emphasis on the use of time and where one's past has relatively little influence on future activities. In contrast, collectivistic cultures prefer acting in the present by reflecting and integrating events from the past with the present.

In western cultures like USA, UK, Canada, Germany, etc. people are driven to make productive use of every available moment and are very punctual, whereas in other cultures like Mexico, Latin America, it is common to accept with indifference that what does not get done today will get done tomorrow and that appointments are mere approximations (Levine, 1997). In the latter case, the passage of time is appreciated, experienced and even enjoyed rather than lamented (Levine, 1997). The above discussion should make it clear that each culture tends to formulate or impose a unified dominant conception about the nature of time. Levine (1997) contended that a culture's basic value system is also reflected in its norms and beliefs about time. The cultural values that are relevant to examining the cultural differences in perception and experience of time across cultures are *individualism and collectivism*. Individualism-collectivism is considered to be most distinguishing characteristic in the way societies analyze and process social behaviors (Bhagat, Kedia, Harveston, & Triandis, 2003; Earley & Gibson, 1998; Erez & Earley, 1993; Hofstede, 1980, 1991, 1994; Triandis, 1989, 1990, 1994, 1995, 1998, 2000).

Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty (Hofstede, 2001). Individualistic cultures emphasize the goals of individuals rather than the group concerns and needs. However, in collectivistic cultures individuals are

primarily interested in satisfying the goals of the collectives and are strongly motivated by norms, duties, and obligations, which are imposed by the collective. Thus, individualistic cultures as compared to collectivistic cultures put more emphasis on achievement than affiliation (Triandis, 1995). More emphasis on achievement leads to linear conception of time (Levine, 1997). In cultures where social relationships take precedence (collectivist cultures), there is more relaxed attitude towards time.

Initially, Hofstede (1980; 1991) conceptualized individualism-collectivism as a bipolar dimension to distinguish national cultures. Triandis (1995) proposed that studying individualism and collectivism as a multifaceted construct will increase our understanding in many ways. In a similar vein, Schwartz (1990) suggested that individualism and collectivism should be refined in finer categories for more productive research. Triandis (1998) proposed that individualism and collectivism have four universal defining attributes: independent versus interdependent definitions of self, goal independent from groups versus goals compatible with in-groups, emphasis on attitude versus norms, and emphasis on rationality versus relatedness. He further offered a typology of individualism and collectivism in terms of vertical and horizontal dimensions of individualism and collectivism. He contended that when we cross the cultural syndromes of collectivism and individualism with cultural syndromes of vertical and horizontal relationships a typology of four kinds of cultures is obtained in terms of *vertical individualism*, *horizontal individualism*, *vertical collectivism*, and *horizontal collectivism*. Vertical and horizontal dimension refers how people define their selves, in vertical cultures individuals define themselves as “different from others”, whereas in the horizontal cultures definition of self is “same as others”. Therefore, vertical individualism (*VI*) cultures emphasize independence of action and the need to stand out from others e.g. U.S., France. Horizontal individualistic (*HI*) cultures emphasize independence of action and equality with others; Australia and Sweden exemplify such cultures. In vertical collectivistic (*VC*) cultures there is interdependence of actions and people define themselves as different from others e.g. India, China. Horizontal collectivism (*HC*) cultures emphasize interdependence of action and equality with others like in Israeli Kibbutz, and Eskimo cultures.

Triandis (1995) proposed that *VI* should be positively related to Schwartz’s values of achievement, self-direction, and hedonism; *HI* to universalism, self-direction, and hedonism; *VC* to power, conformity, and security; and *HC* to benevolence, conformity, and security. Oishi, Schimmack, Diener, and Suh (1998) empirically investigated the relationships between *VI*, *HI*, *VC*, *HC* and Schwartz’s value survey (Schwartz, 1992). The results of the study show that *VI* was moderately positively related to power and achievement, *HI* to self-direction, *VC* to conformity and security, and *HC* to benevolence. Triandis and Gelfand (1998) reported three studies that examined the validity of the constructs and found that *VI* scores were best predicted by competition and hedonism, *HI* by self-reliance, *VC* by family integrity and sociability, and *HC* by interdependence and sociability. Kurman and Sriram (2002) found that *VI* strongly correlated to self-enhancement as compared to *HI*, *HC*, and *VC* in a sample involving individuals from Singapore and Israel.

These findings suggest that vertical individualistic cultures foster high levels of self-indulgence, competition and put high emphasis on achievement. Given that emphasis on achievement and competition in these cultures are important, effective use of time is very important. In fact, as noted earlier, Levine (1997) found the New York city had one of the highest pace of life. This is reflected in a strong orientation towards using time effectively. Individuals in these cultures are likely to be highly conscious towards the passage of time and will have high sense of time, positive attitude towards time and will place high emphasis on planning and scheduling. Higher emphasis on temporal orientation is likely to be found in vertical individualistic cultures such as US, UK, etc.

In vertical collectivist cultures, though individuals might prefer to stand out from others, they also give priority to the goals of the collective and in-groups. Such tendencies also result in

predispositions to manage time fairly well. However, we do not expect vertical collectivists to be as strongly temporally oriented as vertical individualistic. Individuals in these societies are therefore likely to experience moderate levels of temporal orientation in terms of sense of time, attitude towards time and emphasis on planning & scheduling. In horizontal individualistic societies like Sweden and Australia people are individualistic but they do not prefer to stand out from others. Equity is accepted as given in horizontal cultures (Triandis, 1998). Hence, individuals in these societies are not likely to be as competitive and achievement focused as individuals in *VI* societies. Individuals in these societies are likely to follow their personal goals and agendas but are not likely to be competitive. Therefore individuals with in these societies are likely to develop moderate levels of temporal orientation. The two dimensions of *HC* cultures i.e., horizontal and collectivism both foster circular conception of time and here time is a resource that is available in abundance, and hence in these societies individuals will experience low levels of temporal orientation.

The above discussion clearly signifies that cultural values of various societies foster different orientations towards time (Gurvitch, 1964) as shown in Table 1. This figure depicts that the cultural facet of *VI* correlates more positively with three components of temporal orientation (i.e., planning and scheduling, attitude towards time, and sense of time). The cultural facet of *VC* and *HI* are correlated with the three facets of temporal orientation, but these correlations are not likely to be as strong as the ones between vertical individualism and three facets of temporal orientation. The central hypothesis investigated in our investigation is as follows: Cultural facet of Vertical Individualism correlates positively and more strongly with three components of temporal orientation (planning and scheduling, attitude towards time, and sense of time. Cultural facet of vertical collectivism is also correlated with the three facets of temporal orientation, but these correlations are not as strong as the one reflected in the relationships between *VI* and facets of temporal orientation.

Table 1. Components of Cultural Variations

Individualistic	Collectivistic
<p>Vertical Individualism</p> <ul style="list-style-type: none"> -Stronger Emphasis on Self and differentiation of self from others. -Stronger emphasis on Achievement orientation. -<i>Stronger emphasis on temporal Orientation (e.g. Planning & Scheduling)</i> 	<p>Vertical Collectivism</p> <ul style="list-style-type: none"> -Stronger emphasis on relatedness -Stronger emphasis on differentiation of self from others based on social status. -<i>Stronger emphasis on temporal orientation. (e.g. Sense of time)</i>
<p>Horizontal Individualism</p> <ul style="list-style-type: none"> -Stronger Emphasis on Self and differentiation of self from others -Not a great deal of emphasis on standing out. -<i>Weaker emphasis on temporal orientation</i> 	<p>Horizontal Collectivism</p> <ul style="list-style-type: none"> -Stronger emphasis on relatedness but not a great deal of emphasis on individual goals. -Collective goals predominate. -<i>Weaker emphasis on temporal orientation</i>

Method

Collection of data followed the recommendations reflected in Bhagat and McQuaid (1982), Bhagat, Kedia, Crawford, and Kaplan (1990) and van De Vijver and Leung (1997). Selection of the countries was primarily guided by their location on the collectivism-individualism scores from Hofstede (2001). The Principal Investigators contacted collaborators in these fourteen (14) countries. Appropriate translation and back translation were conducted in Germany, Poland, South Korea, Japan, China, Indonesia, Malaysia, U.A.E., Turkey, Chile and Venezuela. The analyses were conducted after defining six clusters. The countries were clustered following the regional clustering method employed by Gupta and Hanges (2004) in the GLOBE study. The clusters are formed based on the assumption that societies with regional-language, geography and ethnic similarities tend to have same fundamental attributes and values (Gupta & Hanges, 2004). Based on this, we formed six clusters from the 14 countries, the first cluster was the Anglo cluster composed of the U.S. and Australia, the second cluster is the Central European Cluster (Germany and Poland) followed by the Latin American cluster (Chile and Venezuela), the Middle East

culture (Turkey and U.A.E.), the South East Asian cluster (India, Indonesia and Malaysia) and the Confucian Asian cluster (China, Japan and S. Korea).

Samples

Participants (overall N = 5,625) were managers and white-collar workers in each country: Australia (N=744); Chile (N=583); China (N=153); Germany (N=198); India (N=806); Indonesia (N=752); Japan (N=361); Malaysia (N=111); Poland (N=248); South Korea (N=365); Turkey (N=211); U.A.E. (N=235); Venezuela (N=509); and U.S. (N=349). In most cross-national studies of organizational psychology dealing with job-related reactions of individuals, samples of this kind from 14 countries are indeed rare. We were particularly keen in having large samples in order to increase the validity of the findings. Subjects included both men and women. Fourteen percent were of age 25 or less; 71.7% were between ages 26 and 50; 12.4% were between ages 56-65; less than 1% percent were over age 65. The samples from the 14 countries did not differ significantly in distributional terms of sex, age, education and organizational tenure. This is a reassuring fact as these demographic variables were not likely to confound the hypothesized relationships.

Measures

Temporal Orientation: Temporal Orientation was measured using a scale developed by Bhagat (1986) by following the attitudinal scaling procedure of Thurstone and Chave (1929) and Thurstone (1931) method of scaling attitudes. An example of items used to measure attitude towards time is “*I believe that I have an acute sense of how to manage my time on the job*”. Examples of items assessing sense of time and emphasis on planning and scheduling respectively are “*I like to make sure that other people do not get to waste my working time*” and “*I tend to determine my priorities for today from yesterday’s results and plan for tomorrow today*” respectively. The internal consistency (Cronbach’s α) of planning and scheduling facet of temporal orientation ranges from .63 to .87 across the fourteen countries. The internal consistency indices of attitude towards time range from .70 to .81 and the respective indices of sense of time facet of temporal orientation ranges from .68 to .76.

Individualism-collectivism: The scale to measure individualism-collectivism cultural variations was developed by Singelis, Triandis, Bhawuk, and Gelfand (1995). The instrument has four subscales: horizontal collectivism (*HC*) and vertical collectivism (*VC*); horizontal individualism (*HI*) and vertical individualism (*VI*). There are 32-items; each subscale has eight items. Sample items include: “My happiness depends very much on the happiness of those around me” (*HC*), “Being a unique individual is important to me” (*HI*), “Winning is everything” (*VI*), and “Children should be taught to place duty before pleasure” (*VC*). Respondents are asked to indicate their disagreement/agreement with each on a Likert type scale of 1 to 7, with 1 indicating strong disagreement and 7 indicating strong agreement. Reliabilities for this scale range from .67 to .74 (Singelis et al., 1995).

Results

Vertical and horizontal individualism and collectivism scores were computed for the 14 countries and the range of means, standard deviations, and reliabilities are depicted in Table 2. Vertical individualism correlated positively with three facets of temporal orientation in all of the 14 countries. Table 3 depicts the pattern of correlations between the study variables in 14 countries. Vertical individualism correlated most strongly with planning and scheduling facet of temporal orientation in most countries. However, vertical individualism was not as strongly related with the other two facets of temporal orientation.

Table 2. Range of Means, Standard Deviations and Reliabilities of Study Variables

	Means	Standard Deviations	Reliability indices
Vertical Individualism	3.60 to 4.60	.83 to 1.10	.55 to .74
Horizontal Individualism	6.10 to 5.10	.99 to 1.16	.64 to .84
Vertical Collectivism	5.61 to 4.40	.81 to 1.27	.69 to .79
Horizontal Collectivism	5.70 to 4.43	.61 to 1.31	.59 to .86
Planning & Scheduling	5.40 to 4.66	.06 to .92	.63 to .87
Attitude towards time	5.72 to 4.64	.65 to .88	.70 to .81
Sense of time	5.33 to 4.33	.77 to 1.05	.68 to .76

Table 3. Correlations of facets of temporal orientation with cultural variations in clusters of countries

Cultural Variations	Clusters	Facets of Temporal Orientation			
		Planning & Scheduling	Attitude towards time	Sense of time	
Vertical Individualism	Australia (1)	.25	.16	.29	
	USA (1)	.16	.10	.17	
	Germany (2)	.22	.24	.18	
	Poland (2)	.19	.25	.25	
	Chile (3)	.19	.21	.22	
	Venezuela (3)	.15	.13	.26	
	Turkey (4)	.20	.13	.20	
	U.A.E. (4)	.15	.13	.26	
	India (5)	.22	.14	.22	
	Indonesia (5)	.15	.11	.19	
	Malaysia (5)	.14	.22	.13	
	China (6)	.33	.24	.23	
	Japan (6)	.29	.27	.24	
	South Korea (6)	.38	.36	.32	
	Australia (1)	.12	.20	.11	
	USA (1)	.17	.20	.15	
	Germany (2)	-.01	.02	-.04	
	Poland (2)	.00	.00	-.05	
Horizontal Individualism	Chile (3)	.13	.14	.16	
	Venezuela (3)	.20	.13	.14	
	Turkey (4)	.14	.09	.06	
	U.A.E. (4)	.20	.13	.14	
	India (5)	.11	.12	.16	
	Indonesia (5)	.19	.17	.16	
	Malaysia (5)	-.05	.12	.02	
	China (6)	.20	.22	.21	
	Japan (6)	.19	.19	.05	
	South Korea (6)	.39	.41	.28	
	Australia (1)	.26	.26	.25	
	USA (1)	.38	.42	.29	
	Germany (2)	.32	.37	.29	
	Poland (2)	.30	.37	.32	
	Chile (3)	.30	.31	.31	
	Venezuela (3)	.27	.24	.19	
	Vertical Collectivism	Turkey (4)	.23	.20	.10
		U.A.E. (4)	.27	.24	.19
India (5)		.21	.20	.19	
Indonesia (5)		.34	.29	.25	
Malaysia (5)		.30	.34	.21	
China (6)		.42	.38	.34	
Japan (6)		.30	.28	.19	
South Korea (6)		.48	.42	.47	
Australia (1)		.17	.17	.13	
USA (1)		.29	.28	.22	
Germany (2)		.21	.23	.24	
Poland (2)		.16	.22	.12	
Chile (3)		.28	.23	.22	
Venezuela (3)		.21	.17	.12	
Turkey (4)		.24	.22	.08	
U.A.E. (4)		.21	.17	.12	
Horizontal Collectivism		India (5)	.21	.19	.13
		Indonesia (5)	.25	.23	.19
	Malaysia (5)	.22	.27	.26	
	China (6)	.39	.40	.28	
	Japan (6)	.20	.14	.23	
	South Korea (6)	.48	.45	.42	

Key: Australia, USA: Anglo Cluster (1), Germany, Poland: Central European Cluster (2), Chile, Venezuela: Latin American Cluster (3), Turkey, U.A.E.: Middle East Culture Cluster (4), India, Indonesia, Malaysia: South East Asian Cluster (5), China, Japan, South Korea: Confucian Cluster (6).

Since, no clear patterns emerged in correlation analyses conducted on the six clusters of 14 countries, we conducted a pan-cultural correlation analyses. We computed the correlations between three facets of temporal orientation along with four dimensions of individualism and collectivism using Fisher's z transformation. The results of the pan-cultural correlation analyses are shown in Table 4. An interesting pattern emerged from the results of these analyses. The association of planning and scheduling dimension with *VC* is very strongly related to the association of planning and scheduling with *HC*. Similar patterns were found for the sense of time association with *VC* and *HC* and the association of attitude towards time with *VC* and *HC*. This means that collectivistic orientations created stronger relationships with the three facets of temporal orientation as compared to individualistic orientation.

Table 4. Correlations at Pan-Cultural Level

	<i>VI-PS</i>	<i>HI-PS</i>	<i>VC-PS</i>	<i>HC-PS</i>
1. Vertical Individualism- Planning & Scheduling (<i>VI-PS</i>)	1.00			
2. Horizontal Individualism- Planning & Scheduling (<i>HI-PS</i>)	0.55	1.00		
3. Vertical Collectivism- Planning & Scheduling (<i>VC-PS</i>)	0.60	0.54	1.00	
4. Horizontal Collectivism- Planning & Scheduling (<i>HC-PS</i>)	0.67	0.71	0.86	1.00
	<i>VI-AT</i>	<i>HI-AT</i>	<i>VC-AT</i>	<i>HC-AT</i>
1. Vertical Individualism- Attitude towards time (<i>VI-AT</i>)	1.00			
2. Horizontal Individualism- Attitude towards time (<i>HI-AT</i>)	0.39	1.00		
3. Vertical Collectivism- Attitude towards time (<i>VC-AT</i>)	0.55	0.33	1.00	
4. Horizontal Collectivism- Attitude towards time (<i>HC-AT</i>)	0.56	0.64	0.72	1.00
	<i>VI-ST</i>	<i>HI-ST</i>	<i>VC-ST</i>	<i>HC-ST</i>
1. Vertical Individualism- Sense of Time (<i>VI-ST</i>)	1.00			
2. Horizontal Individualism- Sense of Time (<i>HI-ST</i>)	0.44	1.00		
3. Vertical Collectivism- Sense of Time (<i>VC-ST</i>)	0.39	0.41	1.00	
4. Horizontal Collectivism- Sense of Time (<i>HC-ST</i>)	0.11	0.43	0.79	1.00

This is indeed quite an interesting finding as individuals with collectivistic orientation tend to have similar or more developed patterns of temporal orientation as individualistic individuals have. In Vertical Collectivistic cultures, one has to spend a significant amount of time and effort in maintaining one's collective and public selves (Triandis, 1989). The sense of relatedness is high in these cultures and in fact relationship orientation is often more important than rational orientation (Hooker, 2003). In addition to relatedness, the propensity to stand out from others in the context of one's immediate as well as larger in-group also foster temporal orientation. This finding is indeed quite valuable in the domain of cross-cultural organizational psychology. While vertical individualism is clearly related to (and is directly responsible for as in the US case) facets of temporal orientation, vertical collectivism is also related to temporal orientation. But the reasons for the relationships are quite different. In the vertical individualistic cultures, preoccupation with private self means that one has to spend significant amounts of objective time in various related as well as unrelated social and organizational events; and do so most efficiently. In order for this to happen, one has to sharpen one's temporal orientation –especially in the areas of planning and scheduling, sense of time and attitude towards time.

Discussion and Conclusion

Our findings suggest the importance of collectivism dimension of culture in predicting temporal orientation. Earlier studies in the cross-cultural psychology of time asserted that in modern western cultures the emphasis on time is focused on linear succession and duration of events and activities (Bhagat & Moustafa, 2002; Levine, 1997; Robinson & Godbey, 1997), however collectivistic cultures foster circular view of time. Thus, individualistic cultures are likely to be highly conscious of the passage of time and likely to foster highly developed sense of time, positive attitude towards time, and place an increased emphasis on planning and scheduling of activities. However, our results signify the importance of the collectivistic orientation in predicting temporal

orientation. This seems to be true regardless of the ranking of the country on the Collectivism-Individualism Index (Hofstede, 2001). These results support a model of convergence in response to globalization. Since all the respondents in our study were managers or white collar managers, it is likely that the organizational practices such as work hours, deadlines, etc., which are universal across cultural boundaries help in the development of temporal orientation of the individual.

In future research, there is a need to develop situational taxonomies in different cultures that might evoke different types of temporal orientation. It would be of considerable importance to discern the selective influences of situational forces and cultural variations in the way temporal orientation unfolds over time. We urge future researchers to develop a situational taxonomy in which proper use of time is explained to the respondents. Then, the respondents need to respond to a scenario in which they are to make decisions that have important organizational consequences. In analyzing the data from such designs, we will be in a better position to more accurately discern the role of cultural variations (at the individual level) in the way individuals act or perform the various actions and the kind of temporal orientation they display. Triandis' framework (1989) in terms of private, collective and public selves need to be more carefully implemented in designing as well as interpreting the results as reported in Bhagat and Moustafa (2000). Collectivists are more concerned with performing those activities in a temporally appropriate sense that are more important in their cultural context i.e., collective and public selves are going to be more important governing agents of how one's temporal orientation develops throughout one's life and how they come into play in organizational contexts. For individualist's performance of activities that are directly linked with enhancement of private self are of crucial importance. We need to find more about the nature of activities and tasks that are particularly salient i.e., socially important that foster culturally appropriate temporal orientation.

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Intergenerational Transmission of Values in Different Cultural Contexts: A Study in Germany and Indonesia

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The aim of this study¹ is to investigate cultural similarities and differences in the transmission of general and domain-specific value orientations (individualism/collectivism, and value of children) within German and Indonesian families. Supposing that both cultures differ with respect to developmental pathways of independence and interdependence, we asked if the extent of intergenerational transmission of values within families differs between Germany and Indonesia, and we studied possible cultural differences in intergenerational transmission with respect to different value contents. More precisely, we asked if there is a difference in transmission of values that are highly versus not highly endorsed by the members of the respective culture. The sample is part of the cross-cultural study “Value of Children and Intergenerational Relations” and included altogether 610 German and Indonesian mother-adolescent dyads as well as altogether 200 triads of maternal grandmothers, mothers, and adolescents. Results showed intergenerational transmission of values between adjacent generations both in the German and the Indonesian sample, but transmission of individualistic values was higher in the Indonesian sample. The results are discussed under a theoretical framework of cultural specifics of intergenerational transmission.

The intergenerational transmission of values within families has gained more and more interest in the last years. Cultural transmission is important for the continuity of a society as it facilitates the communication between members of different generations and it permits the maintenance of culture-specific knowledge and beliefs over generations (Schönpflug, 2001; Trommsdorff, 2009).

However, the transmission of values from one generation of the family to the next one should not always be taken for granted. In the course of social change the younger generations are confronted with new challenges and new societal values to which they may adapt in order to lead a successful life (Trommsdorff & Nauck, 2006). A full transmission of values from one generation to the next without any change is not always desirable, because new generations may have to adapt to modified living conditions; thus, a complete transmission without any change would be as disadvantageous for the individual person as the complete lack of transmission (Schönpflug, 2001; Trommsdorff, 2009). Both would be a failure for successful socialization.

Transmission in cultural context

Although the transmission of values is a universal phenomenon, there may be culture-specific differences in degree, content and process of transmission. Every culture offers specific developmental niches and socialization practices for the transmission of values. Socialization practices vary according to different cultural values and developmental pathways which may be

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characterized by the culture-specific concepts of independence or interdependence (Greenfield, Keller, Fuligni, & Maynard, 2003; Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000).

While individualistic cultures emphasize the developmental pathway of independence which highlights the development of autonomy, in collectivist cultures the pathway of interdependence prevails which focuses on family relationships, parental control and obligations. Arnett (1995), in a similar vein, makes a distinction between “broader socialization cultures” which encourage individualism, independence and self-expression of offspring, and the so-called “narrower socialization cultures” which emphasise obedience and conformity to parental and societal values, but which discourage deviation from cultural expectations. Family as primary socialization agent serves as a mediator between these cultural values and the individual in the transmission process (Schneewind, 1999; Whitbeck & Gecas, 1988). Apart from that, other socialization agents as school, teachers, peers and the media influence the value orientations of offspring.

Thus, a question arises if the transmission process and its results differ depending on the cultural context. More precisely, one may ask to what extent the family transmits its value orientations to the next generation in individualistic compared to collectivist cultures. In cultures which follow the developmental pathway of independence, offspring is exposed to many different influences outside the family and is free to choose among different models: these different socialization agents do not necessarily share the same value orientations. In cultures which follow the developmental pathway of interdependence, conformity to parental values is highly encouraged. Parents are highly motivated to transmit those values that are most preferred by society (Arnett, 1995).

Yet, it is not clear whether a specific cultural context promotes or hinders family influences in intergenerational transmission of values. Previous research has provided evidence for the intergenerational transmission of several value orientations from parents to offspring in individualistic as well as collectivist cultures (Boehnke, 2001; Georgas, 1991; Knafo & Schwartz, 2001, 2003; Phalet & Schönplflug, 2001; Pinquart & Silbereisen, 2004; Schönplflug, 2001). However, studies that compare different socialization contexts with respect to value transmission are still rare and mostly refer to immigrants in different cultural contexts and in comparison to the values of their culture of origin (Phalet & Schönplflug, 2001; Schönplflug, 2001).

To conclude, one can say that for the study of socialization and the transmission of values it is essential to consider the cultural context in which it takes place (Arnett, 1995). So far, the role of the cultural context as transmission belt is not yet clear.

Content of transmission

Another important aspect to be considered is that transmission is selective depending on the content to be transmitted. It can be argued that values that are in line with the respective culture-specific developmental pathway are transmitted more effectively than other values (Greenfield et al., 2003; Rothbaum et al., 2000). Hoge, Petrillo and Smith (1982) state that values that are important for family life and for the family members are more effectively transmitted. Goodnow (1997) also assumes that in general, parents want to transmit those values that are important for them. Thus, parents' personal values and their socialization values often are correlated (Whitbeck & Gecas, 1988). Some empirical findings support these ideas. For example, Schönplflug and Silbereisen (1992) found that those values which were held as more important by adolescents also showed a stronger similarity between parents and adolescents. Knafo and Schwartz (2001) found that parental values were perceived more accurately the more important these values were for the parents. Also the parents' motivation to transmit certain values is important for their successful transmission. Schönplflug (2005, July) reports that the motivation of parents to transmit conservative values enhanced the success of transmission. However, some values (such as self-transcendence values) were transmitted even when there was no specific motivation of the parents.

Although it seems quite clear that the willing of parents to transmit values is important for the success of transmission, some contradicting results have been found as well. Boehnke (2001) states in a study on German students and their parents that there was more parent-child similarity for those values that were rated as less important by the cohort of the parents (aggregate). He concluded that value orientations that are not shared by the society as a whole are more effectively transmitted within families. This suggests that not the adherence to, but the rejection of certain values may be influential for transmission. Apart from that, the study showed that the *Zeitgeist* (which Boehnke defines as the modal current value climate of a society) influences value orientations of the offspring apart from the parental influence (Boehnke, 2001). In a recent study by Boehnke, Hadjar, and Baier (2007), the role of the *Zeitgeist* in the transmission process was further addressed. Analysing parent-child similarity in German families with adolescents, they found that similarity with regard to hierarchic self-interest as a core value of modern society was greater for families distant to *Zeitgeist* compared to mainstream families. Furthermore, Trommsdorff, Mayer, and Albert (2004) found that traditional collectivist values were the most powerful predictor for domain-specific values in Germany, although one would think of Germany as a rather individualistic culture. In a similar vein, Bardi and Schwartz (2003) found that values which are not shared in society as a whole (not normative ones) predicted behaviour best. Hoge et al., (1982) finally report that the more homogeneous a group, the weaker were the correlations between parents and offspring. Everybody shared the same value orientations anyway. Furthermore, group membership had a greater impact on values of adolescents than their parents' values. Boehnke (2001) also underlines the importance to distinguish between value transmission and value change which are often studied in a confounded way. Values that are stable over time within a society are not always the same values which show the greatest similarity between parents and children (Boehnke, 2001). It is also important to distinguish between individual and population level when studying values and value transmission (Hofstede, 2001, 2007; Smith & Schwartz, 1997). The individual importance for parents to transmit a specific value has thus to be distinguished from the relative importance of a value orientation in society as a whole.

Aim of the study

The aim of the present study was to examine the role of cultural context for the transmission of values within families over three generations. In particular, cultural similarities and differences in the intergenerational transmission of general and domain-specific value orientations within German and Indonesian families (adolescents, mothers and maternal grandmothers) were investigated.

The following research questions were addressed: First, it was asked if the extent of intergenerational transmission of values within families differs between cultures with different developmental pathways of independence versus interdependence. Second, we studied possible cultural differences in intergenerational transmission with respect to different value contents. We asked if there is a difference in transmission of values that are highly versus not highly endorsed by the members of the respective culture.

A correlational strategy was employed to measure intergenerational value similarity as it was most adequate regarding our data structure. Three- and two-generation samples were 'matched' for the within-family generations, i.e., each specific grandmother was the mother of the specific family mother, whose son or daughter was the third generation member within the same family in our data. Bivariate correlation and regression analysis are widely used analytic strategies to assess intergenerational value transmission (e.g., Georgas, 1991; Schönplflug, 2001). As bivariate correlations do not permit any interpretations regarding causalities and directions of influences, some authors prefer the notion of value similarity instead of transmission in cross-sectional studies (e.g., Boehnke, 2001; Knafo & Schwartz, 2001).

Selection of cultures

In order to address the questions outlined above, two cultures were chosen that were assumed to differ significantly with respect to prevalent value orientations and socialization practices. These were Germany and Indonesia, two cultures holding rather modern versus rather traditional values and following a developmental path of independence versus interdependence in terms of value socialization.

These two countries differ on macro as well as micro variables. Germany has 82 million inhabitants, most of which are living in urban areas (86%). In comparison, Indonesia with around 218 million inhabitants is one of the most populated countries in the world; only 42% of the population lives in cities. Fertility rate (children per woman) also differs with 1.3 children per woman in Germany and a much higher number of 2.5 children on average per woman in Indonesia (the World Factbook, 2007). As far as religion is concerned, the population of Germany belongs to almost equal parts to the Roman Catholic or Protestant Church (about 34% each); about 28.3% of people are unaffiliated with a religion, and 3.7% are Muslim. Indonesian population, on the other hand, is mostly Muslim (about 88%), apart from that 8% of the population belongs to the Protestant or Roman Catholic Church; 2% are Hindus and 1% is Buddhist (the World Factbook, 2007). According to the seminal work of Hofstede (2001), Germany is lower than Indonesia on the power distance index (score 35 versus 78) and higher on individualism (score 67 versus 14). Regarding parent-child relations and socialization practices, in Germany the parenting goal of independence as well as self-actualization of the offspring are valued very highly, while obedience and control are less prominent (Deutsche Shell, 2002; Keller & Lamm, 2005; Trommsdorff, 1995). In Indonesia, in contrast, learning of cultural rules and obligation to family members are important socialization goals; parents foster obedience, politeness, respect, harmony and conformity and a paternalistic style of parenting prevails (Mulder, 1992, 2000; Schwarz, Albert, Trommsdorff, Zheng, Shi, & Nelwan, in review).

Method

Participants

The present study is part of the cross-cultural "Value of Children and Intergenerational Relations" Study (Trommsdorff & Nauck, 2001; Trommsdorff & Nauck, 2005). Participants were 310 German and 300 Indonesian mothers as well as their 14-17 years old children (females and males), and in 100 cases per country, the maternal grandmothers also participated. The German sample was recruited in three different places: a middle size university town in East Germany (Chemnitz), a middle size university town in Southern Germany (Konstanz), and a large city from an urbanized industrialized region in North-Western Germany (Essen). The Indonesian respondents were recruited in the city of Bandung and its rural surroundings. Half of the respondents were living in rural areas, and half were living in urban settings.

The German grandmothers were on average 69.6 years old ($SD = 5.9$), and Indonesian grandmothers were 63.6 years old ($SD = 7.8$). The mean age of German mothers was 44 years ($SD = 4.9$) and for Indonesian mothers the mean age was 39.8 years ($SD = 5.4$). Adolescents were on average 16 years old ($SD = 1.1$) in Germany and 15.3 years old ($SD = 1.0$) in Indonesia. In Germany, 44% and in Indonesia 45% of the adolescents were male. In Germany 96% of the adolescents currently attended school and had on average completed 9 years of schooling ($SD = 1.2$) so far. In Indonesia, in total 92% of the adolescents attended school, most of them junior (52.4%) or senior (45.5%) high school. German mothers had attended school on average for 11 years ($SD = 1.5$) and Indonesian mothers had on average completed 8.9 years of schooling ($SD = 3.95$) with seven percent having only an incomplete primary school experience. German grandmothers had attended school on average for 9 years ($SD = 1.81$) and Indonesian grandmothers averaged 5.1 years ($SD = 3.08$). Fifty-three percent of Indonesian grandmothers had either none or only incomplete primary school experience. German mothers had on average 2.3 children ($SD = 0.9$), while Indonesian mothers had on average 3.2 children ($SD = 1.3$). Thir-

ty-two percent of the German participants were Roman Catholic, 25% were Protestant and 37% indicated to have no religion or to be atheist. Ninety-nine percent of participants in the Indonesian sample belonged to Islam. These indicators are in line with the country-specific aspects described earlier.

Procedure

The standardized face-to-face interviews were carried out by trained interviewers separately for each mother, grandmother and adolescent in their homes and lasted between 1 and 1½ hours. Each respondent (adolescents, mothers, grandmothers of each family) answered all questions in the assigned sequence.

Measures

Individualism/Collectivism was measured by the COLINDEX (Chan, 1994) along the dimensions individualism [“an exciting life (stimulating experiences)”] with 7 items and collectivism [“honour of your parents and elders (showing respect)”] with 6 items.

Value of Children (VOC) (Arnold, Bulatao, Buripakdi, Chung, Fawcett, Iritani, Lee, & Wu, 1975) was measured by several items asking for the advantages of having children. Two scales used were based on confirmatory factor analysis (Mayer & Trommsdorff, 2008, June). One dimension contains emotional VOC (“feeling of love between parent and child”) with 7 items, the second dimension comprises socio-economic VOC (“to help your family economically”, “standing/reputation among your kin”) with 8 Items. A summary of reliability indices (internal consistency) is given in Table 1.

Table 1. Internal consistency indices (Cronbach’s α) for all measures

Measure	Germany			Indonesia		
	GM (<i>n</i> =99)	M (<i>n</i> =310)	Ad. (<i>n</i> =310)	GM (<i>n</i> =100)	M (<i>n</i> =300)	Ad. (<i>n</i> =300)
Individualism	.80	.68	.71	.82	.71	.70
Collectivism	.67	.74	.76	.75	.71	.74
VOC Emotional	.79	.75	.76	.80	.68	.77
VOC Socio-Economic	.81	.78	.78	.63	.61	.76

Note. All scales range from 1 (“not important at all”) to 5 (“very important”).

Key: GM: Grandmothers, M: Mothers, Ad.: Adolescents

Results

To assess the dominant cultural value orientations, i.e., the modal value climate with respect to individualism-collectivism and VOC in Germany and Indonesia, the mean importance and variances of the different value orientations were compared between the two countries in the first step. We used the overall sample consisting of the members of all three generations in order to have a view on the importance of these values in each society as a whole². As expected, individualism was more highly valued by the German compared to the Indonesian participants of the study. All other measured value orientations were more highly valued by the Indonesian sample.³

² One restriction has to be made here: the analyses only give an indication as far as the values of two- and three-generation families –respectively for Germany and Indonesia– with at least one adolescent child are concerned, not with respect to the whole country. A similar strategy to compose a variable measuring *Zeitgeist* was employed by Boenke, Hadjar, and Baier (2007).

³ The cross-cultural differences persisted also in covariance analyses controlling for age, socioeconomic status and educational level of respondents.

As a further indicator for the general endorsement of value orientations in each country, we analysed the variances of the value orientations by applying Levene's *F*-test. Results showed differences in variance between the countries for several values: variance on individualism was higher for the Indonesian compared to the German sample. This provided further evidence that individualism was more uniformly shared as a value by the German participants. For collectivism and emotional VOC the variance was higher in Germany compared to Indonesia. With regard to socio-economic VOC no difference in variance between the two countries was found (Table 2).

Table 2. Analysis of variance results and homogeneity of variance hypothesis testing, for all value orientations by culture (overall samples)

	Germany (N=723)		Indonesia (N=700)		Levene's Test		
	Mean	SD	Mean	SD	F-criterion	t-test	df
Individualism	3.91	.52	3.73	.61	14.84	6.07	1380
Collectivism	4.03	.59	4.49	.42	50.84	17.34	1307
VOC Emotional	3.74	.67	4.22	.47	43.43	15.76	1303
VOC Socio-Economic	2.02	.63	3.91	.60	2.91	57.92	1421

Note. All *t*-criteria and Levene's *F*-criteria (except for VOC Socio-Economic) were statistically significant at the .01 level.

For the next step, in order to assess value similarity across generations, we analysed the bivariate correlations of value orientations among generations. The hypothesis regarded intergenerational transmission of values and whether this would differ in strength between the two cultures for the different value contents. As far as intergenerational transmission of individualism in Germany is concerned, there was only a small, though significant, bivariate correlation of individualism between mothers and adolescents [$r(311)=.13, p<.05$]. In Indonesia, in contrast, individualism was correlated for all three generation combinations, with a significant correlation between grandmothers and mothers of $r(100)=.31 (p<.01)$, and of $r(300)=.23 (p<.01)$ between mothers and adolescents as well as $r(100)=.23 (p<.05)$ between grandmothers and adolescents. As far as collectivism in Germany is concerned, this value was only weakly, but significantly, correlated between mothers and adolescents [$r(311)=.17, p<.01$]. In Indonesia, collectivism was moderately correlated between grandmothers and mothers [$r(100)=.28, p<.01$]. The emotional value of children was only correlated between both German and Indonesian grandmothers and mothers [$r(99)=.38, p<.01$ and $r(100)=.25, p<.01$, respectively] and to a small extent also between German mothers and adolescents [$r(311)=.13, p<.05$], but not between Indonesian mothers and adolescents or between grandmothers and adolescents in both cultures. As far as children's socio-economic value is concerned, this was correlated for all three generation combinations in Indonesia with correlations ranging from .19 to .36, as well as between adjacent generations in Germany [$r(99)=.33, p<.01$, between grandmothers and mothers; $r(311)=.23, p<.01$, between mothers and adolescents] (Tables 3 and 4).

Table 3. Intergenerational correlation indices for value orientations in Germany

	Germany			
	Individualism	Collectivism	VOC Emotional	VOC Socio-Economic
GM / M	.13	.15	.38**	.33**
M / Ad.	.13*	.17**	.13*	.23**
GM / Ad.	-.11	.00	-.07	.00

Note. * $p<.05$; ** $p<.01$

Key: GM: Grandmothers, M: Mothers, Ad.: Adolescents

Table 4. Intergenerational correlation indices for value orientations in Indonesia

	Indonesia			
	Individualism	Collectivism	VOC Emotional	VOC Socio-Economic
GM / M	.31**	.28**	.25**	.36**
M / Ad.	.23**	.08	.02	.25**
GM / Ad.	.23*	-.02	.07	.19*

Note. * $p < .05$; ** $p < .01$.

Key: GM: Grandmothers, M: Mothers, Ad.: Adolescents

The correlation of individualism between grandmothers and adolescents was significantly higher in Indonesia than in Germany (compared through Fisher's z -transformation with $z=2.40$, $p < .05$).

Discussion

As expected, the results showed that German participants of the study held more individualistic, but less collectivist values than Indonesian participants. As far as intergenerational similarity of values is concerned, the results showed that values were related between generations in both cultures, but to different degrees depending on the content. Particularly, intergenerational correlations were higher for individualism in Indonesia compared to Germany. One possible explanation for this cultural difference is that the relative importance of values in a specific society does matter. In line with this hypothesis, the results showed that individualism which was not as highly emphasised by the Indonesian participants of this study (on the aggregate level) was more strongly transmitted within Indonesian families across three generations. On the other hand, individualism was highly valued by German participants, but less strongly transmitted within German families.

With respect to the other values examined, evidence was less clear. However, as far as socio-economic VOC is concerned, participants of both countries did not emphasise the importance of this value, but pronounced intergenerational similarities through correlations as found for German as well as Indonesian families. Another important factor may be the variation of a specific value within a society; i.e., how far do members of a society rate a value in a similar or in a rather non-uniform way. In fact, results revealed larger variance with respect to individualism in Indonesia vs. Germany. Thus, one may suppose that values which are less highly valued by society as a whole and less clearly defined in society are more strongly transmitted within the family. This could be an artefact, since correlations may be higher when the variance of a value is higher (Hoge et al., 1982). Another explanation though might be that in contexts where no clear cultural orientation concerning a specific value is evident, parents may have a distinct impact on values of offspring for those specific values which society does not necessarily transmit. Parents –as socialization agents– may be more differentiated from other socialization agents and may be more important for the transmission of these values to their offspring. At the intracultural level, Boehnke, Hadjar, and Baier (2007) have reported a similar effect. They claim that families that do not conform to the modal value climate of a culture may have a more distinct effect on the value orientations of their children, because they may communicate more about their values compared to families which are close to the *Zeitgeist*.

There may be also some more freedom for parents to transmit their personal preferences in the case of values which are not clearly defined by society. This is in line with the findings by Bardi and Schwartz (2003) who report that values which are not normative have a larger effect on individual behaviour than normative value orientations. This is not to say that parents have no effect on value orientations that are highly shared in society. Parents are mediators of cultural values in the transmission process. However, the transmission of those values is ensured by many socialization agents as well as by the *Zeitgeist* which influences both parents and offspring (Boehnke, 2001).

Summary and Outlook

One may conclude on the whole that transmission occurs in different socialization contexts which may be characterized by a developmental pathway of independence as well as of interdependence, i.e., cultural context *per se* does not promote or hinder intergenerational transmission of values. However, it makes a difference which content is to be transmitted in which cultural context.

The limitations of this study were that it was not longitudinal, thus we were not able to consider bidirectional effects. Also, further socialization agents apart from mothers and grandmothers were not taken into account here. One shortcoming of correlation analysis in the framework of transmission studies is that it compares the relative positions of members of two generations with regard to their respective generational sample. In order to arrive at more specific conclusions it would be helpful to examine dyadic respectively *q*-correlations here (Griffin & Gonzalez, 1995, cf. Knafo & Schwartz, 2001 and 2003; Roest, Dubas, Gerris, & Engels, in press), i.e., the similarity of value rankings within the family dyads. The combined analysis of correlations on individual and dyadic level will shed further light on the role of cultural context and of relative importance of value orientations for value transmission. Apart from that, socialization values of the participants should be considered in future studies. Furthermore, the role of religion as well as socio-economic and socio-structural factors in the transmission process should be studied in more detail; especially if we consider that Indonesian religion may be an important transmission belt.

Value orientations that are highly emphasized by the society as a whole and do not show great variability, thus being part of the *Zeitgeist*, may show less intergenerational similarities. They may be transmitted by several socialization agents at the same time, thereby reducing the influence of the family. On the other hand, values that show high variability in society may be transmitted within family in a more distinct way. This phenomenon will be the focus of future analyses within the framework of the "Value of Children" study which includes further cultures representing both the independent and the interdependent developmental pathway.

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Dimensions of Social Axioms and Alternative Country-Clustering Methods

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Social Axioms are defined as general beliefs that represent one's view about how the world functions and how two entities are related "in the universe". The Social Axiom dimensions as proposed by Leung & Bond are Social Cynicism, Social Complexity, Reward for Application, Fate Control, and Religiosity. The first aim of this study was to investigate how the Social Axiom dimensions are identified in Greece and in five more countries (N=1,375) that differ broadly in their ecological and religion characteristics (Hong-Kong, USA, UK, Spain, and India). The second aim was to enhance factor equivalence levels by forming homogeneous subsets of countries through the application of an alternative method on factor structure similarity among countries. For the Greek factor structure some emic characteristics are discussed in respect to the specific cultural setting. For all six countries, factor equivalence among countries was present to some extent for the initial factor structures. For cluster of countries though, almost maximum equivalence with the overall factor structure was reached. However, some inequivalence among clusters of countries for specific factors was still present and useful in describing diversity based on the specific cultural characteristics of the clusters of countries.

Beliefs have been used as an individual difference variable that encompasses a variety of aspects and domains. They can be different among individuals of a social group and among groups, they may be context-specific but also context-free (Chen, Bond, & Cheung, 2006). General beliefs seem to be useful in explaining cross-cultural differences and similarities in individual behavior (Leung, Bond & Schwartz, 1995). Social Axioms, which are defined as general beliefs, are used as guidelines of people's behavior in various situations and may interpret pancultural human difficulties that people deal with (Bond, Leung, Au, Tong & Chemonges-Nielson, 2004; Chen, Fok, Bond, & Matsumoto, 2006; Leung, Au, Huang, Kurman, Niit, & Niit, 2007; Leung & Bond, 2004; Leung, Bond, Carrasquel, Muñoz, Hernández, Murakami, Yamagushi, Bierbrauer & Singelis, 2002). Their axiomatic characteristic consists of their demanding of being true to one's personal experiences but not to a specific scientific validation (Leung et al., 2002). Such a characteristic makes Social Axioms possibly similar to Rokeach's faiths that refer to "beliefs accepted by an individual as true, good and desirable regardless of social consensus or objective evidence perceived as irrelevant" (Rokeach, 1968, p. 125).

A formal definition of Social Axioms argues that they are generalized beliefs or basic premises about oneself, the social and physical environment or the spiritual world, which have the form of an assertion about the relationship –causal or correlational– between pairs of entities or concepts, i.e. "Good health leads to success in work" (Leung et al., 2002, pp. 289). Unlike attitudes that are relatively enduring systems of beliefs that only prepare individuals to act in a certain society (Ajzen & Fishbein, 1980; Rokeach, 1968, 1973, 1979; Triandis, 1977) "social axioms are guiding principles employed in specific contexts, for specific actors and towards specific goals" (Leung et al., 2002, pp. 288), thus, they play an organizing role for the cognitive system of an individual and are related to a variety of social behaviors. One common characteristic between attitudes (Katz, 1960) and Social Axioms is at the functionalistic level, as Social Axioms promote the same functions as attitudes, that is, the instrumental function, the ego-

defensive, the value-expressive and the cognitive organization of the world functions within the individuals' belief system (Leung et al., 2002).

Multicultural studies in 41 countries (Leung & Bond, 2004) identified a five-factor structure of Social Axioms at the individual level- Social Cynicism, Social Complexity, Reward for Application, Fate Control, and Religiosity. These five social axioms dimensions, as "core etics" of general beliefs seem to be interpreted universally as types of general beliefs that individuals endorse, in various degrees within and across diverse cultural settings (Bond et al., 2004; Leung et al., 2002; Leung & Bond, 2004). In the 41 countries project an attempt has been made to describe the five social axioms dimensions for a large number of countries and, additionally, at a second level of analysis, to search for homogeneous subsets of countries in respect to levels of acceptance or rejection of these Social Axiom dimensions, that is, in respect to the country mean scores on each of the five Social Axioms. In order to arrive to such homogeneous subsets of countries, the statistical method of cluster analysis was employed.

The use of cluster analysis techniques in the quest for country sets in cross-cultural studies is a relatively new idea (Georgas & Berry, 1995) and has been applied to several psychological measures such as Hofstede's values (Merrit, 2000), family values (Georgas & Mylonas, 2006; Georgas, Mylonas, Gari & Panagiotopoulou, 2004) and the big-five personality factors (Allik & McCrae, 2004). Georgas and Berry (1995) proposed a method for clustering nations on the basis of a number of ecosocial indices. They justified the use of cluster analysis on the ecocultural indices (that is, country "mean" scores on the indices of affluence, mass communication, religion, education and population), in contrast to the factor analysis method as applied to country scores in order to determine dimensions of nations, a method that "does not appear to have been very successful" (pp. 128). They argued that "Factor analysis ... was inappropriately applied to a concept such as dimensions of nations, which is so complex and undifferentiated and composed of so many interrelated variables that a clear factor solution is virtually impossible" (pp. 145). The implementation of cluster analysis techniques, based on the similarities of scores (actually on the distance matrix for these scores) is "a simple way to summarize similarities between cultures across a range of variables" (Allik & McCrae, 2004, pp. 18) and is quite capable of producing subsets of countries in respect to the variables used in the analysis. However, information regarding the factor structure at the individual level, that is in each of the countries involved in a cross-cultural study, might be further useful in summarizing similarities, if another way of collecting factor-similarity measures across countries could be devised.

The aims of the present study are two: the first is to investigate how the Social Axiom dimensions are identified in Greece and in five more countries that differ broadly in their ecological, social, and religion characteristics. The second aim of this study is the exploration of an alternative method for identifying homogeneous country subsets in order to gain in terms of explanatory power when referring to similarities and differences of the Social Axiom dimensions. This power should be enhanced by the levels of factor structure equivalence among these subsets or clusters of countries, clusters which would be formed by employing the information in the factor structure for each country and not through utilizing the country mean scores.

Method

The data used for this study (N=1,375) were derived from the initial data pool and consist of six countries: Greece (n=371), the United Kingdom (n=196), Spain (n=170), Hong-Kong (n=248), India (n=276) and the USA (n=114). This dataset is a part of the overall data pool available for the Social Axioms Survey, as employed and analyzed by Bond et al. (2004) and by Leung and Bond (2004). The participants were either university students (n=1,019) or adults (n=356), 517 males and 858 females; their age was below 20 years and between 21 and 30 years old, respectively. All samples were gender balanced.

By the selection of the above countries we attempted to explore the Social Axiom dimensions in countries that are different. Ecological, social and religious characteristics that have

been correlated with individual variables in the eco-cultural taxonomy conducted by Georgas and Berry (1995) was the basis for our selection of the six countries as broadly different ones. The six selected countries for this study have been included at least to four out of the five clusters of nations emerged through the employment of indices of ecology, affluence and mass communication, and at least to three out of the five different clusters of nations emerged based on population, education and religion indices. Thus, we selected, Greece as a Mediterranean European country of Orthodox Christians, and Spain as a south west European country of mainly Roman Catholics, along with the UK and the United States as western societies of Protestants but different in ecological factors and mass communication, Hong-Kong, as a western-type region of Buddhists and Taoists, and India, a traditional Asian country of primarily Hindus, broadly different from all the others (Gari, Panagiotopoulou, Mylonas, & Pavlopoulos, 2004, August).

The data have been analyzed with the permission of K. Leung and M. Bond. The Social Axioms Survey (SAS) version that was employed for the statistical analyses was the short 60-item version (Leung et al., 2002). The method of back-translation has been employed for the standard Social Axioms Scale in order to form the Greek SAS and the other countries' SAS versions, accordingly. All items were scored by the participants on a 5-point Likert scale, from "strongly believe" to "strongly disbelieve". According to the Social Axioms structure, the 60 items correspond to five factor dimensions as follows: Social Cynicism (18 items), Reward for Application (14 items), Social Complexity (12 items), Fate Control (8 items) and Religiosity (8 items).

Results

Three levels of statistical analyses were used in this study. The first level was an attempt to explore for a possible replication of the five SAS dimensions in the Greek data; that is, the aim was to describe the Greek SAS factor structure, describing the other five countries in the data as well, and based on the outcomes, to continue with the second level of analysis. This level involved factor equivalence testing for all six countries in the dataset on a country by country basis and in comparison to an overall factor structure for the six countries. Having described the factor equivalence levels, we could then, at the final level of analysis, attempt to identify homogeneous sets of countries that would enhance factor equivalence within these sets. Thus, we attempted to identify "clusters" of countries with possibly stronger similarities and homogeneity in their factor structures. Clustering of countries was based on the similarities of countries in respect to their factor structure and not on the factor mean scores per country; also, we did not employ cluster analysis as the statistical tool to analyze these similarities but we computed a multidimensional scaling solution instead, as "an alternative way of portraying relations between cultures" (Allik & McCrae, 2004, pp. 20).

Exploratory factor analyses

The initial exploratory factor analysis models (principal components analysis, orthogonal rotation solution) tested for the presence of 5 factors in the Greek data set but the first outcomes were rather unpromising with factors not clearly identifiable and with the indication of a sixth factor in the structure. A large amount of the error variance in these analysis models was due to ceiling effects and in some other cases floor effects present for the Social Flexibility and the Social Cynicism items for Greece. Therefore, items with extreme skewness were transformed for the Greek data only. Either squared values transformations or square root transformations were initially applied to these items. The transformed scores were then transformed back to the original SAS scoring scale, through the calculation of their z -scores followed by a scaling transformation. Then factor analysis was recomputed on the transformed values and the remaining original score values for all 60 items. The outcomes for this analysis of the Greek data were much more salient for at least two of the five factors, that is Fate Control, and Religiosity dimensions which were now formed by the main core of the original factor structure items (Leung et al., 2002). However,

the Social Cynicism, Reward for Application and Social Complexity factors still did not seem to be strongly identified in the structure. Finally, a sixth factor appeared and was comprised by some Reward for Application items (“Failure is the beginning of success”, “Every problem has a solution”, “The just will eventually defeat the wicked” and “Good deeds will be rewarded, and bad deeds will be punished”), and some Social Cynicism items (“People deeply in love are usually blind”, “Old people are usually stubborn and biased”, “Young people are impulsive and unreliable”). This sixth factor could be named “Socially Deterministic Cynicism” including stereotypic taxonomies and the “just world” belief, reflecting some specific socioeconomic characteristics of Greece since the 70’s.

Similar exploratory factor analysis models were applied for the other 5 countries in the data. For the Hong-Kong data, the results were much closer to the original 5-factor structure, as it would be expected, but for the British, the Spanish, the Indian and the American data there were discrepancies in the structures. Specifically, large discrepancies were observed in the factor structures for UK, USA and India. An “overall” factor structure, for all six countries combined, was also computed. The outcomes for this structure were close to the original 5-dimensions with minor discrepancies and a small number of Fate Control items not loading on any factor. It has to be stressed that this was just an exploratory analysis which did not search for universal patterns but just aimed to generally describe the combined correlation matrix for all six countries. This factor structure would be further clarified at a later stage in the analysis, so this was not the final “overall” factor solution for the six countries and the same holds for each country’s factor structure as well.

Target rotations of the factor structures

The factor structure outcomes for Greece and for the other five countries separately should be followed by a target rotation of their 5 factor structures on the respective 5-factor structure for the initially acquired Venezuelan and Hong-Kong data structure, as provided by Leung et al. (2002) in order to arrive into comparable solutions among countries. This target rotation was expected to further clarify the Greek factor structure, with 5 factors retained, and further strengthen the factor structures for the other five countries in order to be able to proceed to the next step of factor equivalence testing. Indeed, the target rotation solution for Greece resulted into 5 clearly salient factors. Religiosity was identified with all 8 items, Reward for Application with 10 out of 14 items, Social Cynicism with 14 out of 18 items, Social Complexity with 9 out of 12 items and Fate Control with 7 out of 8 items. The same improvement was true for Spain, UK and USA and, surprisingly, for India, although some minor discrepancies were still present for the UK and the USA factor structures. We also computed the target rotated solution for the “overall” factor structure on the Venezuelan and Hong-Kong factor structure. This solution, indicating the overall factor structure for all six countries combined in a comparable way to the other target rotated structures, was found to closely follow the original 5-factor Social Axiom structure (Leung & Bond, 2004) and was also retained for further comparisons later in the analysis. All target rotated solutions are presented in Table 1.

Testing for factor equivalence

The next stage of the analysis referred to factor equivalence testing. The method followed has been previously employed on a cross-cultural basis for factor structures of countries (Georgas et al., 2004; Georgas & Mylonas, 2006) to address the question of factor similarity across cultures. The question of factor universality, which can be addressed through methods such as the Van de

Table 1. Factor structures for each country and overall (target rotated on the Venezuelan & Hong-Kong solution)

	Greece			UK			Hong-Kong			India			USA			Overall								
	05	09	16	03	18	22	14	08	14	49	05	09	08	06	24	14	04	08	26	06	28	31	01	03
SCI1	-0.45	-0.16	-0.16	-0.43	0.22	0.18	-0.03	0.14	0.49	-0.06	0.24	0.14	-0.06	0.24	0.14	-0.04	0.14	-0.04	0.26	-0.06	0.28	0.31	-0.1	0.03
SCI2	0.11	0.15	0.11	0.52	0.15	0.02	0.58	-0.14	0.58	-0.03	0.24	-0.14	0.39	0.29	0.17	0.64	0.01	0.11	0.39	0.16	0.12	0.45	0.25	0.07
SCI3	0.17	0.13	0.07	0.18	0.52	0.02	0.16	0.54	0.06	0.14	-0.01	0.47	0.06	0.14	0.04	0.29	0.17	0.34	0.06	0.10	0.43	0.14	0.07	0.54
SCI4	-0.09	0.07	0.41	0.13	0.04	-0.06	0.46	0.04	0.38	0.04	-0.08	0.44	-0.09	0.39	0.15	-0.02	0.28	0.17	0.41	0.35	0.00	0.42	0.30	0.03
SCI5	0.08	0.33	0.40	0.21	0.03	0.30	0.32	0.17	0.42	0.03	-0.15	0.29	0.19	0.03	0.34	0.35	0.31	0.22	0.03	0.33	0.26	0.13	0.31	0.03
SCI6	0.03	0.15	0.33	0.10	0.12	0.06	0.30	0.17	0.36	0.11	0.09	0.11	0.36	0.11	0.12	0.32	0.17	0.12	0.03	0.26	0.03	0.21	0.10	0.35
SCI7	-0.18	0.13	0.45	0.31	0.29	0.15	0.43	0.29	0.49	0.19	0.24	0.17	0.26	0.19	0.34	0.41	0.26	0.21	0.29	0.43	0.39	0.15	0.19	0.47
SCI8	0.03	0.09	0.37	0.12	0.05	0.03	0.37	0.15	0.04	0.11	0.33	0.04	0.22	0.05	0.26	0.08	0.11	0.27	0.19	0.26	0.31	0.26	0.05	0.32
SCI9	0.04	0.19	0.45	0.09	0.04	-0.01	0.42	0.06	0.39	0.09	0.07	0.15	0.03	0.39	0.14	0.09	0.03	0.11	0.28	0.02	0.27	0.09	0.40	0.01
SCI10	-0.12	0.10	0.46	0.07	0.20	-0.03	0.46	-0.10	0.20	0.03	0.44	-0.12	-0.01	0.21	0.15	-0.02	0.40	0.26	0.19	0.07	0.09	0.30	0.40	0.05
SCI11	0.03	0.03	0.39	0.17	0.05	0.14	0.37	-0.10	0.15	0.43	-0.11	0.42	-0.02	0.06	0.42	0.03	0.09	0.11	0.35	0.14	0.18	0.09	0.10	0.15
SCI12	0.14	0.10	0.39	0.21	0.13	0.17	0.36	0.08	0.19	0.10	0.12	0.46	0.04	0.14	0.04	0.03	0.12	0.34	0.22	0.24	0.31	0.07	0.05	0.31
SCI13	0.06	0.26	0.39	0.11	0.09	0.22	0.24	0.33	0.36	0.17	0.02	0.29	0.02	0.47	0.07	0.14	0.17	0.22	0.10	0.15	0.24	0.21	0.30	0.00
SCI14	0.13	0.06	0.26	0.26	0.13	0.24	0.32	0.21	0.26	0.17	0.16	0.38	0.05	0.19	0.38	0.05	0.19	0.38	0.05	0.19	0.38	0.05	0.19	0.38
SCI15	0.13	0.06	0.26	0.26	0.13	0.24	0.32	0.21	0.26	0.17	0.16	0.38	0.05	0.19	0.38	0.05	0.19	0.38	0.05	0.19	0.38	0.05	0.19	0.38
SCI16	0.13	0.06	0.26	0.26	0.13	0.24	0.32	0.21	0.26	0.17	0.16	0.38	0.05	0.19	0.38	0.05	0.19	0.38	0.05	0.19	0.38	0.05	0.19	0.38
SCI17	0.14	0.22	0.38	0.29	0.11	0.18	0.33	0.07	0.12	0.36	0.48	0.08	0.16	0.30	0.50	0.11	0.37	0.22	0.13	0.28	0.16	0.16	0.48	0.09
SCI18	0.02	0.16	0.05	0.01	0.04	0.33	0.08	0.06	0.18	0.37	0.01	0.06	0.14	0.03	0.15	0.02	0.36	0.06	0.29	0.01	0.23	0.06	0.11	0.36
SCI19	0.13	0.08	0.04	0.21	0.18	0.08	0.55	0.26	0.05	0.61	0.18	0.02	0.04	0.61	0.05	0.11	0.18	0.01	0.60	0.21	0.28	0.18	0.60	0.01
SCI20	0.10	0.49	0.09	0.03	0.07	0.16	0.13	0.36	0.12	0.28	0.01	0.02	0.51	0.07	0.01	0.50	0.18	0.02	0.03	0.10	0.38	0.03	0.49	
SCI21	0.04	0.28	0.07	0.04	0.02	0.53	0.04	0.17	0.05	0.44	0.10	0.18	0.38	0.02	0.33	0.05	0.20	0.06	0.38	0.09	0.21	0.47	0.01	
SCI22	0.53	0.08	0.11	0.05	0.03	0.54	0.04	0.41	0.17	0.10	0.25	0.06	0.46	0.07	0.20	0.03	0.42	0.30	0.38	0.09	0.21	0.44	0.30	
SCI23	0.56	0.16	0.33	0.10	0.18	0.01	0.11	0.38	0.11	0.38	0.11	0.27	0.08	0.25	0.14	0.04	0.22	0.22	0.12	0.63	0.40	0.42	0.30	
SCI24	0.09	0.53	0.06	0.03	0.04	0.12	0.04	0.08	0.10	0.11	0.05	0.19	0.18	0.15	0.07	0.01	0.12	0.15	0.16	0.39	0.06	0.51	0.16	
SCI25	0.49	0.13	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI26	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI27	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI28	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI29	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI30	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI31	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI32	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI33	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI34	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI35	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI36	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI37	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI38	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI39	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI40	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI41	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI42	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI43	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI44	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI45	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI46	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI47	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI48	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI49	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI50	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39	0.16	0.48	0.15	0.17	
SCI51	0.42	0.25	0.01	0.21	0.09	0.35	0.40	0.20	0.14	0.08	0.21	0.07	0.51	0.12	0.12	0.15	0.15	0.16	0.39					

Vijver and Poortinga method (2002), an extension of the Muthén method (1994) applied to factor analysis, was not a part of the research objectives, since previous research within nations describe the “pan-cultural” comparisons of Social Axioms based on data from 41 national-cultural groups (Leung & Bond, 2004; Leung et al., 2002) and have already established the validity of the five dimensions of Social Axioms and their universality.

For the six countries target rotated factor structures, Tucker Phi coefficients of congruence were computed on a country by country comparison level (Table 2); 25 congruence coefficients were computed for each pair of countries, in all 375 coefficients (25 coefficients times 15 pairs of countries), out of which, 75 should be larger than .90 in order to have absolute factor equivalence across all six countries. The results showed that 46 of them were larger than .90, indicating 61% of factor equivalence in these factor structures and some possibility of culture specificities that produced the percentage of inequivalence. Identical factor structures were present for the following comparisons: Greece vs. Spain, Greece vs. Hong-Kong, and Hong-Kong vs. India (20% of the country pairs). For 13% of the country comparisons closely similar factor structures emerged (Hong-Kong vs. Spain and Greece vs. USA). The remaining 10 country comparisons showed lower levels of factor equivalence with four or less identical or similar factors.

We also computed Tucker Phi indices comparing each country's factor structure (target rotated solution) with the overall (target rotated) factor structure. For Greece, all five factors were clearly identified in the overall structure, with Tucker Phi indices ranging from .94 to .99; since the overall factor structure seems to closely depict the 5 Social Axiom dimensions, one could argue that the Greek factor structure also follows the theoretical structure closely. The same holds for the Hong-Kong factor structure with Tucker Phi indices ranging from .98 to 1.00, as was expected. However, for the Indian factor structure, four factors were clearly identified in the overall structure with Tucker Phi indices ranging from .93 to .99. The Fate Control factor for India, although it is consisted of more or less the same items as the respective overall factor, did not reach levels of equivalence, but was just similar to the Fate Control factor in the overall solution (Tucker Phi=.88). For the Spanish factor structure, three factors were clearly the same with the respective ones in the overall structure (Tucker Phi indices ranging from .97 to .99), but the Religiosity and the Reward for Application factors for Spain reached only levels of similarity and not levels of equivalence with the respective overall factors (Tucker Phi indices .86 and .89, respectively). For the UK factor structure, three factors reached equivalence levels with the respective overall factors, namely Religiosity, Social Cynicism, and Fate Control (Tucker Phi indices ranging from .93 to .99). The other two factors, Reward for Application and Social Complexity were not even similar to any overall factor (Tucker Phi indices <.85). Finally, for the US factor structure three factors reached equivalence levels with the respective overall factors, namely Religiosity, Social Complexity, and Fate Control (Tucker Phi indices ranging from .97 to .99). The other two factors, Social Cynicism and Reward for Application were not even similar to any overall factor (Tucker Phi indices <.85). From these results, it was clear that some level of factor equivalence between each country and the overall solution existed in the data, but for the UK and the US data and to a lesser extent for the Indian and Spanish data, factor equivalence with the overall solution was far from perfect.

Searching for clusters of countries on the basis of their factor structures

With four –or even less– of these six factor structures being similar to the overall factor structure, one could argue that there is a large amount of similarity but there is some amount of dissimilarity as well. One might attempt to reach better levels of similarity and this way achieve better levels of explanatory power, by searching for homogeneous subsets of countries in respect to their factor structure. Identifying clusters of countries (Allik & McCrae, 2004; Georgas & Berry, 1995) and then treating these clusters as unified sets of countries with a possibly similar factor structure might enhance the procedures of comparing them to other clusters of countries and to the overall factor solution.

Table 2. Tucker's ϕ coefficients for the country by country comparisons for the five-factor target rotated structures

Greece (Gr) (columns)						UK (Columns)						USA (Columns)						Spain (Es) (Columns)						India (Id) (Columns)					
F1	F2	F3	F4	F5	with	F1	F2	F3	F4	F5	with	F1	F2	F3	F4	F5	with	F1	F2	F3	F4	F5	with	F1	F2	F3	F4	F5	with
.99	.25	.05	.07	.08	UK1	.99	-.05	.25	.00	-.10	UK1	.98	.05	.23	-.09	-.20	Es1	.98	-.08	.75	.68	-.17	Id1	.96	.08	.05	.20	.21	*HK1
.04	.08	.99	-.05	.29	UK2	.18	.47	.63	.16	.70	UK2	.09	.95	.30	.24	.32	Es2	.28	.29	-.04	-.16	.98	Id2	-.13	.13	.98	-.03	.25	HK2
.16	.77	.02	.82	-.11	UK3	.08	.14	.83	-.32	-.47	UK3	.04	.38	-.34	.98	.11	Es3	.97	-.01	.07	.08	.02	Id3	-.06	.97	.16	-.28	.27	HK3
-.07	.09	.35	-.47	.96	UK4	-.03	.48	-.21	.98	.13	UK4	.09	.06	-.59	.32	.76	Es4	-.01	.15	.78	-.32	-.18	Id4	-.31	.42	-.07	.08	.93	HK4
-.14	.62	.26	-.52	-.04	UK5	.09	.87	-.39	.17	.01	UK5	-.01	.16	.91	.24	.22	Es5	.27	.59	-.43	-.68	.31	Id5	.46	.16	.14	.91	-.24	HK5
.98	.26	-.06	.16	.10	UK1	.98	-.05	.23	-.09	-.20	UK1	.98	.09	.23	-.10	.10	Es1	-.08	.47	-.37	.72	.73	Id1						
.08	.90	.53	.14	.04	UK2	.18	.47	.63	.16	.70	UK2	.00	.71	.28	.38	.70	Es2	.38	.80	.48	.05	-.44	Id2						
.14	.31	.09	.98	-.12	UK3	.08	.14	.83	-.32	-.47	UK3	.02	.03	-.36	.98	.32	Es3	.97	-.01	.07	.08	.02	Id3						
-.09	.01	.51	-.41	.96	UK4	-.03	.48	-.21	.98	.13	UK4	-.01	.16	.91	.24	.22	Es4	-.01	.15	.78	-.32	-.18	Id4						
.11	-.34	.83	-.29	.15	UK5	.09	.87	-.39	.17	.01	UK5	.29	.73	.49	-.11	-.57	Es5	.27	.59	-.43	-.68	.31	Id5						
1.00	.16	.02	.22	.02	Es1	.98	.05	.23	-.09	-.20	Es1	.98	.09	.23	-.10	.10	Es1	-.08	.47	-.37	.72	.73	Id1						
.05	.38	.96	.09	.19	Es2	.09	.95	.30	.24	.32	Es2	.00	.71	.28	.38	.70	Es2	.28	.29	-.04	-.16	.98	Id2						
-.03	-.08	.40	-.51	.95	Es3	.04	.38	-.34	.98	.11	Es3	.02	.03	-.36	.98	.32	Es3	.97	-.01	.07	.08	.02	Id3						
.00	.05	.14	-. 92	.07	Es4	.09	.06	-.59	.32	.76	Es4	-.01	.16	.91	.24	.22	Es4	-.01	.15	.78	-.32	-.18	Id4						
.16	.94	-.11	.49	-.02	Es5	.23	-.16	.89	-.01	.37	Es5	.29	.73	.49	-.11	-.57	Es5	.27	.59	-.43	-.68	.31	Id5						
-.04	.13	.86	-.56	.50	Id1	.04	.82	-.27	.64	.53	Id1	-.08	.47	-.37	.72	.73	Id1	-.08	.75	.68	-.17	.98	Id2						
.25	.96	.04	.44	.12	Id2	.33	.00	.87	.13	.39	Id2	.38	.80	.48	.05	-.44	Id2	.28	.29	-.04	-.16	.98	Id2						
.99	.02	.01	.01	.10	Id3	.97	.02	.00	.01	-.17	Id3	.96	-.04	.01	-.02	.16	Id3	.97	-.01	.07	.08	.02	Id3						
-.04	-.24	.26	.04	.89	Id4	-.05	.30	-.07	.74	-.46	Id4	-.01	-.21	.17	.80	.20	Id4	-.01	.15	.78	-.32	-.18	Id4						
.20	.27	.43	.81	-.30	Id5	.15	.48	.69	-.43	-.28	Id5	.15	.39	.87	-.29	.26	Id5	.27	.59	-.43	-.68	.31	Id5						
.04	.21	.96	-.33	.36	HK1	.10	.93	-.08	.47	.47	HK1	-.02	.58	-.14	.59	.80	HK1	.02	.90	.51	.39	-.09	HK1						
.98	.01	-.02	.19	-.04	HK2	.95	.01	.11	-.17	-.28	HK2	.95	-.05	.18	-.17	.14	HK2	.99	.00	-.09	-.09	.04	HK2						
.97	-.04	.35	-.05	HK3	.38	-.09	.81	-.01	.50	HK3	.41	.80	.36	-.11	-.47	HK3	.31	.21	-.18	-.03	.97	HK3							
.06	.30	.18	.95	-.22	HK4	.00	.23	.81	-.39	-.41	HK4	.06	.30	.98	-.29	-.05	HK4	.15	.37	-.43	-.87	.45	HK4						
.07	.03	.29	-.19	1.00	HK5	.13	.29	-.06	.93	-.10	HK5	.15	.04	-.04	.93	.13	HK5	.08	.20	.93	.00	.02	HK5						

"Hit" matrix - number of 'equivalent' factors for each country comparison

Gr	UK	USA	Es	Id	HK
Gr	5	3	4	5	3
UK	3	5	3	4	2
USA	4	3	5	3	2
Es	5	4	3	5	2
Id	3	2	2	2	5
HK	5	3	3	5	5

* HK = Hong-Kong

The method we followed in order to arrive at the country clusters was to analyze the square matrix of the Tucker Phi indices, or the “Hit” matrix (Georgas & Mylonas, 2006; Mylonas, 2009) with the number of rows and columns being the number of countries involved in the study. This matrix would include as data points the number of “hits” for each country comparison as denoted by the Tucker Phi indices. Thus, if four factors were identical for two countries, then number four would be inserted into the cell that corresponds to these countries’ comparison. If zero equivalence was observed, that is, if none of the factors presented any similarity between two countries, then a zero would be the data point in the respective cell, etc. For the diagonal elements of the matrix, since each country’s factors are equivalent to themselves, number five was inserted in the six cells as an indicator of maximum equivalence for the 5-factor solutions within each country. The main idea behind the formulation of such a matrix is that it consists of information regarding the level of similarity of factor structures between countries; however, it does not refer to which specific factors are identical or closely similar. One might argue that in order to take both levels of information into account (how many factors identical or closely similar and which ones) we should have employed the full Tucker Phi matrix by reproducing the indices above the diagonal and by employing identity matrices for the diagonal. Unhappily, such an approach does not yield meaningful solutions since it confounds the two levels of information. The figures analyzed, as contained in the “hit” matrix, are presented in Table 3.

For this matrix we computed the dissimilarity matrix on the cases (six countries) by standardizing the measures on a -1 to $+1$ scale and then through non-metric multidimensional scaling we computed the Euclidean two-dimension solution. The outcomes were acceptable in terms of statistical power (Young’s *Stress* = 0.06 and $R^2 = 0.98$), although the number of dimensions was partly responsible for this power. The standardized coordinates for the stimuli were trigonometrically transformed through an arctangent transformation and were then converted to degrees in order to plot them on the circumference (Mylonas, 2009; Sidiropoulou-Dimakakou, Mylonas, & Argyropoulou, 2008; Veligeas, Mylonas, & Zervas, 2007). This plot clearly identified a Hong-Kong, Greece, Spain cluster of countries, a UK and USA cluster of countries, with India being the “third cluster” (figure in Table 3).

Exploratory factor analyses and factor equivalence testing for clusters of countries

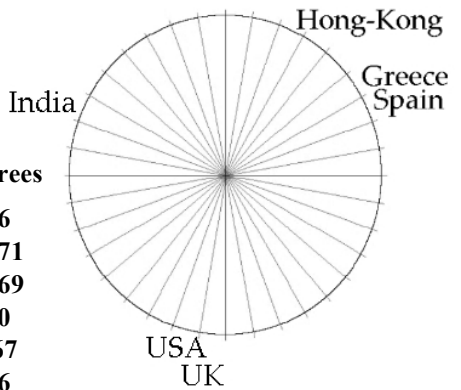
For each of these three clusters of countries, 5-factor structures were again computed. These three new factor structures were again target rotated on the Venezuelan & Hong-Kong structure and were then compared for their factor equivalence with the target rotated “overall” structure as computed for the total pool of the six countries in the previous stage of analysis. The results were extremely satisfactory in terms of equivalence, as the “overall” factor structure was identical to the factor structures of the Greece, Hong-Kong, Spain cluster and the UK, USA cluster with differences only in the order of factors within the structures. Minor discrepancies were present for the “cluster” of India, where 4 factors were identical, with its 4th factor just similar to the Fate Control “overall” factor (Table 3).

The three new factor structures for the clusters of countries were then compared to each other through the calculation of the Tucker Phi indices (Table 3). When comparing the clusters of countries to each other for their factor structures, a very interesting result referred to the Social Complexity Factor. For the Greece, Hong-Kong, Spain cluster, this factor emerged first, but is not clearly the same with the respective factor of the other two clusters, the India and the UK-USA clusters. Another important finding is that “Fate Control”, the fifth UK-USA cluster factor, which also identically emerged second in the Greece, Hong-Kong, Spain cluster, was not the same with the respective factor for India, that is, although the factor is present in India as well, it does not reach factor equivalence levels when compared to the other two clusters’ structures. A similar finding appeared for the fifth Greece, Hong-Kong, Spain factor, Reward for Application, which does not emerge as an identical factor in India.

Table 3. Multidimensional scaling outcomes and factor equivalence testing for clusters of countries

Countries	MDS Coordinates		Arctangent transformation	Degrees
Greece	.57	.85	.97652	56
UK	-1.50	-.24	-2.98434	-171
USA	-1.46	-.27	-2.95782	-169
Spain	.53	.93	1.045082	60
India	.74	-1.79	-1.17542	-67
Hong-Kong	1.10	.53	.446621	26

Young's Stress = .06 R² = .98



Factor equivalence testing within clusters of countries

Factor equivalence testing for each cluster of countries with the overall factor solution

GHS1	GHS2	GHS3	GHS4	GHS5	with	F1	F2	F3	F4	F5	with
.23	.06	.98	.23	-.04	UU1	.98	.44	-.14	.14	-.14	GHS1
-.14	.58	.09	.19	.92	UU2	-.22	.02	.64	-.03	.94	GHS2
.59	-.04	.01	.93	.04	UU3	.13	.14	.04	1.00	.00	GHS3
<u>.89</u>	.00	.06	-.01	.40	UU4	.19	.99	-.01	.13	-.14	GHS4
-.35	.94	-.16	-.26	.08	UU5	.24	.17	.92	-.04	.04	GHS5
GHS1	GHS2	GHS3	GHS4	GHS5	with	F1	F2	F3	F4	F5	with
-.34	.79	-.06	-.04	.77	Id1	.19	.25	-.01	.98	.09	UU1
.57	.09	.18	.93	.15	Id2	-.05	.24	.98	.04	.29	UU2
.04	.08	.99	.07	.01	Id3	.45	.96	-.10	.02	-.06	UU3
.19	.73	-.03	-.35	-.08	Id4	.95	.14	.19	.04	.00	UU4
<u>.85</u>	-.26	.16	.13	.51	Id5	-.38	-.21	.43	-.17	.96	UU5
UU1	UU2	UU3	UU4	UU5	with	F1	F2	F3	F4	F5	with
-.09	.92	-.15	-.02	.65	Id1	-.26	.00	.95	-.11	.56	Id1
.31	.20	.97	.28	-.14	Id2	.44	.98	.05	.18	.04	Id2
.97	.12	-.06	-.01	-.06	Id3	.03	.07	.07	.99	.08	Id3
.06	.01	-.13	.34	.79	Id4	.15	-.23	.16	-.04	<u>.88</u>	Id4
.16	.19	.31	.92	-.46	Id5	.93	.25	.21	.14	-.33	Id5

Key:

GHS = Greece, Hong-Kong, Spain Cluster of countries structure

UU = UK, USA Cluster of countries structure

Id = India's structure

These findings may suggest that India probably is the culture that mostly differs in the meaning assigned to the five Social Axiom dimensions, in respect to the other two clusters of countries, and that the Social Complexity, Reward for Application and Fate Control factors may be the Social Axiom dimensions that are mainly conceptualized in different ways in these clusters of countries.

Discussion

Following the evidence, we arrived at a rather clear structure of five salient factors for Greece and this is true for the other five countries in the data. However, the sixth factor which initially emerged for Greece and was named “Socially Deterministic Cynicism” needs some further attention. By combining some Reward for Application issues with some Social Cynicism items, this factor may be related to the Greeks’ high levels of Religiosity, the difficult socio-economic conditions throughout the 20th century economic development of the country, and the significant role of the in-group in social life (Leung & Bond, 2004; Vassiliou, & Vassiliou, 1973). Specifically, until 1990, the vast majority of the Greek population shared a common ethnic heritage. Even after that, the majority of the population (>90%) are still Christian Orthodox (<http://www.adherents.com>) who share traditional values on the importance of family bonds (Georgas, 1989, 1993) and educational goals (Gari & Kalantzi, 1998) that refer to the academic success and high acquisition of knowledge, primarily for males. These dimensions of religion, traditional family, and educational values, along with the highest percentage of three-generation households (20%) within the EU (Eurostat-European Community Household Panel, 1995) may determine some general axiomatic beliefs of social life such as the “age stereotypes” and the conflict between the good and evil or between social reward and punishment. Such a “Socially Deterministic Cynicism” factor for the Greek sample implied the need for identifying new items, as emic or culture-specific items, for use under the scope of future research in Greece. Further research that has been conducted in regard to such an emic dimension with the employment of the 60 items SAS questionnaire and a set of 20 additional Greek “emic items” highlighted this sixth factor under the title of “cynicism and competition” as a social cynicism “sub-dimension” (Gari, Panagiotopoulou, & Mylonas, 2009) and satisfied the demand for an emic exploration of the initial social axioms five dimensions in order to expand and enrich them.

One of the most encouraging result was that the final overall factor structure seemed to be powerful and coherent for all six countries, supporting the universal character of the five dimensions of Social Axioms (Leung & Bond, 2004). Of course, we did not attempt to verify or falsify the original structure (Leung & Bond, 2004; Leung et al., 2002) our overall intention was to achieve acceptable levels of statistical justification and congruence in order to be able to apply our “exercise” on the use of the alternative clustering technique (Mylonas, 2009). Despite the overall universality though, by comparing each country to another and each country with the overall structure, discrepancies were present which seemed to be major for the UK and USA factor structures. More meaningful information was apparent after forming clusters of countries, since the cluster factor structures were quite close to the overall structure of these six countries and also presented strong similarities in pairs. The similarities among the three sets of countries and of these sets of countries with the overall factor structure that produced satisfactory results in terms of factor structure equivalence seem to enrich our understanding of these similarities among cultures in respect to the Social Axioms dimensions and the psychological space they convey. Specifically, the Social Cynicism and the Religiosity dimensions, which are the most identical structures for the three clusters of countries compared in pairs and with the “overall” factor structure, seem to echo effects of power and authority derived from wealth, age, gender and the best intentions of human behavior, as well as influences of religious beliefs of monotheistic religions to individuals and social groups, regardless of the culture-specific religious activities or practices (Leung & Bond, 2004).

On the other hand, the diversity that seems to exist between clusters of countries may reflect a variety of conceptualizations of the Social Axiom dimensions across the six countries. Such a diversity seems to be mostly present between India and subsets of western-type cultures; specifically it seems to separate the Indian Social Axiom structure from the other two sets of western type structures, as well as the UK and USA structure from another set of western type countries, namely Greece, Spain and Hong-Kong structure. Additionally diversity seems to appear larger for the Reward for Application dimension, and mostly for the Fate Control and Social Complexity dimensions. This might be associated with the extent that fatalistic thoughts and beliefs for supernatural entities, as expected parts of the Fate Control dimension, influence the conceptualization of other Social Axiom dimensions such

as Reward for Application and Social Complexity. Diversity might also be associated with the Protestant work ethic function that is a part of the Reward for Application dimension and its influences on the understanding of general social rules and various social behaviors within specific societies (Furnham, 1990). One way of explaining this diversity though, would be to understand these cluster differences as “modal” differences of the same factors within each cluster, that is as differences that do not refer to the presence or the absence of the factor in each cluster but to the way this factor is conceptualized and implemented in guiding behavior.

In general, the nature of the above diversity in Social Axioms structures is not yet clear and needs larger clusters with more countries in each cluster. Our study employed only a small part of the large (41 countries) Social Axioms database and simply described an alternative method for country clustering. The clustering method among 41 nations that was employed by Leung & Bond (2004) in their search of homogeneous country subsets based on the mean scores for each country, revealed some expected parameters of similarities among cultures, such as neighbouring in language (i.e. between the Brazilians and the Portuguese), neighbouring in geographical space (i.e. the Czechs and the Hungarians), and combined types of neighbouring –in respect to both language and geographical space (i.e. the Canadians and the Americans), or neighbouring in respect to religion (i.e. the Muslim group of nations), but it also revealed some unexpected parameters of similarities that may imply some unknown dynamics in culture relationships, related not only to religion or language but also to other social phenomena such as diaspora or immigration (Leung & Bond, 2004). Despite the difficulty for understanding clustering of cultural groups on Social Axioms dimensions, one thing is clear: diversity does not lessen the strength of similarity of Social Axiom dimensions across the six cultures of the present study nor their universality (Leung & Bond, 2004). Thus, similarities and differences among sets of countries for the Social Axiom structures seem to determine a basis for supporting the existence of a coherent structure of five dimensions, but they also seem to indicate other levels of approaching diverse conceptualizations of them, especially of those Social Axiom dimensions that refer to the “just world beliefs” (Reward for Application), the level of “fatalism” in individuals’ activities (Fate Control) and the rules that guide individuals’ daily and social life (Social Complexity).

In conclusion, in our search for similarities and diversities, the general idea for country clustering can be approached via different, although parallel routes with the method of country score means analysis. The information needed to arrive at meaningful and useful country clusters may be of different nature, although it basically reflects the same principle of homogeneity. Thus, our method implemented the element of the factor structures involved the latent trait information for each country when searching for homogeneous subsets of countries. It is evident that country clustering based on the country means for the dimensions involved is also a necessary step to take, having arrived at a universal factor structure for a theory; however, it involves information that presupposes the existence of such a universal factor structure. If we accept that within the general universality of latent traits there is some amount of diversity, then we also need to employ the structural information given by the similarity or identity of country factor structures in our quest for country clusters. Such an approach might enable not only the power for explaining similarities but also our power to explore for differences in the conceptualization of the latent variables. Under this rationale, analyses of the present study have served in both ways: first, as a way of arriving to a large amount of similarity and be able to describe this similarity among countries, and second, as a testing for the discriminant power of the SAS between factor structures, between countries and across clusters of countries.

A further advantage of the method employed in this study is that it still does not require a large number of countries in order to arrive to meaningful clusters of countries, as is true for the “country means” approach. However, the information about the factor elements in each of the countries involved would be greatly enhanced if the clusters consist of many countries (in contrast to our India “cluster”). Thus, for any set of latent variables and of course for the five Social Axioms dimensions, a further implementation of the method including the respective multidimensional scaling solution, might reveal sets of countries that share common aspects on these dimensions, even if these dimensions in their universality contain some parts of cultural diversity.

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Predicting Opposition towards Immigration: Economic Resources, Social Resources and Moral Principles

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This study analyses the predictors of opposition towards immigrants of “different ethnic groups” and “poor countries” in 5 European countries (Portugal, Germany, Netherlands, France and United Kingdom), using data from the European Social Survey 1 (Jowell & the Central Coordinating Team, 2003). Besides Portugal, a country that has moved from being one of net emigration to being a new host country for immigrants, the other countries were selected according to their main policies of immigrants’ integration. Opposition towards immigration (OTI) is analysed using three theoretical models: a) the economic self-interest model that proposes that opposition towards immigration may be due to economic factors; b) the social capital model according to which social trust and self-reliance on political and social system may shape peoples’ opinions on the benefits of immigration; c) Schwartz’s human values model, based on which it is possible to predict that some values facilitate OTI, whereas others facilitate openness to immigration. The hypotheses tested are: a) there is a negative correlation between economic well-being and OTI; b) a negative correlation between social capital and OTI; c) a positive correlation between both conservation and self-enhancement values and OTI, and a negative correlation between both self-transcendence and openness to change values and OTI; d) the social values model will further predict opposition towards immigration over and above the other models. Results globally support the formulated hypotheses.

The current context of enlargement of the European space and the intensification of migratory flows demand the study of attitudes towards immigration. Different explanatory models have been proposed, whether focusing more on economic aspects, social aspects, or the ethical and normative principles associated with the way the host communities experience and perceive the presence of immigrants. However, these models of analysis have never been studied together. The main purpose of this study is, therefore, to compare the predictive power of those three theoretical models on opposition towards immigration. The hypothesis to be tested is that social values contribute to explain opposition towards immigration over and above models that focus on the social and economic aspects. The European Social Survey 2002 data (ESS1) will be used (Jowell, & the Central Co-ordinating Team, 2003).

This chapter presents the main arguments of the models to be confronted, as well as the potential contribution of each one to the understanding of attitudes towards immigration. It then proceeds to the comparison of the predictive power of the three models.

Economic resources: economic self-interest

The belief that immigrants are a threat to the economic well-being of the populations of the host countries is still transmitted by the media and is quite present in the common sense discourse. This belief reflects, for example, the perception that immigrants “take jobs”, “make salaries fall” and “abuse the social security system”. We thus put forward the question: to what extent are attitudes towards immigrants actually determined by economic factors?

Some studies conclude that the opposition towards immigration is a result of the perception of an unfavourable economic position (Harwood, 1983; Simon & Alexander, 1993); others are framed by the theories of relative deprivation (Gurr, 1970; Walker & Pettigrew, 1984), regarding either competition for material resources (e.g. wages) or for social resources

(e.g. education, health and social security) (Malchow-Møller, Munch, Schroll, & Skaksen, 2006; Muller & Espenshade, 1985; Vala et al, 1999). In contrast, other studies have concluded that economic resources were not the main explicative factor of the negative attitudes towards immigrants, but, instead, racial opposition (Dustmann & Preston, 2004; Hainmueller & Hiscox, 2004; Vala, Pereira & Ramos, 2006).

However, from our point of view, many of the explanations based on economic factors concentrate on individual perceptions, either regarding people's interests, in-group (natives) interests or the out-group (immigrants) needs and behaviour. In this sense, the measures used are not reflecting an objective situation, but instead, a subjective perception of economic threat, since they are a result of subjective assessments in contexts of competition for economic resources. As our purpose is to test the impact of objective economic conditions in explaining opposition to immigration, we will include in our analyses only objective indicators of economic resources: household income and employment situation.

Social resources: social capital

As an alternative to the economic self-interest model, we propose, firstly, that opposition towards immigration is related to the perception of social meaninglessness or the inability to decode the complexity of social relations associated with low levels of social capital.

Social capital is a basic component of action, as a promoter of social cooperation and the pursuit of common objectives, thus constituting a reflection of individuals' capability of association (e.g. Coleman, 1990). The social relations created in this sense become normative: they are not important or interesting as mere contacts, but rather as generating sources of reciprocity norms. "A society characterized by generalized reciprocity is more efficient than a distrustful society (...). Trustworthiness lubricates social life." (Putnam, 2000:21). Trust, the establishment of networks and reciprocity norms are, therefore, basic elements of social capital; as is the notion that people make use of their resources in others, that they invest in each other and can mobilize the resources of others (Halman & Luijkx, 2006).

By promoting civic responsibility, social capital generates reciprocity norms and encourages tolerance and cooperation between people of different groups; it thus contributes to the creation of inclusive identities. Based on this line of thinking, we suggest that social capital, as an encouraging factor of cooperative social relations, can also contribute to the promotion of positive attitudes towards immigrants. Therefore, our hypothesis states that, the greater the citizens' commitment to social and institutional networks and the greater their levels of interpersonal and institutional trust, the greater their tendency to manifest attitudes of openness to immigration. In addition, we assume that social resources are more important in explaining opposition towards immigration than economic resources.

Moral principles: social values

Social values are proposed as important factors to understand, explain and justify differences (and similarities) between individual attitudes, as well as social and cultural patterns either in a more elementary way (such as the common sense discourse), a more organised way (such as the political discourse), or from a more conceptual or theoretical perspective.

Conceptualized as desirable objectives that serve as guiding principles in people's lives and as socially accepted representations of basic motivations (Sagiv & Schwartz, 2000), social values have a motivating role of action and a normative function simultaneously (Sherif, 1936), which allows individuals to decide what is good and what is bad, what is justified and illegitimate, regardless of their personal interests. The Schwartz model of human values (Schwartz, 1992) organizes ten basic values in a bi-dimensional structure composed of four types of high-order values that, in turn, represent two basic and bipolar conceptual dimensions: one that opposes values of *self-transcendence* to values of *self-enhancement*; and another that opposes values of *openness to change* to values of *conservation*. The first dimension reflects the

conflict between accepting others as equals and concern for their own well-being versus the pursuit of individual success and control over others. The second dimension reflects the conflict between the desire of intellectual autonomy, freedom of action and orientation towards change in opposition to obedience, the preservation of traditional practices and the protection of stability. The structure of this model has been extensively validated (Schwartz & Boehnke, 2004; Schwartz & Bardi, 2001; Schwartz, Melech, Lehmann, Burgess & Harris, 2001; Spini, 2003).

Our aim is to discover whether social values have a higher explanatory power of opposition towards immigration than the other two already presented parameters –social capital and objective economic conditions. In favour of our hypotheses, recent studies have already shown the association between adhesion to egalitarian values and the acceptance of the anti-racist norm, as well as the adhesion to meritocratic individualist values and the rejection of that norm (e.g. Biernat, Vescio, Theno, & Crandall, 1996; Feather, 1984; Katz & Hass, 1988; Vala, Lima & Lopes, 2004). Moreover, in regard to the negative attitudes towards minority groups, an extensive line of research showed the predictive power of the values of conservatism (Adorno, Frenkel-Brunswik, Levinson & Sanford, 1950, Altemeyer, 1994) and of the closed mind (Jost, Glaser, Kruglanski, & Sulloway, 2003; Rokeach, 1960). However, those studies have only been based on particular dimensions of values and have not explored the correlation between an integrated and systematic model of values, such as Schwartz's model, and the opposition towards immigration. Moreover, in those studies the predictive power of social values was not compared with more conventional explanations, such as the objective economic self-interest model, or with more innovative explanations, such as the social capital model.

Model of analysis and hypotheses

The model of analysis we employed states that economic self-interest (as a representative element of different positions in the social structure and of the motivations associated with them), social capital (as a promoting element of social networks, tolerance and inclusive identity principles) and social values (as normative and moral principles that structure attitudes and action) constitute important predictors regarding opposition towards immigration. Hence, our hypotheses are: 1) concerning economic self-interest, the higher the income, the lower the opposition towards immigration; 2) the social capital model (social resources) is a better predictor of opposition towards immigration than the model of economic self-interest and the higher the social capital, the lower the opposition towards immigration; 3) social values –*self-transcendence*, *self-enhancement*, *conservation*, *openness to change*, explain attitudes towards immigration over and above the preceding factors.

Moreover, according to our hypothesis, attitudes towards immigrants will be mainly determined by normative and ethical principles that guide action, and less so by individual economic and social resources.

Additionally, we propose that: 1) self-transcendence and openness to change values predict positive attitudes towards immigration; 2) self-enhancement and conservation values predict negative attitudes towards immigration.

Method

Sample

This study is based on data from five participating countries of the ESS 1 (Jowell, & the Central Co-ordinating Team, 2003), in a total of 9,457 individuals. Data were weighted using the adequate procedures recommended in cross-national comparisons (Häder & Lynn, 2007). In addition to Portugal, we chose countries that have distinctive immigration policies.

Hence, and following the proposal of Bourhis (Bourhis, Moise, Perrault, & Senecal, 1997; Moutreuil & Bourhis, 2001), Germany constitutes a country of ethnicist orientation. According to this, an immigrant who does not have German origins is perceived as someone

that will never be able to be a true German, and that will never be able to incorporate the nuclear values of the German nation, since there are racial and/or ethnic differences impossible to overcome. France is at the opposite extreme of the ethnicist orientation, being a country with a policy of integration that tends to be assimilationist, where there is no place for particularities or cultural specificities (if an immigrant so wishes, he can become a true citizen; but for that, he must be willing to assimilate the values and ways of life of the majority). The United Kingdom can be placed between these two extreme policies, as an example of a country guided by a mitigated “cultural pluralism” where immigrants can maintain their values and manifestations of their culture, but at the same time they must adopt the values and the norms of the host community. Similarly the Netherlands, a country that until recently was characterized by active multiculturalism and that now has begun to openly manifest anti-immigrant attitudes, can also be placed between the two extremes. For methodological reasons, immigrants and people from foreign countries were excluded from the analysis.¹

Measures

As already mentioned, our dependent variable is *opposition towards immigration*. The questions from the ESS1 (Jowell, & the Central Co-ordinating Team, 2003) used to measure opposition towards immigration were the following: “To what extent do you think [country] should allow people of the same race or ethnic group as most [country] people to come and live here?”; “How about people of a different race or ethnic group from most [country] people?”; “To what extent do you think [country] should allow people from the richer countries in Europe to come and live here?”; “And how about people from the poorer countries in Europe?”; “To what extent do you think [country] should allow people from the richer countries outside Europe to come and live here?”; “How about people from the poorer countries outside Europe?”. The scale employed included: 1 (allow many to come and live here) to 4 (allow none).

As predictors of opposition towards immigration we selected three sets of independent variables corresponding to the three theoretical models considered:

Economic self-interest. We selected two questions from the ESS1 (Jowell, & the Central Co-ordinating Team, 2003) that we considered to be objective indicators of economic self-interest: household income (measured in 12 intervals) and employment situation (the original variable was recoded into two positions –unemployed = 1; others situations = 0).

Social capital. To measure social capital, two indices were computed: trust and associativism. The index of trust was computed based on the following questions of ESS1 (Jowell, & the Central Co-ordinating Team, 2003) on *interpersonal trust* (“Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?”; “Do you think that most people would try to take advantage of you if they got a chance, or would they try to be fair?”; “Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?”), on *trust in national political institutions* (level of personal trust in the “Parliament”, in the “legal system” and in the “police”), and on *trust in international political institutions* (level of personal trust in the “European Parliament” and in the “United Nations”). The indicators were measured on an 11 point-scale varying between 0 (no trust at all) and 10 (complete trust). The levels of reliability for the group of 8 indicators supported the construction of the index of trust (Cronbach’s α was between .78 and .82 for the five countries). The index of participation in associations was obtained from the total number of associations/organisations that the individuals marked as members, out of a list of 12 types of associations.

Social values. In this chapter we used the four high-order values of Schwartz’s human values model: *self-transcendence* (universalism + benevolence); *self-enhancement*

¹ Unweighted samples: Portugal (n=1,417); Germany (n=2,638); France (n=1,337); United Kingdom (n=1,858); Netherlands (n=2,207).

(achievement + power); *conservation* (security + tradition + conformism); *openness to change* (hedonism + stimulation + self-direction).²

Social values were operationalised through a 21-item short version of the Portrait Values Questionnaire (Schwartz et al., 2001; Schwartz, 2007), designed to measure basic individual values through the assessment of the individuals' identification with a person with specific characteristics. In this scale, each item reflects personal aims or aspirations that, in turn, express a motivation. For each "portrait", the participants are asked to indicate to what extent that person is similar to them, on a scale of 1 (very much like me) to 6 (not at all like me).³

To control the effect of possible "national patterns" of answers, the means were centered for each country, i.e., the national mean was removed from the score attributed by each individual to each of the values (and consequently to each of the high-order values).

Given the high number of respondents, we adopted, in the statistical analyses, a level of significance of $p < 0.01$ to reject the null hypothesis (i.e., relations non-different from zero; or differences non-different from zero) when analysing national samples.

Results

Opposition towards immigration

The first step in the data analysis was the construction of the index of opposition towards immigration. As described above, the ESS1 (Jowell, & the Central Co-ordinating Team, 2003) questionnaire had indicators of opposition towards immigration for six different immigrant groups. Two target-groups were computed, which we considered sufficiently distinctive to reveal plausible differences: one target group joining immigrants from poor countries inside Europe, from poor countries outside of Europe, and of a different race or ethnic group than the majority; and a second target group combining immigrants from rich countries (inside Europe and outside Europe) and of the same race or ethnic group as the majority.

Data analysis showed that opposition towards immigration is relatively independent of the target-group. The correlations between the two target-groups ranged from .73 for Germany to .89 for Portugal. Moreover, Cronbach's α for the group of six indicators ranged from .92 for Germany and .97 for Portugal, suggesting that the psychological processes that exist behind opposition towards immigrant target groups may be very similar. That is, when there is opposition towards immigration the most important factor may not be the immigrants' origin, but the representations that people have of them and of the impact of their presence in the country.

Subsequently, we explored the differences between countries regarding opposition towards immigration. We ran three analyses of variance taking "total opposition", "opposition towards immigrants from rich countries and the same ethnic group" and "opposition towards immigrants from poor countries and different ethnic group" as dependent variables and the five countries under analysis as independent variables. The results of the analyses of variance (Table 1) show: a) that there are significant differences between countries, with Germany being the country that presents the lowest value of opposition towards immigration and Portugal the country that presents the highest value; b) that the differences between countries are visible for the two target-groups; c) that, in most cases, it is possible to observe a tendency towards more favourable rather than unfavourable attitudes towards immigration, since only in Portugal means were significantly higher than the mean-point of the scale. In the United Kingdom a significantly negative attitude towards immigrants from poor countries and a different race or ethnic group was also observed. However, the η^2 values indicate that the observed differences between countries are not expressive.

² The values structure was validated for all countries and the results are presented in Ramos (2006).

³ The variables were recoded so that higher values correspond to a higher identification.

Table 1. Opposition towards immigration by country (means)

	Total opposition ¹	Opposition towards immigrants from rich countries and the same ethnic group ²	Opposition towards immigrants from poor countries and different ethnic group ³
Germany	2.28a [†]	2.24a [†]	2.36a [†]
France	2.46b	2.44b [†]	2.51b
Netherlands	2.46b	2.48b	2.45b
Portugal	2.74c [†]	2.69c [†]	2.81c [†]
United Kingdom	2.50b	2.44b	2.59d [†]
Total	2.42 [†]	2.38 [†]	2.46

Note: Different letters indicate statistically significant differences between countries;

[†] $p < .001$ (two-tailed test against the mean-point of the scale: 2.5).

¹ $F(4, 17817) = 123.2, p < .001, \eta^2 = .03$

² $F(4, 17913) = 125.5, p < .001, \eta^2 = .03$

³ $F(4, 18061) = 101.8, p < .001, \eta^2 = .02$

Since the group of immigrants from a different race or ethnic group and from poorer countries than the majority constitutes the one that corresponds to the predominant profile of immigration in Europe, we decided to use the corresponding index as the dependent variable.

The predictive power of each theoretical model

The first group of hypotheses aimed to test the predictive power of the three theoretical models (economic self-interest, social capital and social values). As such, we performed, for each country, regression analysis in blocks (Cohen, Cohen, West, & Aiken, 2003). In this regression analysis, the indicators of the models to be tested are sequentially introduced in blocks. Hence, the first block included the indicators of objective economic self-interest (household income, employed-unemployed), the second block had the indicators of social capital and, finally, the third block contained the indicators of social values. The interactions between social values and social capital, included in a fourth block, were also tested, but the results were not statistically significant. Results (β coefficients and R^2) are presented in Table 2.

The first hypothesis predicted that the economic self-interest model would have a negative impact on opposition towards immigration. That is in fact true, with the contribution of this model varying between 1.2% and 4.0% of the explained variance for the Netherlands and Germany, respectively. However, it is a modest contribution, which suggests it is not the motivations based on economic resources that mostly underlie opposition towards immigration.

The inclusion of the second block of variables showed, as expected, that social capital constitutes a better predictor than economic self-interest, which holds true for the five countries under analysis. Social capital predicted opposition towards immigration negatively, and the increase in the explained variance resulting from the inclusion of social capital indicators varies between 4.9% in Portugal and 10% in the Netherlands.

Finally, the inclusion of the social values model enabled the first part of our hypothesis to be confirmed, since the increase in explained variance was significant for all countries. However, our prediction that this model would contribute more than the economic self-interest and social capital models in explaining opposition was only confirmed for the samples of France (12.6%) and Germany (10.6%). In Portugal and the Netherlands, social capital presents a greater predictive power than social values and, in the case of the United Kingdom, the explained variance is the same (8%).

Table 2. Predictors of opposition towards immigration in five countries

	Opposition towards immigration				
	Portugal	France	Germany	Netherlands	United Kingdom
Model 1:					
Objective economic self-interest					
Household income	-.161***	-.130***	-.173***	-.109***	-.196***
Unemployed	-.084	-.036	-.076**	-.007	-.072**
Adjusted R^2	.026***	.015***	.040***	.012***	.039***
Model 2:					
Objective economic self-interest					
Household income	-.121**	-.069	-.124***	-.055	-.133***
Unemployed	-.081	-.043	.046	-.010	-.076**
Social capital					
Membership	-.177***	-.072	-.060**	-.094	-.106***
Social trust	-.128**	-.228***	-.248***	-.280***	-.247***
R^2 change ⁴	.049***	.082***	.074***	.100***	.080***
Adjusted R^2	.074***	.094***	.112***	.109***	.117***
Model 3:					
Objective economic self-interest					
Household income	-.103**	-.041	-.087***	-.048	-.110**
Unemployed	-.081	-.003	.062**	-.008	-.058
Social capital					
Membership	-.164***	-.020	-.024	-.082***	-.073**
Social trust	-.112**	-.190**	-.215***	-.254***	-.241***
Social values					
Self-transcendence	-.073	-.250***	-.269***	-.157***	-.264***
Self-enhancement	.153**	.034	.021	.057	-.004
Openness to change	-.112	-.084	.032	.004	.029
Conservation	.171**	.394***	.312***	.197***	.300***
R^2 change ⁵	.038***	.126***	.106***	.042***	.081***
Adjusted R^2	.107***	.218***	.217***	.145***	.190***

** $p < .01$; *** $p < .001$

Overall, the three models contribute more to explaining attitudes towards immigration in Germany and in France than in the other countries, with Portugal being the country with the highest level of opposition towards immigration, and for which these variables least help in understanding this phenomenon.

⁴ Significance of the increment introduced by the social capital model: Portugal $F(2, 686)=12.3, p < .001$; France $F(2, 1021)=30.9, p < .001$; Germany $F(2, 1890)=52.3, p < .001$; Netherlands $F(2, 1715)=64.1, p < .001$; United Kingdom $F(2, 1379)=41.6, p < .001$.

⁵ Significance of the increment introduced by the social values model: Portugal $F(4, 682)=7.4, p < .001$; France $F(4, 1017)=41.4, p < .001$; Germany $F(4, 1886)=64.4, p < .001$; Netherlands $F(4, 1711)=19.3, p < .001$; United Kingdom $F(4, 1375)=32.4, p < .001$.

The second group of hypotheses aims to associate the four high-order values with opposition towards immigration. In this sense, we propose that: a) the values of self-transcendence and of openness to change are negatively correlated with opposition towards immigration; b) the values of conservation and of self-enhancement are positively correlated with opposition towards immigration. According to our results, this complete pattern was only found in Portugal (Table 3).

Table 3. Social values as predictors of opposition towards immigration (β coefficients)

Social values	Portugal	France	Germany	Netherlands	United Kingdom
Self-transcendence	-.106**	-.280***	-.309***	-.230***	-.289***
Self-enhancement	.147***	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Openness to change	-.169***	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Conservation	.213***	.437***	.356***	.254***	.338***
R^2	5.5%	17.3%	14.7%	6.6%	10.2%

** $p < .01$; *** $p < .001$

In all five countries, the values of *self-transcendence* are negatively associated with opposition towards immigration and, as expected, the values of conservation are positively associated with this attitudinal pattern. These results reflect the facilitating role of values associated with egalitarianism in promoting intergroup relations and are similar to the conclusions obtained in other studies (e.g. Vala, Lima & Lopes, 2004; Vala, Pereira & Ramos, 2006). However, the expected significant impact of the values associated with meritocracy (*self-enhancement*) and with *openness to change* was only observed in Portugal.

Discussion and conclusions

By analysing opposition towards immigration in the five countries chosen, the results suggest, firstly, that opposition towards immigration has underlying attitudinal processes, regardless of the target-group in question. When creating the two target-groups of apparently different immigrants (from poor countries and of a different race or ethnic group, on the one hand, and from rich countries and the same race or ethnic group, on the other), the objective was to discover the existence of distinct patterns, but the results showed that the immigrant's origin is not relevant to the configuration of attitudes of higher or lower openness. In this analysis, Portugal was the country with the most negative attitudes towards immigrants, while Germany was found to be the country with greatest openness. Nevertheless, as mentioned during the presentation of the statistical analyses that were carried out, the magnitude of the country effect is small.

As regards to the contribution of the three theoretical models to the explanation of opposition towards immigration in the five selected countries, overall results support our hypotheses; showing that the explanations framed on the theories of economic self-interest are far from having the predictive power that is frequently attributed to them.

Results obtained from the inclusion of the social capital model provide empirical evidence for the hypothesis that trust and belonging to social networks are potential elements of more open attitudes towards immigration. In fact, social resources came up as being better predictors of opposition towards immigration than the objective economic resources for all of the analysed countries.

The effect obtained by the social values showed that the models anchored in motivational and symbolic orientations are important in understanding attitudes towards immigration. Our hypothesis was strongly supported in the cases of France and Germany, since

the moral principles were, in fact, better predictors of those attitudes than economic or social resources.

Finally, the predictive power of the high-order values of Schwartz's model regarding opposition towards immigration was analysed. We were able, as a result, to observe that both axes of that model are structuring elements of attitudes towards immigration, with the values of self-transcendence being promoters of positive attitudes, and the values of conservation generators of negative attitudes. However, the hypothesis that values of self-enhancement would be associated with negative attitudes, and the hypothesis that values of openness to change would be the sources of more open attitudes towards immigration were not confirmed. The difference between Portugal (the only country where our hypotheses were confirmed) and the other countries may also find an explanation in the recent nature of the phenomenon. Our suggestion is that this may happen because the social groups that adhere to the values of self-enhancement and openness to change in Portugal, and in the other countries, are not the same: a question that must be considered in further research.

These results are consistent for countries with different immigration policies, with Portugal being the exception, probably due to the fact that immigration is a recent phenomenon in the country. As previously mentioned "the other countries have either already integrated the advantages of immigration or have manifested a conformist adhesion to the emerging norm of support for a "regulated" immigration" (Vala, Pereira & Ramos, 2006). Concerning the low contribution of the three domains of explanation for the opposition towards immigration in Portugal, a similar finding was reported in the study of the European Monitoring Centre on Racism and Xenophobia (Thalhammer Zucha, Enzenhofer, Salfinger, & Ogris, 2001). In this study, attitudes towards minority groups in Portugal had explained variance lower or equal to 10%, against degrees of explained variance between 15% and 21% in the remaining European countries. Immigration, as Portugal knows it presently, is a new reality and the attitudes of the Portuguese towards immigrants are beginning to be structured.

Concluding, economic self interest, as Harwood (1983) and Simon & Alexander (1993) postulated is an explanatory factor of negative attitudes towards immigrants to be taken into consideration. Social capital, as a combination of trust and norms of reciprocity, was also an important predictor; a result that is supported by Coleman and Putnam's theories. Social values, as manifestations of moral and normative principles that guide action, constitute central elements in the organisation of attitudes towards immigrants, offering a new type of explanation that deserves to be deeply explored in further research.

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Are Attitudes of Young Portuguese towards Immigration also Hardening? A Comparison between 1999 and 2006

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The host majority has an important impact on how immigrants adapt to their new land. The focus of the present chapter¹ is to understand attitudes of Portuguese young people towards immigration. To achieve this aim, a pilot study was conducted with the ISATIS (International Study of Attitudes Towards Immigration and Settlement) instrument. The sample consisted of 477 Portuguese youngsters attending courses in high school, interviewed in 1999 and in 2006. All participants were of Portuguese origin and 94% were born in Portugal. Their age ranged between 16 and 20 years. An examination of acculturation expectations towards immigration showed that Integration is the option most preferred, while Exclusion is the least preferred. In-between preferences are Segregation and Assimilation. Globally, there was a positive social climate towards immigration and immigrants. However, from 1999 to 2006 those positive attitudes were less strong. Girls revealed more positive attitudes towards immigration and immigrants than boys. Regarding attitudes towards diversity, tolerance is clearly the strongest link. With respect to security, economic security and personal security are the weakest links. The indicators of immigration climate (perceived personal, economic and cultural consequences of diversity and immigration, the tendency to advocate prohibition of immigration and attitude toward 17 ethnocultural groups) are reasonably strong. Immigration climate is more strongly linked to diversity attitudes as compared with security.

The focus of the present chapter is understanding attitudes of young Portuguese towards immigration. At present, Portugal is simultaneously an emigration and immigration country (Neto & Mullet, 1998; Neto, 2003). If emigration in this country has been an old tradition, Portugal has recently become a country of immigration. Several different ethnic groups comprise the immigrant population in Portugal. Some are officially registered as foreign residents but others are clandestine arrivals. The official numbers of immigrants, or legally registered foreigners, in 2004 was 449,194 individuals, corresponding to 4.3% of the population resident in Portugal and 8% of the active population. The growth of the immigrant communities becomes apparent from the 1990s onwards, when there were only approximately 100,000 immigrants, and this reflects a 400% increase in 14 years. Today, Brazilian immigrants (14.9%) are the most numerous, with Ukrainians (14.7%) occupying the second, and Cape-Verdeans (14.3%) the third place. The immigrants from PALOP (African countries with Portuguese as official language) represent 31.3% of the total legally registered foreigners, which corresponds to almost double the number of European Union residents. The foreign population is located above all in the littoral; that is to say, almost half the foreigners live in the area of Lisbon (45.0%), and in the Faro area (13.3%), followed by Setúbal (9.4%) and Porto (7.2%). The majority of foreign workers are mostly employed in four main areas: agriculture, manufacturing, industry, building and civil engineering, and services. Immigrants of European origin are employed mainly in the professional and service sectors; most Brazilians are employed in the service sector; whereas the majority of Africans are employed in the industrial and construction sectors.

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In order to discover how young Portuguese view immigrants (as people), immigration (as a process), and membership in various ethnocultural groups, a pilot study was conducted utilizing the International Study of Attitudes Towards Immigration and Settlement (ISATIS) methodology (Berry & Kalin, 1995; Berry, Kalin, & Bourhis, 2000). This project, which began in 1999, sought to extend the research internationally and, in doing so, to examine whether background factors, especially cultural and economic security, predicted attitudes (Berry, 2006). This project is predicated on the view that the adaptation of immigrants and their descendants to their adoptive society is affected by numerous factors in the receiving society. One of the most important of such factors is the set of attitudes held by members of the receiving society towards them.

Three important psychological processes are likely to affect immigration attitudes within a given society. The first one is a favorable *orientation towards ethnic diversity*. Attitudes towards social diversity and participation constitute nuclear aspects of acculturation and ethnic relations phenomena. In regard to the dominant group, there are two aspects to such phenomena. The first is the views that are held about how non-dominant groups should acculturate; these have been called *acculturation expectations* (Berry, 2006). Second, are the views held by the dominant group about how they themselves should change to accommodate the other groups now in their society; this strategy is assessed with a concept called *multicultural ideology* (Berry, Kalin, & Taylor, 1977).

Berry and his colleagues (e.g., Berry, Kim, Power, Young, & Bujaki, 1989) have developed a two-dimensional model of acculturation, which provides a framework for the study of acculturation attitudes. They suggest that two critical issues determine the type of acculturation that takes place: (a) the extent to which individuals consider it of value to identify with and maintain the cultural characteristics of their own ethnic groups and (b) the importance such individuals attribute to maintaining positive relationships with the larger society and other ethnic groups. On the basis of this model, there are four possible ways in which non-dominant group members can participate in a culturally diverse society: assimilation, integration, separation, and marginalization. The literature generally suggests that among the four acculturation options, integration must be the most adaptive (Berry, 1997; Neto, 2002, 2006). When these four attitudes are assessed among members of the larger society, they refer to the ways in which the dominant group thinks immigrants and their descendants should adapt to living in the larger society. In this case, the appropriate terms are assimilation, segregation, integration and exclusion (Berry, 1974; Bourhis, Moise, Perreault, & Senécal, 1997).

The concept of "multicultural ideology" was introduced by Berry et al., (1977). This concept refers to the general orientation individuals may have towards living in a culturally plural society. If for some people diversity is the spice of life, for others it is the major irritant.

The second process is a favorable *orientation towards social equality*. Ethnic tolerance is a critical issue in all societies, and Portugal is no exception. Ethnocentrism has been related to increases in anxiety as a consequence of outgroup contact (Stephan & Stephan, 1992). Thus, it appears that individuals who are highly ethnocentric anticipate and then experience anxiety when interacting with outgroup members.

The third process is a sense of *personal and collective security*. Security involves a sense of confidence among everyone who resides in a plural society. The multiculturalism hypothesis is that such a sense of security in one's identity will be a psychological precondition for the acceptance of those who are culturally different (Berry et al., 1977). Individuals who feel personally and collectively insecure are less likely to be favorably oriented towards ethnic diversity and less likely to be accepting of immigrants.

The demographic background of host majority members can also be related to immigration attitudes. Demographic antecedents include gender, age, social class, education and ethnic background. For example, results of empirical research on the effect of gender on attitude towards immigrants are contradictory. In a study by Pepels and Hagendoorn (2000) the

strongest prejudice against immigrant groups was found amongst elderly women. However, the broader picture seems to indicate that men express more explicit prejudice toward outgroups than women (e.g., Ekehammar, Akrami, & Araya, 2003).

Attitudes towards social diversity, attitudes towards social equality, feelings of personal and collective security, and demographic background can have an impact on the *social climate* for relationships between immigrants and members of the host society. This social climate is made up of three attitude components: (a) preferences for/prohibition against certain types of immigration; (b) attitudes about the positive and negative consequences of immigration for the host society; (c) feeling comfortable in the presence of immigrants from different ethnic, linguistic, and religious background.

Attitudes toward other ethnic groups have been studied as far back as Bogardus (1928). In particular Bogardus found that stereotypes of ethnic groups and immigrants were the source of negative attitudes. Clark (1998) reported that, since 1965, attitudes toward immigrants have turned increasingly negative. For example, O'Rourke (2002) reported that attitudes have been 'hardening' even in traditional liberal societies like Scandinavia, the Netherlands, and Great Britain. Is such a hardening of attitudes evident in Portugal, too?

Traditionally, the Portuguese are tolerant of cultural diversity and positive attitudes prevail. This is possibly because Portugal has a long history of contact with other cultures. Marriage between Portuguese and native peoples was more frequent in Portuguese colonies than in other European colonies. Nevertheless intolerance has increased recently.

Three research questions were stated for this study. Our first question involved the evaluation of attitudes towards immigration and immigrants. Would participants have positive attitudes towards immigration and immigrants? Our second question regarded possible differences by gender. Would girls have more positive attitudes towards immigration and immigrants than boys? Finally, our third question regarded possible differences over a lapse of time. Would participants have more positive attitudes in two cohorts, that is 1999 and 2006?

Method

Participants

Participants were 477 Portuguese youngsters attending courses in high school (two cohorts). The participants were interviewed in 1999 ($n = 234$) and in 2006 ($n = 243$). Ninety-four percent were born in Portugal, and all were of Portuguese origin. Forty two percent were male and 58% female. The age of the participants ranged from between 16 to 20 years, with a mean age of 16.8 years. All were resident of North Portugal. Forty-four percent of their mothers and 49% of their fathers had attended school for more than six years.

Time (cohorts) was not significantly associated with gender ($\chi^2 = 3.03$, $d.f.=1$, $p>.05$) nor with place of birth ($\chi^2 = 2.11$, $d.f.=1$, $p>.05$). However time was significantly associated with the sociocultural level of the parents ($\chi^2 = 14.92$, $d.f.=1$, $p<.05$). The sociocultural level of parents was higher in 1999 than in 2006. The mean age also differed significantly between the two years ($F_{1, 465} = 38.29$, $p<.01$), being higher in 1999 (Mean = 17.1) than in 2006 (Mean = 16.8). Thus, parental sociocultural level and age will be used as covariates.

Instrument

The survey administered to the Portuguese student sample was an amended version administered to the Canadian student samples (Berry et al., 2000). Some items from the social dominance scale were added and social dominance became one of the indicators of diversity attitude (in addition to tolerance and multicultural ideology). Perceived consequences of immigration and diversity were also elaborated and grouped in personal, economic and cultural dimensions. In designing the Portuguese version of the instrument, guidelines proposed in the literature on cross-cultural methodology (Brislin, 2000) were followed as closely as possible (e.g., independent, blind back-translations, educated translation, small-scale pretests). The

following variables of the ISATIS instrument were used. There are three **Security** variables: *Cultural* (e.g., “We have to take steps to protect our cultural traditions from outside influences”), *Economic* (e.g., “The high level of unemployment is a grave cause for concern”) and *Personal* (e.g., “People’s chances of being robbed, even murdered, are getting higher and higher”).

Attitudes Towards Social Diversity and Participation had two separate scales: *Multicultural Ideology* (e.g., “Portuguese should recognize that cultural diversity is a fundamental characteristic of Portuguese society”) and *Acculturation Expectations* (e.g., “Immigrants should not have to give up their culture of origin for the sake of adopting Portuguese culture”).

Attitudes Towards Social Equality, also had two components: *Tolerance* (e.g., “Recent immigrants should have as much to say about the future of Portugal as people who were born and raised here”) and *Social Dominance Orientation* (e.g., “To get ahead in life, it is sometimes necessary to step on others”).

We also assessed four immigration attitudes, which taken together evaluated the *Immigration Climate: Perceived Consequences of Immigration* (e.g., “Immigration increases social unrest”); *Attitudes towards Immigrant Numbers* (e.g., “Overall, there is too much immigration to Portugal”), and *Attitudes towards Kinds of immigrants* (both preference and prohibition items –e.g., “Immigrants who are highly educated should be given preference”; e.g., “Immigrants who are culturally very different from most Portuguese should be prohibited”); and *Attitudes Towards Ethnocultural Groups* (e.g., “On a 100-point scale, indicate how favorable you are toward members of the following groups: Angolan, Brazilian, Chinese, Indian, etc.”).

Additional questions referred to *Demographic* information (age, gender, education, place of birth, and ethnicity).

Procedure

The survey was conducted in 1999 and in 2006. Data collection involved completing a structured questionnaire during small group meetings. The questionnaire was self-explanatory, but a standard instruction was given at the start of the session informing students that participation was voluntary, and that responses were confidential.

The data were subjected to a two-way analysis of co-variance (age and sociocultural level of parents as covariates). There were two between-subjects factors: gender (boys versus girls) and time (1999 and 2006). Besides ANCOVA the statistic analysis included correlations and a structural equation modeling procedures.

Results

Internal consistency levels of the psycho-social scales are presented in Table 1. They are low for *Security Scale*, moderate for *Multicultural Ideology* and *Attitudes Towards Social Equality*, and satisfactory for *Perceived Consequences of Diversity and Immigration*, *Immigration Prohibition* and *Attitudes toward Ethnocultural Groups* Scales. Even though Cronbach’s α indices are not equally high, the six scales have been retained in their present format for comparability reasons (Canadian data).

In Table 2 the mean scores for the four acculturation expectations towards immigrants are presented. Their examination shows that the highest acculturation expectation of young Portuguese towards immigrants is integration, while exclusion is the least preferred.

Girls supported integration more ($Mn= 5.8, SD= 1.4$) than exclusion ($Mn= 1.9, SD= 1.5$); boys reported less extreme expectations (respectively and in comparison to the girls’ scores, $Mn= 5.5, SD= 1.6, \eta^2 = .01$ and $Mn= 2.2, SD= 1.6, \eta^2 = .01$). The effect of time was significant on two acculturation expectations: integration, ($F_{1, 462} = 8.3, p < .05$), and exclusion, ($F_{1, 467} = 9.3, p < .01$). The integration score was weaker and the exclusion score stronger in 2006 than in

1999. The effect of gender was significant on two acculturation orientations: integration, ($F_{1, 462}=6.0, p<.05$, and exclusion, ($F_{1, 467}=6.6, p<.05$). No interaction was significant.

Table 1. Internal Consistency estimates for the Portuguese Sample (N=477) by Time

Scale	Number of items	Cronbach's α	
		1999	2006
Overall Security	13	.44	.36
Multicultural Ideology	10	.65	.64
Attitudes towards Social Equality	11	.65	.77
Perceived Consequences of Diversity and Immigration	11	.78	.67
Immigration Prohibition	8	.80	.82
Attitudes towards Ethnocultural Groups	17	.94	.95

Table 2. Mean Scores and Standard Deviations for Acculturation Expectations by Time

Acculturation Expectations	Mn	SD	Mn	SD	F	p	η^2
	1999		2006				
Integration	5.9	1.4	5.4	1.6	10.1	<.01	.02
Segregation	3.7	2.1	3.5	2.0	.69	ns	–
Assimilation	2.6	1.8	2.9	1.8	3.2	ns	–
Exclusion	1.7	1.4	2.2	1.6	9.8	<.01	.02

Note: Higher scores refer to positive higher acculturation expectations.

With respect to relationships among these scores, results showed the existence of significant negative correlations between integration and assimilation ($r=-.25$) and integration and exclusion ($r=-.21$) and a significant positive correlation between assimilation and exclusion ($r=.18$), assimilation and segregation ($r=.13$), and segregation and exclusion ($r=.29$). In other words, there is recognition in the sample that integration and assimilation, and integration and exclusion are alternative acculturation orientations. However, segregation and exclusion are positively correlated. This positive correlation reflects a recognition that both segregation and exclusion share a negative orientation toward involvement of immigrants in the larger society. This pattern of correlations was relatively similar in 1999 and 2006.

Concerning the remaining psychosocial variables (Table 3), attitudes were on the positive side of the mid-point (on 7-point scales). Overall, the results show that Portuguese adolescents have positive attitudes towards immigrants and immigration.

The main effect of gender on six psychosocial variables was significant: security ($F_{1, 456}=7.4, p<.01, \eta^2=.02$), multicultural ideology ($F_{1, 461}=20.2, p<.001, \eta^2=.05$), social equality attitude ($F_{1, 454}=16.8, p<.001, \eta^2=.04$), perceived consequences of diversity and immigration ($F_{1, 455}=7.0, p<.01, \eta^2=.02$), immigration prohibition ($F_{1, 457}=15.5, p<.001, \eta^2=.03$), and attitudes towards ethnocultural groups ($F_{1, 458}=13.6, p<.001, \eta^2=.03$). These effects indicated that boys felt more security and advocated more immigration prohibition than girls, and that girls revealed more favorable attitudes toward multicultural ideology, social equality, perceived consequences of diversity and immigration, and towards ethnocultural groups. The main effect of gender on immigration level was not significant.

The main effect of time was significant on four other psychosocial variables: security, $F_{1, 456}=34.3, p<.001$, multicultural ideology, $F_{1, 461}=14.1, p<.001$, perceived consequences of diversity and immigration $F_{1, 455}=4.2, p<.05$, and immigration level, $F_{1, 468}=29.9, p<.001$. The effects reflected that in 1999 security, multicultural ideology, perceived consequences of

diversity and immigration were higher and immigration level was lower than in 2006. Analysis of covariance revealed no significant interactions.

Table 3. Mean Scores and Standard Deviations for Portuguese Sample by Time (N=477)

	<i>Mn</i>	<i>SD</i>	<i>Mn</i>	<i>SD</i>	<i>F</i>	<i>p</i>	η^2
	1999		2006				
Overall Security	3.8	.57	3.5	.52	34.6	<.001	.07
Multicultural Ideology	5.1	.78	4.7	.72	11.3	<.001	.02
Attitudes towards Social Equality	5.5	.76	5.4	.95	.35	ns	–
Perceived Consequences of Diversity and Immigration	4.3	.93	4.1	.84	4.2	<.05	.01
Immigration Level (too high)	3.9	1.4	4.7	1.6	33.8	<.001	.07
Immigration Prohibition	2.9	1.0	3.0	1.1	.61	ns	–
Attitudes towards Ethnocultural Groups	5.8	1.7	5.6	2.0	2.7	ns	–

Note: Possible scores range from 1 to 7. Higher numbers indicate more positive attitudes, except for Immigration Prohibition.

Even though the overall attitude toward immigration and immigrants was positive, there were differences in the comfort ratings of the ethnocultural groups. In Table 4 the mean comfort ratings of the sample in relation to 17 ethnocultural groups are presented. The first position is occupied by Brazilians, followed by the Timorese and the French. African Countries with Portuguese as their Official Language (PALOP) occupy intermediate positions (Angolans, Mozambicans, Cape-Verdeans, Guineans and Santomeans). Gypsies are the ethnocultural group which attracts the lowest comfort rating. Some comfort ratings of ethnocultural groups have improved with time, such as Indians and Germans, and others have changed for the worse, such as Chinese and Gypsies.

Table 4. Comfort Ratings of Ethnocultural Groups by Time

Ethnocultural Group	<i>Mn</i>	<i>SD</i>	<i>Mn</i>	<i>SD</i>	<i>F</i>	<i>p</i>	η^2
	1999		2006				
Brazilians	7.0	2.3	6.6	2.5	3.8	ns	–
Timorese	6.5	2.5	5.6	2.7	17.2	<.001	.04
French	6.3	2.3	6.2	2.5	.97	ns	–
Angolans	6.1	2.3	6.1	2.5	.13	ns	–
Mozambicans	6.1	2.4	5.5	2.8	9.8	<.01	.02
British	6.1	2.4	5.6	2.7	6.7	<.01	.01
Cape-Verdeans	6.0	2.2	6.0	2.5	.72	ns	–
Americans (USA)	6.0	2.2	6.0	2.7	.33	ns	–
Guineans	5.9	2.4	5.6	2.6	2.6	ns	–
Santomeans	5.8	2.5	5.5	2.9	3.0	ns	–
Venezuelans	5.6	2.4	5.3	2.6	3.4	ns	–
Spanish	5.6	2.5	5.6	2.7	.02	ns	–
Jews	5.3	2.7	5.3	2.7	.29	ns	–
Indians	5.2	2.4	5.9	2.7	6.5	<.01	.01
Chinese	5.2	2.5	3.8	2.9	27.3	<.001	.01
Germans	5.1	2.4	5.8	2.7	6.6	<.01	.01
Gypsies	4.4	2.7	3.7	2.78	7.8	<.01	.02

In Figure 1, the intercorrelations between security, multicultural ideology, tolerance and social climate variables are presented. The association of security with other variables is not very high, but attitudes towards social diversity and towards social equality are highly associated with social climate.

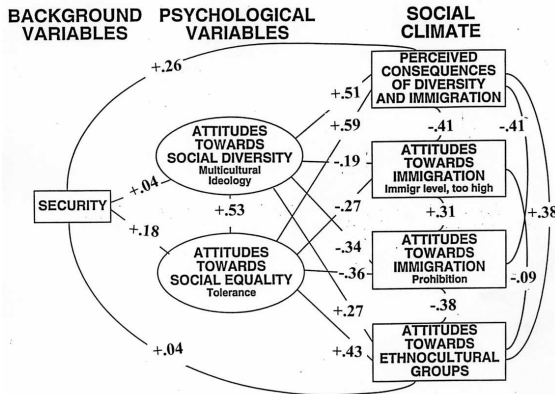


Figure 1. Intercorrelations: ISATIS Portuguese student sample in 1999.

Finally, in Figure 2 a postulated structural model is presented, as driven from the Canadian ISATIS data, and as consisting of three latent variables: security, diversity attitude, and immigration climate. *Security* is hypothesized as creating a positive immigration climate directly and indirectly by creating a positive *diversity attitude*. A positive *diversity attitude* is also hypothesized as causing a positive *immigration climate*. The latent *security* variable is indicated by cultural, economic and personal security observed variables. Alternatively, we could say that *security* consists of the common variance among cultural, economic and personal security. *Diversity attitude* is indicated by (consists of the common variance among) multicultural ideology, tolerance and social dominance observed variable. *Immigration climate* consists of the common variance among perceived positive or negative consequences (personal, economic, and cultural) of diversity and immigration, the tendency to advocate prohibition of immigration on various grounds, and a positive attitude towards a broad range of immigrants of various ethnic groups, them being observed variables in the data as well.

This model was tested with the AMOS structural equation modeling procedure. The overall model had a slightly better fit in the Portuguese sample as compared with the Canadian student samples (RMSEA of .057 vs. .071). Figure 2 contains the standardized path coefficients for the Portuguese sample. Regarding *diversity attitude*, tolerance is clearly the strongest link. Regarding *security*, economic security, and personal security are the weakest links. The indicators of *immigration climate* (perceived personal, economic and cultural consequences of diversity and immigration, the tendency to advocate prohibition of immigration, and attitudes toward 17 ethnocultural groups) are reasonably strong. The regression coefficients for *security* are lower and *security* is less strongly linked to *diversity attitude* and *immigration climate* than in Canadian samples (Berry et al., 2000), a result which is rather difficult to identify at this point.

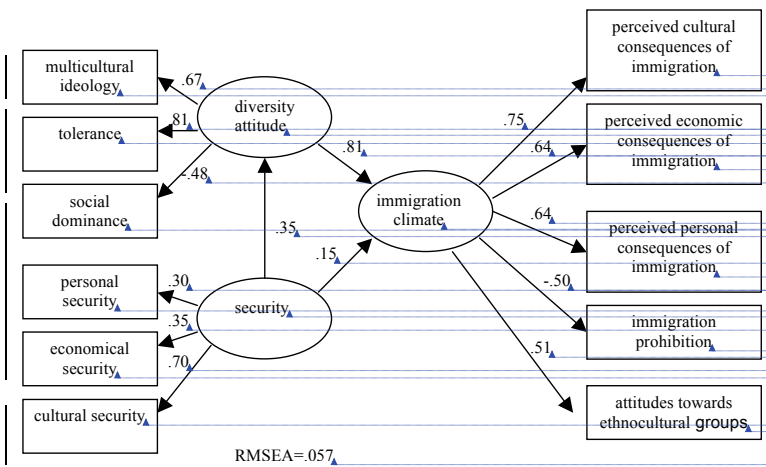


Figure 2. ISATIS model of attitudes towards immigrants in Portuguese student sample in 1999.

Discussion

International research has shown significant variation in attitudes towards immigrants, opinions about immigration, and acceptance of multiculturalism (Ward & Masgoret, 2006). In this paper we have discussed how Portuguese young people view immigrants. In particular, we have studied attitudes toward acculturation among this dominant group, including both their expectations about acculturation in others, and their own willingness to engage in acculturation change. We also gained an understanding concerning attitudes towards immigration, immigrants and the ethnocultural groups which result from recent immigration flows.

Using Berry's framework, comparisons can be made between individuals and their ethnocultural groups, and between non-dominant peoples and the larger society within which they are acculturating. Bourhis et al., (1997) have outlined an interest in mutual strategies, examining situations where the two parties in contact may have different views about how to go about their mutual acculturation. Inconsistencies and conflicts between the various acculturation preferences are sources of difficulty, usually for acculturating individuals, but also for members of the dominant group. Current data has shown that the preferred strategy was integration in agreement with the preferences desired by ethnocultural groups living in Portugal (Neto, 2002). This mutual consistency may prevent intercultural conflict at the levels of larger society.

The first research question regarded the evaluation of attitudes towards immigration and immigrants. Globally, the results showed that there were positive attitudes towards immigrants and immigration. The second research question regarded possible differences by gender. Our results showed that, in general, girls have more positive attitudes towards immigration and immigrants than boys. Girls, compared with boys, report more positive attitudes toward integration. Conversely, boys report greater endorsement of exclusion attitudes. These results are in agreement with previous research showing that men have higher explicit ethnic prejudice (e.g., Ekhammar et al., 2003) than women.

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Our third research question examined possible differences over time. The data showed that from 1999 to 2006 those positive attitudes were less strong. This change can be explained by at least two factors. On the one hand, the total of foreigners almost doubled between 1999 and 2006, the immigration rate having grown quickly in recent years. On the other hand, the unemployment rate has also increased, 4.4% in 1999 and 7.6% in 2006. Nevertheless, in 2006 the attitudes towards immigration and immigrants were still positive, but it will be necessary to follow the evolution of these attitudes over coming years.

When attitudes towards ethnocultural groups were assessed, a preference hierarchy has been found. The ethnocultural group viewed most positively was the Brazilian and the ethnocultural group viewed least positively was the Gypsy. African countries with Portuguese as the Official Language (PALOPs) emerged in the middle range of the hierarchy. Even if some comfort ratings have changed for the worse over time, the evaluations of Indians and Germans have improved during the same period. Similar hierarchies have been found in Europe (e.g., Hagendoorn, Drogendijk, Tumanov, & Hraba, 1998; Van Oudenhoven, Groenewoud, & Hewstone, 1996) and in Canada (Berry & Kalin, 1995; Berry et al., 1977). In Portugal, ethnocultural groups of Western and Northern European backgrounds are usually viewed more positively than those of other origins: Eastern and Southern Europeans are lower in the hierarchy, followed by those of non-European backgrounds.

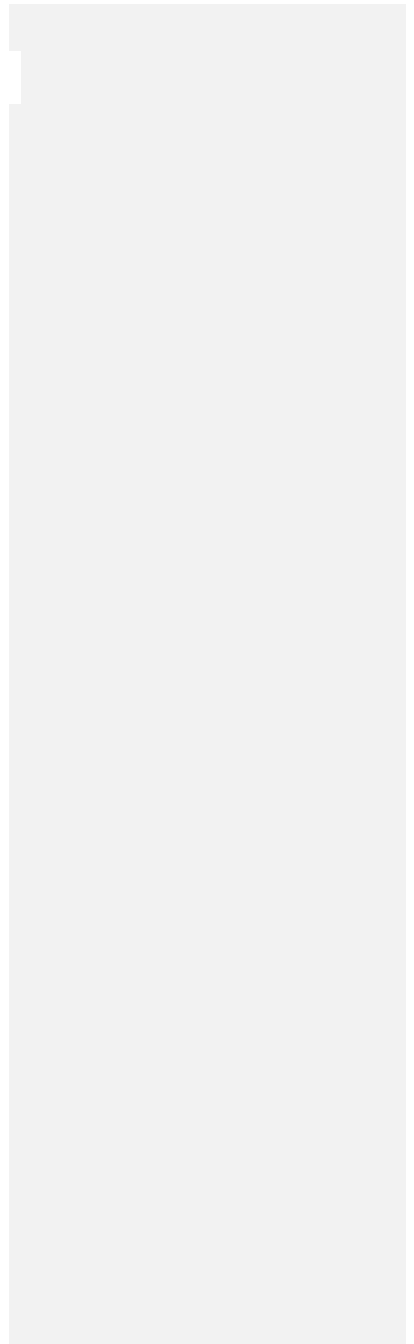
In general, this study provides support for the multiculturalism hypothesis: when adolescents feel that their place is secure in their own plural society, they are both tolerant of, and more welcoming to, immigrants. It is acknowledged that a range of factors affect attitudes toward immigrants, including the salience of group categories during contact, national identity, stereotypes, and political ideology, and these should be investigated in future.

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ACCULTURATION RESEARCH & IDENTITY



Acculturation Research: Proxies as Sources of Concept Obfuscation

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Proxies refer to gross global indicators of a construct that substitute for the more differentiated construct itself. Acculturation is commonly measured through the use of global indicants or proxies such as length of time in the country, age of arrival, and language spoken at home. In the present chapter, we present data from three generations of former Soviet refugees –adults, adolescents, and elderly– to explore how multiple proxies as indicants of acculturation relate to each other, to a self-report multidimensional measure of acculturation, and the extent to which all these measures predict one outcome often assessed in the acculturation literature: psychological distress. Results indicate that proxies are not interchangeable with one another or with self-report measures. In addition, they differ in their relationship to each other and to psychological distress across the three generations. These findings suggest that such proxies massively under-represent the acculturation construct and de-contextualize the experience of those who are in the process of acculturation. The present study suggests the importance of further deconstructing the acculturation concept conceptually and in terms of measurement.

Proxies in Acculturation Research

Acculturation has become a critical concept in cross-cultural and community psychology as both fields try to understand how the process of immigration and resettlement affects both those immigrating and those communities, schools, and agencies into which immigrants come (Birman, 1994; Sam & Berry, 2006). Cross-cultural psychology has been at the forefront of much of this work, and scholars such as Berry have crossed disciplinary boundaries to influence other fields as well (e.g., Berry, 2001).

Over time, the acculturation construct has become more differentiated in efforts to represent the complexities of the acculturation process more fully. For example, the earlier notion that acculturation represents the replacement of one culture by another has given way to an “orthogonal” conceptualization (Berry, Trimble, & Olmedo, 1986; Oetting & Beauvais, 1990) that states that acculturation occurs both with respect to the new culture and culture of origin. Indeed, more recent work suggests that multiple cultural identities are possible, and likely, depending on the population (Persky & Birman, 2005). In addition, the value of viewing acculturation as a multidimensional rather than a single overarching (omnibus) process is emerging. For example, Birman and colleagues (Birman, 1998; Birman & Trickett, 2001a; Birman, Trickett, & Vinokurov, 2002) found that the differing aspects of acculturation, such as language, behavior, and identity, unfold at different rates for different populations and that they relate to differing outcomes across varied life domains.

In addition, in recent years, the concept has moved far beyond its origins of focusing on the interaction of two or more distinct cultural groups to include the contact among subgroups in the same society whose migration was many generations ago. These include African Americans acculturating to the “mainstream” (e.g., white) society (Landrine & Klonoff, 2002), or 2nd generation Mexican-Americans who were born into and grew up in some unspecified combination of Mexican-American culture in the U.S. (Portes & Zhou, 1993). Such efforts to extend the term have not been adequately accompanied with a critical analysis of how the concept of acculturation may differ when extended to such variation of people in cultural context.

The conceptual developments in the acculturation field have not been fully mirrored in quantitative efforts to measure the construct. There are multiple measures of acculturation based on the self-report of immigrant and refugee populations (for an overview see Zane & Mak, 2003), several of which do reflect the understanding that the acculturation process is multidimensional and reflects potential changes in both the culture of origin and the new culture. While promising, quantitative indices of acculturation have been under attack for conceptual and psychometric reasons (Rudmin, 2003; Zane & Mak, 2003). In addition, and of central concern to the present chapter, the broad and multifaceted construct of acculturation has most often been measured through the use of global indicants, such as language spoken at home, length of time in the country, nativity/generational status, and age at immigration (Abraido-Lanza, Chao, & Florez, 2005; Clark & Hofstess, 1998; Salant & Lauderdale, 2003). Such indicants (many of which are temporal in nature) are referred to as “objective” (Escobar & Vega, 2000) or more typically “proxy” measures of acculturation (Abraido-Lanza et al., 2005; Hunt, Schneider, & Comer, 2004; Salant & Lauderdale, 2003). Webster’s New Third International Dictionary (1986) defines “proxy” as “something serving to replace another thing or substance”. At issue in the present chapter is the degree to which these global measures of acculturation are adequate substitutes for the multifaceted construct itself. There has been no empirical attention paid to this critical issue.

Not surprisingly, the acculturation literature emerging from multiple ways of assessing the construct has been confusing, contradictory, and non-cumulative. Landrine and Klonoff (2004), for instance, point out that:

“Data on acculturation and ethnic-minority health indicate that acculturation has opposite effects on the same health behavior among different ethnic groups; opposite effects on different health behaviors within an ethnic group; opposite effects on the same health behavior for the women vs. the men of most ethnic groups; and no effect whatsoever on some health behaviors for some ethnic groups. This evidence is so incoherent that it is unintelligible, and hence it continues to be largely useless to health psychology and behavioral medicine” (p. 530).

After reviewing the conceptual and measurement issues of current acculturation research, Escobar and Vega (2000) conclude that:

“A new era of multidisciplinary inquiry is needed that revisits basic assumptions about acculturation and rethinks the operational issues... Until such time as we have clarification of these important matters, we recommend suspending judgments about the necessity of including acculturation measures in peer reviewed research, or presupposing the meaning and value of acculturation measures in the absence of an explicit theoretical rationale for their inclusion. For the time being, we recommend a utilitarian and pragmatic approach. Objective variables (e.g., place of birth, age at arrival in the United States, years residing in the United States, primary language use including a measure of the proficiency of the second language), should be used either separately or in combination and tested as the initial predictors of outcomes of interest... These demographic variables should be used in lieu of psychometric constructs of uncertain explanatory value until such time as scientific review, clarification, and recommendations can be made about the formulation, value, and appropriateness of acculturation measurement in health research” (p. 740).

And, most recently, writing in *Social Science and Medicine*, Hunt et al. (2004) review acculturation literature with Hispanics. They concur with the conclusions of Escobar and Vega that the use of acculturation measures be suspended in research with Hispanics.

“In the absence of a clear definition and an appropriate historical and socio-economic context, the concept of acculturation has come to function as an ideologically convenient black box, wherein problems of unequal access to health posed by more material barriers, such as insurance, transportation, education, and language, are pushed for the foreground, and ethnic culture is made culpable for health inequalities... Could the wide popularity of

the concept of acculturation in current US health research be a case of the “emperor’s new clothes”, nothing more than ethnic stereotypes wrapped in a cloak of scientific jargon woven out of sophisticated psychometric formulas?” (p. 982)

This combination of recommendations to (a) stop using acculturation measures until the conceptual and measurement issues are further developed and (b) replace them with gross measures, such as length of time in the country, is a gloom and doom conclusion of the first order and a clear challenge to a field such as cross-cultural psychology knowledgeable about the complexities of the acculturation process. The fact that this conclusion has come from multiple scholarly assessments of extant empirical work suggests that a theoretical answer or rejoinder will not suffice.

The present chapter adopts the perspective that such simplistic “solutions” as the use of gross acculturation indicants (as recommended by Escobar & Vega, 2000) represent the least useful response to confusion in the acculturation field over how to assess its central construct. Indicants such as length of time in the country or age at arrival, while easy to measure, massively under-represent the construct they are intended to measure and decontextualize the experience of those who are in the process of acculturation. As Portes and Rumbaut (1990) have made empirically clear, acculturation represents a process of “segmented assimilation” whose results are highly contingent on the context in which the acculturation occurs. Other research (Birman, Trickett, & Buchanan, 2005; Chiswick & Miller, 1996, 2001) found that ethnic density of the community of resettlement differentially affects acculturative patterns, including language acquisition. Both length of time and age of arrival thus make better conceptual sense as factors that interact with context than as decontextualized measures assumed to be equally valid across very different environments of resettlement.

In addition, when language is used as the sole indicator of acculturation, the dynamic linguistic patterns that characterize many immigrant and refugee families are overly simplified. With respect to the former, ethnographic studies suggest that there exist multiple language patterns at home between adults, adults and children, and between or among children (Li, 2000; Worthy, J., & Rodriguez-Galindo, 2006). For example, it is not unusual that children talking with each other at home may speak English to each other but another language when talking to parents, to whom they may talk in a combination of two languages. In such circumstances, the question “What language is spoken at home?” may not yield a meaningful or clearly interpretable response.

In addition, language is often presumed to reflect the presence of a whole set of cultural traits, and thus is judged to be an objective measure of individual level of acculturation (Hunt et al., 2004). Language, however, does not fully embody a person’s culture and cannot account for the full extent of involvement of immigrants in the new society. Indeed, in a series of studies involving two generations of both Soviet Jewish and Vietnamese refugees, self-reported language competence (though not specifically language spoken in the home) was either modestly related or unrelated to self-defined cultural identity (Birman & Trickett, 2001a; Trickett & Jones, 2007). A language proxy of acculturation is thus empirically and theoretically indefensible in light of the conceptualization of acculturation as a dynamic and multidimensional process of adaptation and culture change.

Thus, while the field of acculturation research faces significant conceptual and empirical challenges, proxy measures represent, on a conceptual level, an extreme example of the simplification of the complexity of the acculturation process. While the conceptual case seems clear that such gross indices do not adequately represent the acculturation construct, there is a pressing empirical need to see (a) if and how these varied proxies relate to each other; (b) how they relate to self-report acculturation measures; (c) whether or not they yield comparable predictive outcomes, and (d) whether or not self-report acculturation measures add predictive variance to the relationship of proxies to outcomes. While but a baby step in the longer process

of construct elaboration, we have found no research that specifically addresses this critical piece of the acculturation research puzzle.

Method

The data reported here were collected as a part of a larger study examining psychosocial adaptation of Soviet Jewish refugees in Maryland across the three generations: adults, adolescents, and the elderly (Birman & Trickett, 2001b). A stratified random sample of adult refugees was selected from the lists of names provided by resettlement and community agencies that included all refugee arrivals from the former Soviet Union (FSU) to Maryland, USA for the specified period of time. Participants were contacted by telephone, and paper and pencil questionnaires in Russian were administered by bilingual interviewers in the participants' homes. The response rate was approximately 88%, and participants appear to be representative of Soviet refugees resettled in Maryland since the early 1990s with respect to age, former republic of origin, and level of education (Birman & Trickett, 2001b). The former Soviet adolescent sample consisted of all those adolescents in the consenting families of the adult sample. To develop a sample of elderly refugees, several different strategies were taken, including snowball sampling and recommendations from service providers knowledgeable about elderly Soviet Jewish refugees. All elderly participants were required to have arrived in the United States at age 55 or older. Based on preference of participants, the measures were administered in Russian to the adult and the elderly participants, while adolescents filled out the measures in English. Measures were translated using a back-translation decentering technique, with several bilingual mental health professionals and researchers comparing the English and Russian versions for equivalence (Brislin, 1980).

Participants

Adult participants were 458 refugees from the FSU who had lived in the United States from 5 months to 23 years ($Mn = 5.78$ years; $SD = 3.22$), were on average 47 years old ($SD = 7.45$) at the time of the study and 41 ($SD = 6.94$) on arrival. The vast majority (90%) were married, with relatively equal percentages of men and women (46% male; 54% female), and with the majority having college degrees (69%). Adolescent participants were 132 children of adult refugees who had lived in the United States from 5 months to 11 years ($Mn = 5.74$ years; $SD = 3.12$), were on average 15 years old ($SD = 2.11$) at the time of the study and 9 ($SD = 3.65$) on arrival, with more boys than girls participating in the study (58% male; 42% female). Elderly participants were 361 refugees who were on average 73 years of age ($SD = 7.67$) at the time of the study and 65 ($SD = 8.12$) at arrival, mostly females (60%), living in the U.S. an average of over 7 years ($SD = 4.52$), married (52%), and with the majority having college degrees (61%).

Measures

Demographic characteristics. Information about participants' age, gender, marital status, and education was collected.

Proxy measures. Four gross indicants of acculturation were assessed in the present study. We collected information about length of time in the United States and age of arrival. In addition, each participant rated how much they spoke English and Russian at home with ratings made on a 4-point Likert-type scale ranging from *not at all* to *very much*. These measures represent the proxies recommended at the beginning of this chapter by critics of more direct measures of acculturation (Escobar & Vega, 2000) as well as those most often employed in the acculturation literature.

Self-Reported Acculturation. The Language, Identity, and Behavior (LIB) Acculturation Scale (Birman & Trickett, 2001a) was used to assess three dimensions of acculturation using parallel items with respect to the American and Russian cultures. By selecting parallel items seen as relevant by respondents to both cultures, a respondent's relative stance with respect to

the two cultures could be determined. Instructions for the questionnaire clarified that the term *Russian* referred to the culture common to all émigrés from the FSU.

(1) *Language acculturation.* The Language Acculturation subscale consists of nine items asking respondents to rate their ability to speak and understand Russian and nine parallel items that ask about English. Questions ask how well respondents speak and how well they understand the language with friends, on the phone, with strangers, and in other situations. Ratings are made on a 4-point Likert-type scale ranging from *not at all* to *very well, like a native*. Cronbach's α coefficients of the English language acculturation were .90 for adolescents, .95 for adults, and .96 for the elderly. For the Russian language scale, Cronbach's α coefficient was .94 for the adolescent sample. For both adults and the elderly there was relatively low reliability for the Russian language scale (Cronbach's α coefficients were .47 for adults and .68 for the elderly) due to little variability, with almost all adults and elderly marking the (4) *very well, like a native* option for each question (Mean scores were 3.98 and 3.97). Such scores are to be expected as adult immigrants rarely lose their command of their native language. However, due to low reliability, the adults and elderly Russian language acculturation scores were not used in subsequent analyses.

(2) *Identity acculturation.* Respondents rate four items assessing the extent to which they consider themselves Russian/American, feel they are part of Russian/American culture, and are proud of being Russian/American. Ratings are made on a 4-point Likert-type scale ranging from *not at all* to *very much*. In the present samples, Cronbach's α coefficients ranged from .88 to .93 for the American identity and from .89 to .91 for the Russian identity.

(3) *Behavioral acculturation.* Ten parallel items ask about behavioral acculturation to each culture such as, "How much do you watch Russian/American movies on Russian/American TV channel/VCR?" "How much do you eat Russian/American foods?" and "How much do you socialize with Russian/American friends?" Items are rated on a 4-point Likert-type scale ranging from *not at all* to *very much*. Adolescents rate only eight items, as behaviors such as going to Russian/American doctors and shopping for Russian/American food are not as relevant for this age group. In the present study, Cronbach's α coefficients for American Behavior were .80 for the adults and elderly samples and .85 for adolescents; for Russian Behavior Cronbach's α coefficients were .77 for adults and elderly and .75 for adolescents.

Psychological distress. The 21-item version of the Hopkins Symptom Checklist (HSCL; Green, Walkey, McCormick, & Taylor, 1988) was used to assess symptoms of depression, somatic distress, and anxiety on a 4-point Likert-type scale ranging from 1 = *not at all distressing* to 4 = *extremely distressing* (adults $Mn = 1.67$, $SD = .46$; adolescents $Mn = 1.73$, $SD = .57$; elderly $Mn = 2.04$, $SD = .53$). Seven items assessing somatization were omitted in an adolescent sample as they were considered less relevant. In the present sample, Cronbach's α coefficients ranged from .84 to .90.

Results

Interrelatedness of proxies

The first research question involved the degree to which the four different acculturation proxies—length of time in the country, age of arrival, and language spoken at home (both Russian and English)—relate to each other. Correlational data are presented in Table 1. In general, the pattern of correlations shows relatively low degrees of relationship among the various proxies and for each of them across generations. For example, with respect to the language spoken at home, Russian language was negatively related to English language; this was relatively high for adolescents ($r = -.58$, $r^2 = .34$), but much less so for adults ($r = -.25$, $r^2 = .06$) and not at all among the elderly. Nearly all of the adults (96%) and the elderly (96%) spoke Russian as the primary language at home often or very often, while only slightly more than half of the adolescents (54%) did the same. Results concerning the English language spoken at home

complemented the finding for the Russian language. Specifically, while few of the adults (6%) and the elderly (5%) spoke English often or very often, a large proportion of adolescents (42%) used primarily English language at home.

Table 1. Intercorrelations among the four proxy variables, their correlations with the Acculturation measures & Psychological adjustment, and Descriptive Statistics

Demographic Indices	Generation Adults (N=458) Adolescents (N=132) Elderly (N=361)	Time in the U.S. <i>r</i> (% shared variance)	Age at arrival <i>r</i> (% shared variance)	English language at home <i>r</i> (% shared variance)	Russian language at home <i>r</i> (% shared variance)	Hopkins checklist	Mean (SD)
Time in the U.S.	Adults					.07	5.78 (3.22)
	Adolescents					-.10	5.74 (3.12)
	Elderly					-.08	7.34 (4.52)
Age at arrival	Adults	-.07				.12**	40.74 (6.94)
	Adolescents	-.82*** (67%)				.15	9.12 (3.64)
	Elderly	-.38*** (14%)				.09	65.47 (8.12)
English language spoken at home	Adults	.14** (2%)	-.19** (4%)			-.07	1.47 (.67)
	Adolescents	.29*** (8%)	-.40*** (16%)			.03	2.34 (.98)
	Elderly	.19*** (4%)	-.26*** (7%)			-.08	1.33 (.65)
Russian Language spoken at home	Adults	-.11* (1%)	.03	-.25*** (6%)		.01	3.84 (.52)
	Adolescents	-.40*** (16%)	.50*** (25%)	-.58*** (34%)		.06	3.38 (.75)
	Elderly	-.10	.07	.01		-.01	3.86 (.53)
American Language	Adults	.43*** (18%)	-.34** (12%)	.35*** (12%)	.12* (1%)	-.18***	2.58 (.61)
	Adolescents	.41*** (17%)	-.41*** (17%)	.30** (9%)	-.27** (7%)	-.25***	3.78 (.38)
	Elderly	.26*** (7%)	-.47*** (22%)	.30*** (9%)	.01	-.24***	1.79 (.67)
American Identity	Adults	.35*** (12%)	-.07	.27*** (7%)	-.10* (1%)	-.07	2.22 (.85)
	Adolescents	.31*** (10%)	-.42*** (18%)	.43*** (18%)	-.40*** (16%)	-.13	2.86 (.96)
	Elderly	.33*** (11%)	-.14* (2%)	.28*** (8%)	-.04	-.07	2.35 (.96)
American Behavior	Adults	.33*** (11%)	-.34*** (12%)	.38*** (14%)	-.14* (2%)	-.17***	2.69 (.52)
	Adolescents	.42*** (18%)	-.56*** (31%)	.48*** (23%)	-.42*** (18%)	-.15	3.58 (.43)
	Elderly	.20*** (4%)	-.34*** (12%)	.36*** (13%)	.05	-.16**	2.25 (.55)
Russian Language	Adults	--	--	--	--	--	--
	Adolescents	-.61*** (37%)	.62*** (38%)	-.38*** (14%)	.67*** (45%)	.10	3.21 (.75)
	Elderly	--	--	--	--	--	--
Russian Identity	Adults	-.21*** (4%)	-.10* (1%)	-.08	.13* (2%)	.04	2.90 (.96)
	Adolescents	-.11	.17	-.36*** (13%)	.38*** (14%)	-.06	3.31 (.80)
	Elderly	-.12* (1%)	.11* (1%)	.02	.09	.02	2.21 (.73)
Russian Behavior	Adults	-.08	.03	-.18*** (3%)	.20** (4%)	.11*	2.58 (.52)
	Adolescents	-.41*** (17%)	.51*** (26%)	-.26** (7%)	.55*** (30%)	.20*	2.78 (1.10)
	Elderly	-.11* (1%)	.19*** (4%)	-.07	.25*** (6%)	.10	3.01 (.53)

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Small, though sometimes statistically significant, relationships are also found among the other proxies. As indicated in Table 1, for all three generations, the use of the English language at home increased with length of time in the country (correlations range from .14 to .29). Further, the use of the Russian language at home diminished over time for both adults ($r = -.11$) and adolescents ($r = -.40$), but not at all for the elderly. A test for the difference in these correlations was significant ($p < .0001$), suggesting a differential rate of decline in language use across generations. In addition, there was no overlap between length of residence and language spoken at home. Age of arrival showed a similar pattern of correlations with language usage at home, ranging from no relationship with use of Russian language at home for adults and elderly to a maximum correlation of .50 with respect to adolescent Russian language usage at home. Finally, we examined the relationship of length of residence to age at arrival, the two indicants that are most often used interchangeably in the acculturation literature. For the adolescent sample, a strong negative relationship was found between the proxies ($r = -.82$). For the elderly, the same relationship existed but it was much weaker ($r = -.38$). A test of the difference between these correlations indicated they were significantly different ($p < .001$) Finally, for the adult sample, length of residence and age at arrival were not related. Overall, of the 18 possible intercorrelations of the four proxies, in 13 instances (72% of the time) the indices are .30 or less, and occasionally have no relationship with each other at all. Thus, close scrutiny of the degree to which different gross acculturation measures related to each other suggests that in the vast majority of instances, they were far from interchangeable. In addition, they showed some statistically significant differences within them across immigrant generations.

Relationship of proxies with acculturation measures

The next research question was how these four proxies related to self-report acculturation measures. The correlation indices of these measures with each of the acculturative processes assessed by the LIB –Language (only for the adolescent sample), Identity, and Behavior– are also reported in Table 1. As was true with the relationship among the proxies themselves, there were some significant relationships between these gross measures and aspects of self-reported acculturation. In general, the relationships were somewhat numerically higher for adolescents than for adults or elderly. Overall, however, correlations were relatively small. For example, length of time in the country was positively correlated with each of the American acculturation subscales (correlations ranged from .20 to .43), and these relatively low indices suggest little overlap between length of residence and self-reported American acculturation. Little overlap between measures was also found with respect to time in the country and Russian acculturation measures, particularly for the elderly. With some variation, the same general conclusion holds true for the relationship of age of arrival and language of the home to self-reported acculturation.

Indeed, as indicated in Table 1, in a number of instances, these proxies appeared to have no relationship to self-reported acculturative processes with respect to either American or Russian cultures. Overall, in 22 (61%) of the 36 possible combinations of the four proxies with the three self-report indicators of American acculturation for all three generations, proxies show correlations of .35 or less. In 20 (71%) of the 28 possible combinations of the four proxies with indicators of Russian acculturation (Language acculturation not used for adults and elderly), a similar pattern of correlations was found. Overall, these findings suggest that the four gross measures of acculturation do not adequately reflect the multidimensional and variable nature of self-reported acculturation and indeed are often unrelated to them.

Relationship of proxies to psychological distress

The final research aim was to assess whether or not self-defined acculturation measures added predictive variance to the relationship of proxies to outcomes. To accomplish this, we conducted three multiple regressions, one for each generational sample. At the first stage, the four proxy variables were entered as a block. In the next step, the self-report acculturation measures were entered to explore how much variance in psychological distress they might add. Table 2 displays the results (standardized regression coefficients) of the first set of these multiple regression analyses by adding acculturation measures predictors to a regression model on the second step. After controlling for the proxy indicators, one unique predictor emerged across all three sets of regression analyses: American language (β values ranging from $-.19$ to $-.29$). For the adolescent sample, ΔR^2 was not significant, most likely due to lower power compared to the adult and adolescent samples, yet American language emerged as a significant predictor. Thus, only low English competency was predictive of increased psychological distress over and above variance accounted for by the proxy measures across the three generations of refugees.

Discussion

The present chapter emerged from concerns in the scholarly literature about the acculturation construct and its measurement. More specifically, it addressed one small but significant aspect of this larger concern: the use of multiple gross indicators that are presumed to approximate the acculturation construct, the relationship of such proxies to each other and to a self-report multidimensional measure of acculturation, and the relationship of these varied measures to one outcome often assessed in the acculturation literature: psychological distress. To the degree to which these measures are highly related to one another and to outcomes, they may be seen as comparable ways of assessing the acculturation construct. Lack of a strong relationship, however, would suggest that they are assessing different aspects of the

acculturation process and, as such, they might contribute to conflicting findings and continuing confusion about how acculturation literature can, over time, accumulate to provide a solid and trustworthy empirical foundation.

Table 2. Standardized regression coefficients of predictors accounting for variance in Psychological adjustment

<i>Predictors</i>	<i>Adults</i>		<i>Adolescents</i>		<i>Elderly</i>	
	<i>Step 1</i>	<i>Step 2</i>	<i>Step 1</i>	<i>Step 2</i>	<i>Step 1</i>	<i>Step 2</i>
Time in U.S.	.12*	.21	.06	.13	-.05	-.04
Age at arrival	.14*	.07	.21	.16	.06	-.05
English language spoken at home	-.05	.02	.11	.11	-.04	.01
Russian Language spoken at home	.05	.04	.06	.02	-.03	-.03
American Language		-.18*		-.29*		-.24**
American Identity		-.04		-.09		-.00
American Behavior		-.04		.13		-.01
Russian Language		--		-.05		--
Russian Identity		.02		-.09		-.07
Russian Behavior		.05		.17		.08
R^2	.04**	.08**	.03	.11	.01	.06
ΔR^2		.04**		.08		.05**

Note: R^2 = total variance in outcome variables accounted for by the regression model; ΔR^2 = increased amount of variance in outcome variables contributed by additional predictors added on each regression step. * $p < .05$, ** $p < .01$, *** $p < .001$.

The first research question addressed the degree to which gross indicants of acculturation, i.e., length of time in the country, age at arrival, and self-reported language spoken in the home, related to each other. Correlations among the varied proxies were quite consistent in showing that, while some statistically significant relationships exist among these measures, they are not highly correlated enough to be seen as interchangeable. Further, there are age cohort numerical differences in the relationships among them such that some are quite good substitutes for each other at one age but not at another.

In addition, while studies typically assess the resettlement country's language use at home in terms of a single language preference, we asked about home usage of both the Russian and English language. Here, as above, somewhat numerically different patterns emerged across generations. Both the adult and elderly samples retained a continuously high usage of Russian over time, while simultaneously increasing their use of English. For adolescents, length of time in the country was related both to increasing use of English and decreasing use of Russian. Thus, for adults and elderly, English language use was added to their use of Russian over time, while for adolescents English was more of a replacement. This pattern suggests that the linguistic portrait gathered by asking only about the dominance of one language in the home becomes increasingly muddled over time, and, again, reflects differing patterns across generations.

Data on the second question addressing the relationship of these proxies to the multidimensional self-report measure of acculturation likewise suggest that they are not useful substitutes for self-report. For example, while time in the country and age of arrival correlated consistently and significantly with increased American language, identity, and behavior, the median correlation was only .34. These proxies were even less related to level of Russian acculturation, reinforcing the conceptual point that acculturation can meaningfully be assessed both with respect to culture of origin and new culture, and that singular indicants may have differing implications for the two. Further, the different aspects of the self-report acculturation measure themselves correlated only modestly with each other, with the lowest correlations (not reported in the table) occurring between language and identity. This suggests that inferring such attributes as cultural identity when assessing only language competence is hazardous regardless of whether the assessment is through proxies or self-report.

The third and fourth questions addressed the issue of the relationship of all these measures to outcomes. There was only one significant correlation between the four proxies and psychological distress –age of arrival for adults. However, the self-report measure, particularly level of English competence and, to a lesser extent, American and Russian behavioral acculturation, showed several correlations with distress. This pattern further differentiates proxies from self-report measures, this time in relation to outcomes. Further, different directions of the correlations with respect to American and Russian behavioral acculturation suggest that the two cultures have differential relationships with psychological distress, with retention of the culture or origin being associated with greater distress and acquisition of the new culture with lower distress. Regressions reporting the unique contributions of the proxies and self-report measure to psychological distress confirmed this differentiated pattern. Here, age of arrival and time in the country performed relatively comparably, with both predicting psychological distress for adults. However, neither they, nor the language spoken at home, predicted distress for adolescents or elderly. American language competence, however, showed a very different pattern, contributing uniquely to decreased psychological distress across adolescents, adults, and elderly. With respect to the adult and elderly sample, whose home language remained Russian over time, this finding reinforces the notion that measures focusing solely on home language usage may not account for aspects of the acculturation process related to important outcomes.

Together, these findings suggest the importance in future work of addressing the conceptual assumptions behind most commonly used proxies, as such factors as length of time in the country, age of arrival, and language of the home do not necessarily represent a broad pattern of acculturation processes across multiple life spheres. In particular, the relatively low correlation between self-reported language competence and self-reported identity on the LIB Acculturation scale should lend caution to the use of home language as a broad indicant. Moreover, language competence is not precisely the same as language use. Indeed, in other writings (e.g., Birman & Trickett, 2001), we make the case that language use is more likely to reflect the context of the user than language competence *per se*, which more likely reflects a generalized and internalized skill. In the present study, for example, English language competence, as measured by the LIB, predicted psychological distress, while extent of English spoken at home (usage) did not. Overall, however, the present study is consistent with the concern expressed in the broader acculturation literature that the concept itself is in need of further deconstructing conceptually and in terms of measurement. To avoid challenges such as those posed by the scholars quoted at the beginning of the chapter, such work should take high priority.

There are several limitations to the present study, including the lack of variability in language spoken at home, drawing from a specific refugee population not well represented in the broader immigrant and refugee literature, and issues of common method variance in the relationships between self-report measures of acculturation and self-reported outcomes.

Additionally, the regression methods applied are of correlational nature as well, complicating the issue of causal inference. However, the differing patterns both within the proxies measured and self-report acculturation measures are stark enough to conclude that proxies used in the present study are not interchangeable with each other or with a multidimensional measure of acculturation either within or across generations.

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National and European Identities of Bulgarian and Dutch Students

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The present study explored the adoption of national and European identities and the perceptions of own nation and Europe in Bulgarian and Dutch students. A questionnaire developed by Georgas et al. (2004) was administered to 256 students in Bulgaria and 190 students in the Netherlands. The majority of participants in both countries (88% in Bulgaria and 85% in the Netherlands) endorsed both national and European identity; European identity was secondary to national identity. There were marked cross-national differences in the way own country and Europe were perceived. Bulgarian students perceived larger differences between the two identities than did Dutch students. Results are in accordance with theories regarding national and supranational identities as compatible and suggest a stronger role of instrumental elements for European identification in Bulgarian students as compared to Dutch students.

The present study aimed at exploring the national and European identification of Bulgarian and Dutch students and the way they perceive their own country and Europe, as well as their fellow countrymen and Europeans, on a number of dimensions. Interest in multiple collective identities, such as the combination of national and supranational identity, has emerged in the last decades of the 20th century. Research on the topic is influenced by the postmodernist approach (Howard, 2000).

Most research on social identity since the 1970s makes reference to social identity theory (Tajfel, 1981; Tajfel & Turner, 1979) and the closely related self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). A kernel notion of this paradigm is positive distinctiveness: to maintain positive self-esteem, people identify with groups (ingroups) which they perceive as distinct from and superior to groups of others (outgroups). The focus on intergroup comparisons and on the dichotomy between ingroups and outgroups seems to imply a general incompatibility of different identities. However, more recent theorizing and research in this field tends to regard multiple identities as compatible and interconnected (e.g., Ashmore, Deaux, & McLaughlin-Volpe, 2004; Cinnirella, 1996; Medrano & Gutierrez, 2001).

Some authors are skeptical about the substance and role of an overarching European identity. Strath (2002), for instance, points out that European identity has been strongly dependent upon historical-political discourse, and concludes that it “has reached its limits” (p. 397). Others, however, argue that European identity is developing and has a substantial role to play. Jimenez, Gorniak, Kotic, Kiss, and Kandulla (2004) argue that national and European identification can be primarily based on cultural, instrumental, and civic elements. Cultural elements refer to common cultural heritage; instrumental elements refer to the degree to which people tend to view Europe as more effective than their own country, whereas the civic dimension refers to “a commitment to the shared values of the Union, (...) to the duties and rights of a civic society” (p. 4).

Other classifications of elements of European identity have been proposed as well. Most amount to a distinction between instrumental and sentimental elements (Cinnirella, 1996). For instance, Hewstone’s (1986) study of attitudes toward the European Union indicated that support for unification was associated with expected utilitarian benefits (hence, instrumental elements). On the other hand, Hilton, Erb, Dermot, and Molian (1996) found that variables related to history representations improved prediction of support for unification, even after controlling for utilitarian variables.

Sousa’s (1996) findings in Portugal and Cinnirella’s (1997) in Great Britain suggest that national and European identity are conflicting. However, there is more empirical evidence for the position that both identities are perceived as compatible and complementary. Such evidence has been

reported by Cinnirella (1997) in Italy, Medrano and Gutierrez (2001) in Spain, Georgas, Hantzi, Gari, Mylonas, Dalla, Andreopoulou, and Panagiotopoulou (2004) in Greece, Licata (2003) in Belgium, and Florack and Piontkowski (2000) in the Netherlands and Germany. The findings of Georgas et al. (2004) are particularly worth noting: 79% of participants indicated they felt Greek and European, which is remarkable given that Greece, together with Great Britain, scored the lowest on compatibility of national and European identities in Jimenez et al.'s (2004) study.

The present study aimed at investigating the national and European identities of Bulgarian and Dutch students and their perceptions of their own country and Europe in a number of domains. The choice of countries was driven by convenience considerations. Bulgaria and the Netherlands share some features, but are also markedly different in several respects. To start with the former, both countries belong to the smaller ones in Europe. Size matters as "national identity is stronger in countries that are comparatively smaller" (Jasinska-Kania, 2006, p. 8). Secondly, both countries have at different times in their development been in the periphery or under the influence of larger powers. This historical factor might play a role in determining the extent to which people would be willing to accept a supranational identity (Breakwell, 1996). Finally, both Dutch and Bulgarians are generally not very religious (see for example, Halman & Draulans, 2004). On the other hand, there are important differences between the two countries. The Netherlands is one of the founding countries of the European Coal and Steel Community (dating back to 1951) and the European Communities (in 1957), which were to become the fundament of the European Union. Bulgaria, on the other hand, is a new member that joined the Union in 2007. The Netherlands has a tradition in democratic government and a history of successful economic development, whereas Bulgaria is currently undergoing a process of post-socialism transformation and state rebuilding. The two countries are also geographically distant from each other and do not have much common history. Against this backdrop of common points and differences, it is interesting to explore how people in the two countries view their own nation and Europe.

Three research questions were addressed in the current study. To what extent do students in Bulgaria and the Netherlands identify with their own nation and with Europe? How do students in the two countries rate their national group and Europe on dimensions referring to people's and country's characteristics? To what extent do Bulgarian and Dutch students differ with respect to the difference they perceive between their nation and Europe?

Method

Participants

Participants in this study were 256 students at Sofia University in Bulgaria and 190 students at Tilburg University in the Netherlands. The Bulgarian sample comprised 65% females and 35% males; their mean age was 20.15 years ($SD = 2.57$). In the Dutch sample, 72% of participants were female and 28% male; mean age was 20.92 years ($SD = 2.4$). Preliminary analyses indicated that age was faintly related to any variable of interest in the study in either country; therefore, age was not considered in the analyses reported hereon.

Inventory and Procedure

The Georgas et al. (2004) questionnaire on European and National Identity was used. The instructions and the items were translated from Greek into Bulgarian, English, and Dutch. The adequacy of the Bulgarian and the Dutch versions was checked by linguists who were skilled in both languages. Minor changes were introduced to achieve semantic correspondence.

Participants were encouraged to think of Europeans and Europe at a general level and not of any particular person they know or any particular country. The questionnaire consisted of one categorical item and several rating scales scored on a 5-point Likert scale with the following anchor points: 1 = *Not at all*, 3 = *More or less*, and 5 = *Extremely*. The categorical item, assessing self-identification, read: "To what extent do you feel [national] (i.e., Dutch, Bulgarian), and to what extent, European?" Response options ranged from "[national] and not at all European" to "European

and not at all [national]”, including three intermediate options as well as the option “neither [national] nor European.”

Exploratory factor analyses resulted in the identification of 12 factors which were used as scales in subsequent analyses. Eleven of these scales involved ratings of both own national group and Europe on each of the items: 1) *People Positive* (11 items, e.g., “Good-hearted” and “Friendly”), 2) *People Negative* (7 items, e.g., “Gossiper” and “Distrustful”) and 3) *People Modern* (6 items, e.g., “Organized” and “Has an intensive rhythm of work”) all referred to characteristics of persons; participants were asked to indicate to what extent in their opinion these characteristics apply to “the [national]” and to what extent, to “the European.” 4) *Country Positive* (7 items, e.g., “High level of technology” and “Respect of human rights”) and 5) *Country Negative* (7 items, e.g., “Economic problems” and “Political struggles”) represented characteristics that may apply to a lesser or greater extent to own country and to Europe. 6) *Situations Positive* (5 items, e.g., “When I choose what to eat” and “When I enjoy myself”) and 7) *Situations Negative* (4 items, e.g., “When I see garbage on the street” and “When criminality increases”) measured to what extent participants feel members of their national group, and Europeans, in different situations. 8) *Family Positive* represented positive characteristics of family (5 items, e.g., “There are warm relations” and “Parents and children communicate”). 9) *Religiousness* consisted of 8 items asking to what extent people (co-nationals and Europeans) are characterized by religiousness (e.g., “Pray” and “Go to church”). 10) *Educational values: Personal development* (8 items, e.g., “Efficacy” and “Developing creative thinking of pupils”) and 11) *Educational values: Moral* (5 items, e.g., “Shaping worthy citizens” and “Spreading cultural values”) referred to the values of the educational systems. Participants rated each item of the above 11 scales twice: once with regard to own country/co-nationals, and once with regard to Europe/Europeans. Thus, there were a national and a European version of each of these scales. Finally, 12) *Public regard* comprised 7 items referring to the participants’ perception of how Europeans view their fellow countrymen (e.g., “They like us” and “They trust us”; the label was borrowed from Ashmore et al., 2004). A higher score on this scale indicated a more positive perceived regard.

In Bulgaria, data from 63 students were collected in May 2005; further data from 193 students were collected in December 2005 over January 2006. In the Netherlands, questionnaires were filled in by 66 students in May 2005 and by 124 students in March over April 2006. Students in both samples participated voluntarily.

Results

Structural Equivalence and Scale Properties

Exploratory factor analysis followed by target rotation was performed on all scales. The national and European versions of each of the 11 double-version scales were analyzed separately and factors were rotated using Procrustean methods. For each scale, there were six target rotations to consider: two assessing agreement between national and European within each of the two countries, two assessing agreement of, respectively, national and European between the two countries, and two comparing national in the one country with European in the other, and vice versa. The Public regard scale was rotated between countries. This adds up to a set of 67 coefficients. Tucker’s ϕ value of .90 was set as criterion for agreement (Van de Vijver & Leung, 1997). Coefficients ranged from .90 to 1, with a single exception of .88. Fifty Tucker’s ϕ coefficients (75%) were at or over .95. These findings supported the structural equivalence of the scales.

Cronbach’s α coefficients, averaged across scale version and country, ranged from .58 to .83. Following Cicchetti’s (1994) rule of thumb of .70, most scales demonstrated highly satisfactory reliability levels. Three scales had lower coefficients: Country Positive (.65), People Modern (.60), and Country Negative (.58). All three scales consisted of small numbers of items, and coefficients were low only in some of the versions of the scales. Since we were interested in the overall patterns and not in individual scores on any single scale, all scales showed good structural equivalence (which implies that the underlying constructs are identical across cultures, even when measured via a modest reliability estimate) and in order to have an adequate construct representation, we employed all

scales in subsequent analyses. Composite scores were computed and each participant was assigned a score on each of the 12 scales.

Self-Categorization

The proportions of responses to the question of self-categorization in Bulgaria and the Netherlands are presented in Figure 1. Analysis of the overall frequency distribution of responses yielded Pearson’s $\chi^2(5) = 17.16, p < .01$. However, the differences did not seem to be substantial; the overall pattern in terms of simultaneous endorsement of national and European identity seemed to be the same in the two samples. In order to identify the dual-identity holders, we combined the response categories “first [national], then European,” “first European, then [national]” and “to the same extent [national] and European.” Using this method, we identified 88% dual-identity holders in Bulgaria and 85% in the Netherlands. The group of exclusive national or European identity holders formed a minority in both samples. Clearly, national and European identity were experienced as compatible by the majority in both countries, whereby the national identity occupied a more central place.

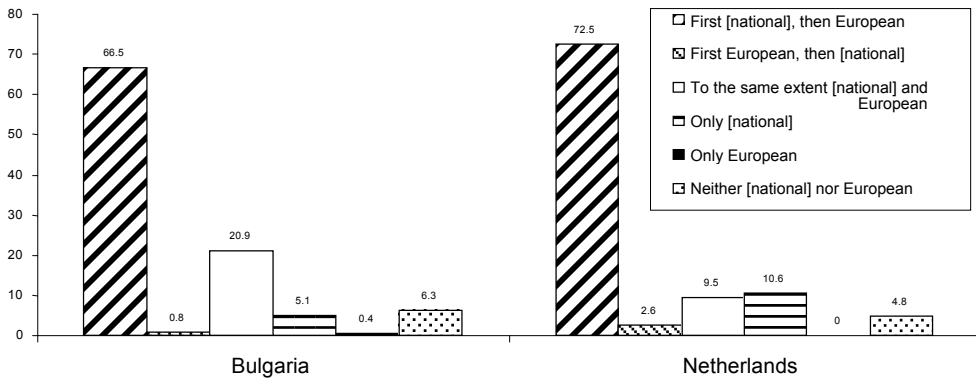


Figure 1. Percentage of responses to the question: “To what extent do you feel [national] and to what extent European?”

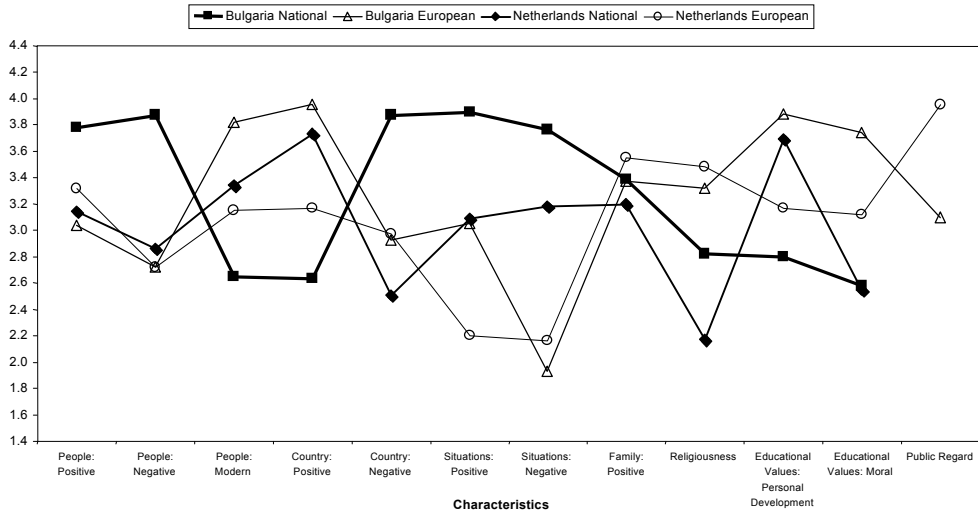
National and European Scores in Both Countries

The mean scores assigned to own national group and Europe on each of the 12 dimensions in the two countries are presented in Figure 2. Visual inspection of the mean values for [national] vs. “European” suggests there are some marked differences within as well as between countries. The first step of the analysis was to look in detail into the differences between national and European scores in each of the two countries. Repeated-measures analyses of variance with [national] vs. European as within-subjects factor were performed on each of the two samples separately. In Bulgaria, differences between own national group and Europe were significant ($p < .01$) in all scales except for Family Positive. Bulgaria scored higher than Europe on Positive and Negative People’s characteristics, Positive and Negative Situations, and on Negative Country’s characteristics. The pattern of scores on the two Country’s dimensions, People’s Modern dimension, and Educational values: Personal development was suggestive of underlying instrumental elements. Many of the items of these dimensions make an implicit reference to modern values and characteristics such as respect for human rights, efficacy, discipline and being organized, on which Bulgaria is perceived as lagging behind Europe.

In the Netherlands, all differences between national and European were significant ($p < .01$). Similarly to Bulgaria, the Netherlands scored higher than Europe on both Positive and Negative Sit-

uations and on Negative People's characteristics. The scales with a presumably instrumental distinction (both Country's dimensions, People Modern and Educational values: Personal development) showed lower scores for Europe than for own country, which was the reverse pattern of the one found in Bulgaria. Dutch students rated Europe higher than own nation on dimensions where more sentimental elements may be supposed to be involved: People Positive and Family characteristics.

For Public Regard, a one-way ANOVA with country as group variable was performed. Dutch participants ($Mn=3.95$, $SD=.45$) appeared to perceive a more strongly positive regard of Europeans for their co-nationals than did Bulgarians ($Mn=3.10$, $SD=.64$; $F_{1, 444}=246.17$, $\eta^2 = .36$).



Note. Scores are expressed on a 5-point Likert scale from 1 ("Not at all") to 5 ("Extremely").

Figure 2. Characteristics Attributed to Own Country and Europe in Bulgaria and the Netherlands.

The next analysis addressed the question, how similar or dissimilar participants in both samples are with respect to the differentiation they make between national and European elements. Difference scores were computed in both samples by subtracting the score for European from the score for national for each of the 11 scales with national and European versions. A multivariate analysis of variance with country as independent variable was performed on all difference scores. Results indicated that there were significant differences ($p < .01$) between the countries in mean difference scores on all scales except for Situations Positive (*ns*). There was a large multivariate effect of country (Wilks' $\Lambda = .165$, $F_{11, 429} = 196.72$, $\eta_p^2 = .84$). Cohen's d (Cohen, 1988) was used as the effect size measure for the separate scales. This was computed by subtracting Dutch difference scores from Bulgarian difference scores. Absolute values of Cohen's d of .80 and above are usually taken as indicating large effects, values of .50 medium effects, and values of .20 small effects.

Differences between the two countries in national–European differentiation were large in all scales except for Situations Negative (.69), Family Positive (.53), and Situations Positive (–.03). Differentiation between national and European was markedly larger in Bulgaria than in the Netherlands for all scales except for Family Positive and Religiousness (1.13) (larger differentiation in the Netherlands), and Situations Positive (no sizable effect; see Figure 2).

Finally, the degree of association between the national and European frames of reference within each country was estimated by computing the correlation between the mean scores assigned to own country and to Europe (all scales were used, except for Public Regard which involved questions only about own nation). In Bulgaria, a very strong, negative correlation was found [$r(256) =$

-.81] while in the Netherlands both frames of reference appeared to be unrelated [$r(190) = -.08$]. This finding indicates that perceptions of own national group and of Europe, with respect to the domains under study, are mutually exclusive in Bulgaria (the higher the Bulgarian scores, the lower the European) whereas the two dimensions are independent in the Netherlands.

Discussion

The aim of the present study was to assess the endorsement of national and European identities in Bulgaria and the Netherlands and to explore the connotative meaning of own nation and Europe in both countries. A sense of European identity was found both in the Netherlands and in Bulgaria, alongside a sense of national identity, which is in line with theoretical approaches (see, e.g., Medrano & Gutierrez, 2001) and empirical findings in various European countries (e.g., Georgas et al., 2004). More specifically, the findings for the Netherlands were in line with Florack and Piontkowski (2000) who found that the Dutch identified both with their own country and with Europe (though more strongly with their own country, whereas no such difference was present in their German sample) and these two identifications were positively correlated. The Bulgarian pattern of self-categorization in the present study is consistent with findings from the International Social Survey Programme's 2005 issue on national identity. There, a total of 94% of Bulgarian respondents indicated to feel close or very close to their country, and a total of 72% to Europe.

The recent *Eurobarometer* No. 64 (2006) also addressed national and European identity. The following two questions were the most relevant for the current study: "Do you ever think of yourself as not only (nationality), but also European? Does this happen often, sometimes or never?" and "In the near future, do you see yourself as...?" In line with our findings, "near future" dual-identity holders outnumbered exclusive national-identity holders, both in the Netherlands and in Bulgaria. However, responses to these two questions overall suggested a weaker endorsement of European identity and a smaller proportion of dual-identity holders compared to the present study. There might be different explanations for this. Firstly, and perhaps most importantly, the two *Eurobarometer* questions address different, although related, concepts from the one in the present study. The first *Eurobarometer* item seems to assess the implicit importance (Ashmore et al., 2004) of particular social identities and not their endorsement per se. The second one refers to what can be labeled "possible selves" (Cinnirella, 1996). It is likely that this item triggers associations of perceived differences between own nation and Europe, and this effect might be especially pronounced in Bulgaria in view of its efforts to comply with European standards. Although the two concepts assessed by the *Eurobarometer* questions are relevant for understanding national and European identity, we argue that self-categorization, as assessed in the current study, is the most fundamental element of social identification (Ashmore et al., 2004). A second explanation would be that the sample of the present study is comprised solely of students, while the *Eurobarometer* employs nation-representative samples. On the other hand, a similar divergence can be observed between *Eurobarometer* figures and the findings of Georgas et al. (2004), whose sample included not only university students, but also high school students and teachers.

Given this basic similarity between the Netherlands and Bulgaria in endorsement of national and European identities as compatible, the question became relevant, to what extent these two frames of reference also represent similar things to the people in both countries. The analysis of characteristics attributed to own country and Europe in different domains allowed addressing this question. On most dimensions, national-European differentiation was more pronounced in Bulgaria than in the Netherlands. National and European scale scores showed a strong negative correlation only in the Bulgarian sample. For Bulgarian students, Europe generally represents the opposite of their home country. This interpretation might seem to contradict the endorsement by Bulgarians of national and European identities as complementary and non-exclusive. Why would individuals identify simultaneously with reference groups that are perceived as so distinct from each other? To get a better understanding of the process that might be underlying this, one should look at the concrete pattern of differences. Participants tended to assign higher scores to Europe on domains where Bulgaria is lag-

ging behind, or where improvements should come in the country's development. Instrumental elements may thus play an important role in the observed endorsement of European identity. People may associate Europe with a hope for improvement and a better future, which in turn enhances their identification with it. This interpretation is particularly supported by our finding that the respondents explicitly denied feeling European in negative situations (e.g., "when public services do not function well"). It is noteworthy that in *Eurobarometer* No. 64, the percentage of Bulgarians who stated that EU gives them the feeling of hope (52%) was higher than the average for the EU (42%) and than the percentage in the Netherlands (38%). Such an account emphasizing the instrumental elements of European identification would be in line with the observation of Cinnirella (1996) that "European identity is more likely when a positive, future European possible self is perceived, and, crucially, *desired*" (p. 269; emphasis in original).

Contrary to Bulgarians, Dutch students seem to perceive Europe as lagging behind on country's characteristics and on modern, development-oriented characteristics. They attribute "sentimental" and tradition-related characteristics like religiousness and positive family features more strongly to Europe than to the Netherlands. This pattern intuitively makes sense given that the Netherlands is a modern, largely secularized country and one of the founding states of the European Union. An idealized view of Europe as a model to strive toward would be less effective for the Dutch than for Bulgarians. Overall, the adoption of European identity in the Netherlands apparently takes place against the background of smaller perceived differences between own nation and Europe than in Bulgaria. It is important to observe that perceived differences between own country and Europe in various domains does not seem to preclude the development of a European identity. An argument in line with this observation is made by Licata: "Super-ordinate identification depends on perception of subgroups' similarity only when similarity is presented as a desirable feature of the super-ordinate group" (2003, p. 518).

In addition to cross-national differences between Bulgaria and the Netherlands, we also found important similarities. First of all, there is no clear pattern of either ingroup favoritism or derogation in any of the samples. In different domains, either positive, negative characteristics, or both were attributed to own country more than to Europe. Ingroup favoritism would imply that positive characteristics should be primarily assigned to own group and negative ones to outgroup, while ingroup derogation would imply the opposite pattern. Ingroup favoritism would be predicted by social identity theory if Europe was conceived as an outgroup. However, we do not find support for a view that Europe is seen as an outgroup, because people identify with it. Moreover, a positive attitude toward ingroup does not necessarily imply a negative attitude toward an outgroup, as has been shown, e.g., by Duckitt, Callaghan, and Wagner (2005). Ingroup derogation, on the other hand, would have been predicted by identity models based on cultural and instrumental elements (Jimenez et al., 2004) according to which the emergence of a supranational identity engenders subjective derogation of the carrier of national identity (of own country). It seems rather to be the case that evaluations of the narrower and broader reference groups of social identification vary across different domains.

A second and related point of similarity is that Dutch as well as Bulgarian students feel more strongly members of their own national group than Europeans both in positive and negative situations. This finding, in accord with the responses to the self-categorization question, can be interpreted as an indication that people have a stronger feeling of their national identity than of the broader European identity. This effect is stronger in Bulgarians, whose national scores are remarkably high on the two situational dimensions. Furthermore, Bulgarians rated their compatriots higher on both positive and negative characteristics, which may be taken as evidence of a more clearly delineated picture of their own national group as compared to Europeans (cf. Georgas et al., 2004).

The third common point is that participants in both samples perceived a nonnegative regard of Europeans for their compatriots. This is relevant with respect to the higher scores of own national group as compared to Europe on some negative dimensions such as People Negative. A possible interpretation of these negative ratings could be that people perceive a negative attitude of "others" (viz., Europeans) toward their national group and have internalized such a negative attitude. This is a

process which, Strath (2002) suggests, should be considered in the analysis of historical formation of national identity. However, in our view, the findings of the public-regard measure limit the support for such an account.

A limitation of the present study is the use of student populations. It may well be the case that non-students would endorse European identity to a different extent or would view their co-citizens and own country, as well as Europeans and Europe, along different dimensions. If European identity would be related to level of education, our results may not be generalizable to the larger population. While acknowledging this limitation, we would like to add that students have an important role to play in shaping public opinion and, in a longer perspective, a country's policies.

Another limitation refers to a conflation between Europe and European Union that is inherent in the present study and supposedly in many other studies of European identity. The concepts are confounded on empirical level in the present study: in the instructions of the first scale, participants are asked to think of a general picture of "the European" by which "we mean a citizen of the European Union." In subsequent scales, participants respond to items about Europe and the Europeans. This is a conflation worth revising, since especially in candidate-members of the EU people are likely to be sensitive to the fact that the EU and Europe as a common geographical and, most of all, cultural-historical space do not coincide.

Finally, the present study only addressed two dimensions of collective identity, self-categorization and the perception (evaluation) of the identity groups. However, there is more to identity. A fruitful path for future research can be found in Ashmore et al.'s (2004) "organizing framework for collective identity." It would be especially relevant, for instance, to assess the relative importance of different identities. By applying the distinct dimensions proposed by Ashmore and colleagues to the simultaneous study of national and supranational identities, one could arrive at an even more global and accurate assessment of their interrelation, relative strength and meaning in different nations.

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South Asians in Scandinavia: Diasporic Identity Processes

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This chapter¹ probes selected social-psychological aspects for South Asian young adults in Denmark and is a follow up of a Danish project conducted in the mid-nineties. The diasporic conceptualizations in respect to human centeredness and cultural processes in migration combined with life course perspective, provide the theoretical framework for this study. In-depth interviews were employed, and information was analyzed through meaning condensation and subsequent categorization of the narratives. The results show the reinterpretation of the self, “others” and home in the diasporic families, for the parental as well as the young generation. The chapter also depicts the young adults’ diasporic identities involving the ancestral countries as well as the Scandinavian welfare societies. The results hardly support the myth of return, although the countries of residence have turned increasingly restrictive in migration policies in the past years.

When we look at the present South Asian Diaspora, the Nordic countries like Denmark and Sweden are rarely mentioned among the host societies. In a similar vein, the current research on migration and intercultural psychology in these Nordic countries hardly pays any attention to this diaspora group. However, there are about 60,000 South Asians (from India, Pakistan, and Sri Lanka) in these countries, who have primarily arrived as migrant labourers in the late sixties and seventies, and a smaller number as refugees in the seventies and eighties from places such as Gujaratis from East Africa, Tamils from Sri Lanka as well as Sikhs from Punjab (Table 1).

Table 1. South Asians in Scandinavia and citizenship status

	Total number <i>India</i>		Total number <i>Pakistan</i>		Total number <i>Sri Lanka</i>	
Denmark population: 5.3 million	4085	2231 Danish citizens	19301	8052 Danish citizens	10291	6569 Danish citizens
Sweden population: 9 million	12464	9652 Swedish citizens	3779	2416 Swedish citizens	6118	5109 Swedish citizens

Source: *Befolkning og valg*, 2005.

Though there are several psychological and mental health issues involving the *diaspora*, the present chapter is limited to the diasporic identity processes including identity transformations in the life course, through a project in Denmark, which has just been completed (Singla, 2006; Singla, 2008).

A review of the South Asian diaspora in the Nordic countries shows a few studies covering the above-mentioned themes. A recent study is about Gujarati Hindu women living in Mariestad, Sweden (Hole, 2005). The study indicates that these first generation women are still longing to return to India, even when they are well acculturated in the Swedish context, thus seen as “Neither *here* - nor *there*”. On the other hand, the young generation do not have the intense urge to return to the ancestral country and have almost no economic commitments there (*ibid.*, p. 308).

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Considering the Danish context, it is observed that a young man's definition of himself as *Muslim, Pakistani and Danish* illustrates the construction of a complex diasporic identity (Khawaja, 2003). Another Danish study which includes the Pakistanis (Mørck, 1998) points to the fact that the youth develop "double identities" as they feel mostly Danish but have strong attachment to their parents' "homeland". Similarly the young women develop their identity as "Danish-Muslim" as they are afraid that the ethnic Danes will not accept them as Danes because they "look" different implying experiences of exclusion due to the color of the skin (Siim, 2006). Frello (2006) notes that some minority youth are *cosmopolitan* characterized by the ability to engage in other cultures, while at the same time having a reflexive distance *vis-a-vis* their own cultural background.

Singla (2004a; 2004b) analyzed the double challenges related to youth period and ethnicity faced by the young people in the mid-nineties, depicting the positive ways of meeting them. A study by Bamzai (2004) in India about overseas-born Indians has addressed diaspora from another context and indicated the generational difference in the diasporic identities. None of the existing studies has focused on the social psychological aspect of the South Asians as a diaspora group in the Scandinavian countries in the contemporary period, as is done in the present study.

The current framework is mainly Social Psychological –about the relationship between the person and the society, though in combination with anthropological perspectives. Epistemologically, a middle ground position is followed, consistent with both the idea that reality constructs the person and that the person constructs reality. Both a crude realism (positivism) and a pure (linguistic) idealism are rejected in favour of a dialectical approach to knowledge inspired by Vertkuyten (2005), and Kvale (1996).

The present study is a follow up of an earlier study (Singla, 2004b), conducted in a broad societal context characterized by radical modernity. Modernity involves challenges such as individualizing and resolving the tension between the individual and the collective –the "we-ness"– seen as the conflict between "to be one's own" and "the urge for belonging to a collectivity" (Dencik, 2005).

Another backdrop is the participating young adults' life course (Boyd & Bee, 2006; Levy, Ghisletta, Goff, Spini & Widmer, 2005), The young adults *position* themselves and can simultaneously occupy more than one position, within the family and networks in the backdrop of these societal and life course contexts (Gergen, 2001; Harre & Moghaddam, 2003).

It is accepted that intersections of important forms of social stratifications such as ethnicity, age, class, gender & national divisions bear significantly upon diaspora histories (Sen, 2006; Phoenix, 2006). There are various categories to which we simultaneously belong –through birth, associations and alliances.

The subjective features of the diaspora –the agency (the meanings held and practices conducted by social actors) are the focus in the present delineation. This directs attention to the multiple meanings of diaspora (Vertovec, 2000), in which diaspora is perceived as a social form, type of consciousness and mode of cultural production and consumption. A social form is about relations, networks, and economic strategies across the borders while consciousness is awareness about multi-locality, both *here* and *there*, connection with others who share the "roots" and "routes". Lastly, diaspora as mode of cultural production is seen as a transnational cultural phenomena. Appadurai (2002; 2006) points to the complex transnational flow of media images and messages as creators of greatest disjuncture for the diasporic populations, which illuminate how space and time are transforming each other in special ways in the present era. Furthermore, he describes how the nation-state has grown ambivalent about minorities who at the same time, because of global communication technologies and migration flows, increasingly see themselves as parts of powerful global majorities.

Kalra, Kaur & Hutnyk (2005) criticized Vertovec by arguing that *diaspora*² shifts our attention away from viewing migration as a one-way process, as people migrate from one place and settle in another, just ending the story. However, understanding of the complex transnational identities needs new conceptual maps. These new approaches conceptualize diaspora as both through a *positive embracing* of transnational affiliation as well as through a defensive posture by communities in the face of a hostile host saying *you do not belong*. This theoretical framework is perceived to be relevant to delineating the changing diasporic identities of young adults. Furthermore, the analytical framework of ‘pull and push’ factors is used, inspired by a sociological metaphor being pulled by some positive factors in the country of origin/country of residence and being pushed away by some negative factors in the country of origin/country of residence (Hole, 2005).

Method

The present investigation is a follow-up of the first study conducted in mid-nineties (Singla, 2004b), in which the sample was strategically selected as *well functioning* and *poorly functioning* youth with South Asian and Danish backgrounds. However, this categorization is not used in the current study due to a variety of reasons, among others the changing nature of their functionality. In-depth interviews with young adults (26-32 years) were conducted. The author conducted the interviews herself using a semi-structured guide. The questions in the interview were theory-based, on themes covered in the first study, combined with *young adult* life course stage dynamics.

Table 2. Demographic information for the five respondents

Name	Age/Gender	Ancestral country & Country of birth	Family status	Education	Occupation
Salman	29 / Male	Pakistan, Denmark	Married	Law Student	Law related, part time job
Abdul	30 / Male	Pakistan, Came to Denmark at 14	Married	High School	Self employed, in music systems company
Mita	28 / Female	India, Denmark	Married	Masters in Bio Technology	Researcher and firm owner
Nadia	26 / Female	Pakistan / Afghanistan, Came to Denmark at 12	Married	Teacher's Training	Teacher in a school
Atim	28 / Male	Pakistan, Came to Denmark at 3	Single	Pedagogue	Jobless

The main issue was re-establishing contact with the participants, after a period of approximately ten years. Out of a total of fourteen, eleven participants were traced, though two of them could not be interviewed due to serious illness. Three could not be contacted due to lack of co-operation with the gatekeepers, confirming that the access is dependent on the goodwill of the individual gatekeepers (Sanghera & Thapar-Bjorkert, 2007). Thus nine interviews were conducted; five of these participants' ancestral countries are in South Asia (India, Pakistan) and the focus is given on these (Table 2) for the current study (further methodological details can be found in Singla, 2008).

The researcher's own South Asian background (North Indian, ability to speak Hindi, Urdu, Punjabi, Danish and English), professional position as university based researcher and the life course phase middle aged contributed to a balance between insider and outsider perspective.

However, at the same time there was awareness of the potentially hierarchical and exploitative nature of relationship between the researcher and the researched. Reflective positionality brought this awareness though could not remove these aspects of relationships. (Sanghera & Thapar-Bjorkert, 2007). Some choices were provided for the participants in order to

² *Diaspora* (διασπορά), defined by its Greek etymology as “a scattering” from the roots [διά (apart) & σπείρω (to sow)], entered the globalising language to apply to all migrants (Guzder & Krishna, 2005).

minimize these aspects, e.g. the interviews were conducted in researcher's counseling centre in Copenhagen by their choice. The participants were also given a choice of languages for the interview. The choice was English for one, mother tongue Urdu/Punjabi for another, a mixture of Danish and Urdu for the remaining three participants. The interviews were recorded and transcribed in English by the researcher. Some biographical details have been altered to secure anonymity due to ethical reasons.

In-depth readings of the narratives, followed by categorical analysis are the main analytic strategies employed. These are tools of analysis developed in order to systematise the complex reality, in which the categories are intricately intertwined. Attempts to compare and contrast the young adults' narratives with their original narratives are also present, though temporal (time-wise) analysis now and then (Singla, 2004) along with the theoretical diaspora concepts, and through spatial (space-wise) analysis, with focus on here and there in their life world.

Results

Based on the in-depth reading of the narratives of the participants, firstly meaning condensations of the various answers were conducted, followed by their division into theoretical conceptualisation grounded themes (see introduction section) related to social relations as well as the psychological (Kvale, 1996; Verkuyten, 2005). In the present article only the theme regarding the diasporic identity is covered (see Singla, 2008 for themes such horizontal and vertical family relationships). Further reading of the meaning condensations led to awareness of a range of relationship to the country of origin. Two main categories were formed in order to incorporate the range of relationships, from frequent, widespread experiences of relationship to rather restricted relationships. These experiences of relationships were accompanied by differential modes of functioning perceived as strategies.

Thus the two primary categories regarding the social relationship with the country of origin were post-hoc termed as firstly comprehensive relations and strategies across geographical borders and secondly limited social relations and strategies across geographical borders. Similarly the second theme related to psychological diaspora consciousness and cultural consumption was also analysed by in-depth reading, followed by meaning condensation. Based on the range of the salience attached to the diasporic consciousness, two primary post-hoc categories were constructed: dominating meaning and moderate meaning. It is important to point out that in contrast to the first theme related to social relations, all the participants attached relatively greater meaning to the psychological diasporic consciousness, thus the categories incorporate the range from dominating to moderate meaning.

Diasporic Identity Processes: Social relations and strategies across geographical borders

The social form of diaspora focuses on the relationship with the ancestral country along with relations with the diasporic community in the other parts of the world. *The myth of return* as an archetype of diaspora is indirectly included. The young participants belong to the following post-hoc categories in order to incorporate these experiences of relationships, (1) Comprehensive contact and strategies, (2) Limited contact and strategies.

Comprehensive contact and strategies

This analysis indicates paradoxes in the psychosocial understandings of the young adults. As an example, consider the Indian young woman Mita, who has a comprehensive contact with the ancestral country, related probably to her marriage to an Indian spouse and their business relations in a major city in India³. She is the only participant who has been eight times to India in the past decade and also has business and familial relations in the UK. She is a frequent user of the internet for business and social purposes. According to her:

³ They have an established firm in the field of pharmacy as her husband possesses an M.Sc. Degree in Pharmacy and Biotechnology.

Our company is also in Hyderabad, England and in Denmark...sort of international.

She mentions economic strategies related to the company employees in India and emphasises that there are no economic obligations to the in-laws family as they are economically well placed and encourage the couple's endeavours.

Aman [husband] is only paying his staff in India and he would try to put some money to develop his company in India.... The family support is none, as my in-laws don't want to take any. They say build your own.

However, she proclaims her connection and gratitude for Denmark as her country of birth and upbringing, providing "settlement for life" along with positive feelings for country of origin, which she didn't have earlier due to limited contact.

Denmark is my country because I am born here.... But what I gained in Denmark is simply my settlement for life. Got my education here came back and the first future and everything I need for progress in life, I got it here... I do belong to Denmark. But I love India as well. Love for India, which I didn't have before [the original study] because I haven't been to India for that long...

Mita is reflexive about her positive feelings and connection to both the countries and seems to be content with the present solution of their business relations between India and Denmark.

So we both are mixing it together and it is going very well our company. If I can succeed this way, I am not going to feel that I miss anything... have both things I want.

Though at the same time Mita positions herself as open with respect to the future possibility as she points to the negative side of the Danish society –the constraints related to the cultural diversity and other ways of life. Mita mentions her diffuse dream of return to India –as a possibility in the distant future.

Tomorrow my dream is to work in India. To give myself such a status in the company that I can go and live there forever. ...The Danish culture is very restricted ... are not very open to foreign cultures.

A spatial analysis of Mita's narrative reveals that her social contacts between *here* and the multiple *there* are at several levels, as she has frequent and varied contact with the ancestral country as well with the UK, where some of her diaspora family members reside. A temporal analysis indicated transformations, as she didn't show much interest in her ancestral country in the original study (Singla, 2004b). On the other hand, it is remarkable that she hardly mentions her parents regarding her contacts across the geographical borders, unlike the other young adults included in the next section.

Limited contact and strategies

In contrast to Mita's comprehensive contact to the ancestral country and UK, other young adults Abdul and Salman have rather limited social relations to their ancestral country Pakistan. However, they explicitly mention their parents' close relationship with the country of origin. In the original study, Abdul was very connected to Pakistan, where he had studied in a boarding school and was psychologically attached to his father's older brother (Singla 2004b). However in the past decade, he visited Pakistan only twice –first time for his older sister's marriage where he fell in love with his cousin, with whom he later got engaged to get married and second time to fetch his fiancé. He emphasised conflicts between his father and uncle as the reasons for their estrangement. He mentions no economic strategies in relation to the ancestral country, though he emphasizes parental connections to their country of origin:

My parents have kept contact with the country of origin. They have not forgotten where they came from.

However, as a company owner, he travels comprehensively and has an international business network.

I have business contacts in countries like Italy, America, and Korea & Germany. I travel twice a year to these countries.

Abdul's limited contact to the ancestral country can be interpreted through the metaphor *pushed* away by the ancestral country due to extended family conflicts and in-laws residence in the USA. There are some similarities with Salman's situation, which has rather limited connections with the ancestral country due to conflictual relations in the extended family and his wife's Afghani background. However, he was about to travel to Pakistan with his younger brother to attend his wedding with a partner living there, indicating the *pull* factor of the transnational marriage. His narrative referring to a reduced contact after the grandparent's demise can be understood through the life course perspective, while marriage across the national border, in contradiction to the dominant discourse about Muslim extended family endogamy, is another reason for the limited contact. Likewise the family conflicts pertaining to property can be seen as *pushing away* factor from country of origin.

Rest of our family lives in Pakistan. My parents have contact. We are an extended family with lots of conflicts, partly because my parents chose to get their children's spouses outside the family and partly because of some property matters...these are the reasons for the distance with the family. We visit them though. We had a closer relationship with the family when my grandparents were alive. After their death it is not the same.

On the other hand, Atim's parents have a very close relation to Pakistan and his mother spends 3 to 4 months every year in the ancestral village. He himself has visited Pakistan just twice in the last decade, though he sometimes visits Pakistani friends in Norway and Sweden.

Unlike these Pakistani participants, Nadia has not visited Afghanistan and Pakistan at all since she arrived in Denmark approximately fifteen years back. The political uncertainty in her country of origin *pushes* her away from the country of origin, which she wishes to visit after completing her studies in the near future.

When I finish my education here, then I could think of visiting Afghanistan for six months and work. When I am finished my education (sic), I will not be so busy.

Some of her maternal family lives in Australia and Pakistan, while her paternal family has moved to Germany and USA. They contact the family members through telephone, while she has contact with the extended family members in these countries through Internet and cell phone. In contrast to the others, Nadia has a supportive economic strategy in relation to the family living in Afghanistan, as she sends money to her maternal family every month. She can be positioned as a compassionate family member, having multiple diasporic relations in many contexts.

We have my mother's family in Afghanistan. Our contact is that we send money to them every month. I send money to my grandmother and mother's sister. I have chosen to send money to them.

Summing up, these narratives indicate rather limited contact, with hardly any mention of any economic strategies, while the temporal analysis indicates noticeable reduction in contact *then* and *now*, especially for Abdul. Nadia's social contacts are different –though there was not a single visit to the ancestral country due to shifts in world politics, yet through the new technology she mentioned, close contacts are kept with the diaspora family members in different parts of the world. How these diasporic contacts and strategies, such as limited visits to the country of origin, affect the psychological consciousness and cultural patterns in this age of global communications is the question covered in the next section.

Diasporic Identity Processes: Psychological diaspora consciousness and cultural consumption

An analysis of the narratives reveals that for all five young adults, the ancestral country and the other contexts are aspects of their complex identity, though there is a difference in the

salience attached to the diasporic consciousness and cultural consumption. The young adults are placed in post-hoc categories: (1) Dominating meaning, (2) Moderate meaning, based on the meaning attached to diasporic consciousness, indicated by their current network, self-identity, experiences of inclusion or exclusion in the majority society in their narratives.

Dominating meaning

For Salman, the diasporic consciousness is the dominating aspect of his identity, as his present primary social networks are his ethnic group members. When asked about this network, he emphasised the almost everyday contact with the co-ethnics and lesser contact with others:

I have a core group, whom I see frequently and talk with... They are primarily Pakistanis. The second group is on hello terms....

Furthermore he mentioned the network he has sustained through the religious participation in the first study (Singla, 2004b). At the same time, he also draws attention to the Danish aspects in his identity. He positions himself as a combination of Danish as well as Pakistani aspects, contrary to the dominating discourse in the Danish society about the “incompatible” Danish and Pakistani worlds.

I already think of myself as Danish. I think a lot Danish, though there are also Pakistani things in me. My feelings are Danish. When I think, then it is in Danish, there are Danish words circulating around in my head. Only this is symbol how Danish I am... I have taken the good things from the Pakistani culture and the good things from the Danish culture.

Juxtapositioning Salman’s position in the first study, *I am a Pakistani, irrespective of my years in Denmark or passport* and emphasis on his experiences of racism in the society (Singla, 2004b, p. 171), with his present position as *a combination*, illustrates the changing nature of diasporic identity.

On the other hand, the young woman Mita has an ethnically mixed network and she clearly positions herself as Indian along with her sense of belonging to Denmark. In the original study, she stated *I am Indian - Danish, though more Indian than Danish*. (Singla, 2004b, p. 172). She further elaborates her positive interest in the Indian cultural productions like films, music and so on; however her husband’s interest for American films is also mentioned. She watches Indian films, though these, mixed with American films and English music, can be interpreted as a part of her diasporic socialising,

I love Bollywood movies, I watch as much as I did before. I have been watching them since I was a kid. Some American movies that is what my husband likes. .. Music - English, Hindi & Bhangra.

At the same time, Mita’s unpleasant memories of racism in the college days are part of the narrative in the original study,

In the college I had a very hard time. With those boys in my class, I was crying... I really hated them... a group of 6-7 people pure Danes and one of them was Polish.

Although she indicates that she has not experienced racism later in her life and her explanation is, “*as I know the Danish mentality.*”

Both Salman and Mita’s narrative depict a dominating position of diasporic consciousness, through differential dimensions-network and cultural consumption respectively, in spite of changes in their diasporic identity.

Moderate meaning

Atim’s network consists of Pakistanis along with a few Turkish and Danish friends, though he doesn’t perceive himself as just Pakistani or a combination. He mentioned his interest for both International Rap music and Pakistani singers like Nusrat Fateh Ali Khan. He has become aware of his ethnic belonging through the experiences of racism in his education as the club-pedagogue.

He emphasizes the negative stereotypical understanding of his teachers, which he tried to challenge. This awareness also influences the diasporic consciousness.

My teachers were really harami (bastards)... discriminatory and racists. They were very prejudiced ... and placed us in categories like this. We can be well brought up. I was the only foreigner there.

His positioning of himself as a “foreigner” reflects his feeling of exclusion from the society; in the first study he positioned himself as a ‘trouble maker’ who was basically lonely. However, he argues that one can avoid these exclusions if one is self-employed as there is more risk of racism in being employed. Furthermore he also points out media as a powerful source of stigmatising of the minority and its influence on the political arena.

If a person is self-employed, then you don't feel it. If you work under them... seek job where Danes are in charge, then you feel that you are a migrant in this country. ... Media seems to be controlling matters here. Whatever media says, the ministers also say the same the next day.

Similarly Abdul feels discriminated in the broad society, especially through the media, though as a successful firm owner, he doesn't experience discrimination in his business dealings. This is one of the reasons for his moving to Sweden, to Malmo (a Swedish city near Copenhagen), which he expects to be more congenial than Denmark.

There are no problems in my profession ... the society treated [the ethnic minority] all right earlier...but it has changed. Personally it has not affected me but changes are taking place. The way information, media is creating impressions is very bad. This is why my interest for living here has finished.

His diasporic consciousness is considered moderate as he views Indian films and Pakistani dramas⁴ once in a while. At the same time, he has an international business related network and he is a member of “Mazda car club”. This is yet another reason for shifting to Malmo in Sweden. He further explains his position regarding the predominant discourse about the minorities misusing the system, which creates the paradox that even a person like him contributing substantial amounts economically to the society through tax can risk being considered a criminal. He perceives this as a gross misinterpretation of the situation, challenging the implicit assumption in the literature that most ethnic minorities are hardly wealthy.

There is debate about people cheating the system. I have never done anything incorrect in the business. I don't owe any money to the state. Every month I pay the tax... I do so much but still when I am out, people will think I am a criminal, misusing the system.

Abdul exemplifies the active agency –contrary to the prevalent discourse about unemployed, passive minority man. He is active enough to confront the racial discrimination by shifting from Denmark to Sweden. Moreover, he had positioned himself as a mixture of good things from Danes and Pakistanis –a mixture in the first study.

In contrast to Atim and Abdul, Nadia's narrative reveals rather unexpected changes in the life trajectory, which has led to positioning her as a person with a moderate diasporic consciousness in the present study. This is in sharp contrast to her being positioned as a person who with dominating meaning in the first study as *an Afghani girl, more Afghani than Danish* (Singla, 2004b, p. 243). Now Nadia has a comprehensive Danish network, as she is about to complete her schoolteacher studies and teaches in upper middle class Danish private school.

Then I have a [girl] friend from the school, who is also Danish. She is more of a friend than a colleague. Then I have 5-6, who are much older than myself, about 57-58. These 3 are young, otherwise they are all older, over 50 years, all Danish.

⁴ He downloads latest films through the Internet and views them regularly, thereby combining the narratives about *there* with his everyday life *here*.

Her narrative indicates that there is possibility for positive transformations depending on the persons' active agency and some supportive contacts. At the same time she is critical towards the Afghani group organisation in Denmark⁵:

There is an Afghani association but there are persons who deal wrongly with matters seen from my point of view. ...I feel that there isn't solidarity among the Afghanis in Denmark.

Moreover, she is a member of a number of mainstream charity organisations such as Red Cross and Refugee Help in Denmark –an aspect of ethnic minority groups, which is neglected in the prevalent discourses. In a way, Nadia seems to have transformed her rather narrow ethnic position to a broad, more international, cosmopolitan position with a varied supportive network. She has not experienced racism personally in the later years in contrast to her earlier experiences of race discrimination at her work place (Singla, 2004b). Though she regards herself as *really fortunate*, yet she mentioned her siblings' experiences of discrimination. She emphasizes that they have faced difficulties and had to put in “double” efforts to reach their educational or job related goals, as compared to native Danes.

But my sisters, they had to do double of what Danes have to do in order to get a job or just complete their education.

Summing up Nadia's position as having a moderate diasporic consciousness, the temporal analysis indicates a transformation –from a narrow diaspora identity to a broad cosmopolitan identity with a sense of obligation to others and acceptance of differences (Appiah, 2006; Frello, 2006).

Discussion

Earlier in this chapter, the themes of social relations and diasporic psychological consciousness were separated for the purpose of analyses; they are now combined in this section. Our analysis directs the attention to the continued social relations and economic strategies of the young adults in the country of origin. The intersectionality of participants' own ethnic identity with the family history, educational, economic level and the ethnic/regional identity of the partner influence the extent and quality of these contacts.

In the present narratives, there are two distinct types of visiting contacts to the country of origin –from almost yearly visits to just no visit at all in the past decade represented by Mita and Nadia. However, Salman, Abdul and Atim have been to the ancestral country 2-3 times, primarily for family weddings or visits and have no economic relations to the country of origin.

It is paradoxical that the respondents' economic relation to the ancestral country is based on different grounds –business motives for Mita and family related altruism for Nadia. The young women indicate their active agency and self-defining position explicitly through these strategies, thus creating counter discourses to the dominating discourses about the passive ethnic minority women.

Within the metaphorical framework of *pull* and *push* for the diasporic relations, we could consider factors such as the transnational marriage accompanied by cordial relations with the partners' family, the presence of extended family with warm ties and business relations as factors which pull the diaspora group towards the country of origin. On the other hand, complex societal factors like uncertain political situation, extended family conflicts about the issue of marriage and property, demise/moving away of the extended family members are seen as factors, which *push* the diasporic population away from the ancestral country. The restrictive migration laws in the country of residence affecting transnational marriage have paradoxical consequences; most choose partners *here*, while some continue transnational marriages in different forms. Mita's narrative lucidly illustrates that globalization (Stiglitz, 2002, p. 9) through transnational business and knowledge exchange directly influences the diasporic identity processes. Similarly Nadia's narrative brings out the significance of shifts in demographics and world politics in amplifying

⁵ She is the only young adult in the study who is a paying member of a diasporic organisation.

some of the dynamics in the diaspora identity processes. The elements involved in these processes are multiple and tenuously resolved.

These dynamics mirror the changing interpretation of *self*, *others* as well as *home* for both the generations and documenting that the identity processes are complex and contingent. Table 3 depicts the dominant understandings of identity transformational processes. How the *home* is perceived seems to change along life course. Some of the young adults do not position themselves as having frequent social contact with the ancestral country, though yet they emphasize the parental generation's contact. On the other hand, multiplicities of geographical contexts coexist for these young adults—not just the ancestral country and the country of present residence, also other countries, where the diaspora members live and/or where they have business relations. They are connected to different *here* and *there*. Similarly there are transformations in what they thought about their connectedness to the ancestral country in the first study and in the current study, indicating changes in the different life phases, affected by radical modernity. There is use of the global technology to maintain connections with the diaspora across the borders, and examples are Mita and Nadia. On the other hand Abdul has concentrated on his business relations through technology, while for Salman & Atim, the focus is primarily on *here*, with rather limited contact with *there*.

Table 3. Dominating understandings of the participants' identity processes 'now' & 'then'

Name	Now	Then	Salient Aspects
Salman	Danish-with Pakistani aspects	Pakistani	Highly reflective
Abdul	'Businessman' identity Awareness of societal discrimination	Mixed. Positive aspects from both Danes and Pakistanis	Active agency- shifting to Sweden
Mita	Indian, along with sense of belonging to Denmark	Indian, with Danish aspects	Marital and professional ties to India
Nadia	Broad Cosmopolitan Identity	Afgani 'More Afghani than Dane'	International colleagues and awareness
Atim	Foreigner-marked by exclusion processes	'Trouble-maker' Existentially alone	Awareness of race discrimination at personal level

The paradox about the dominating and moderate diasporic consciousness despite limited social relations in the ancestral country can be understood as *positive embracing* of transnational affiliation and defensive posture by communities in the face of a hostile host (Kalra et al., 2005). The young adults' experiences of racial discrimination in various forms—from direct stigmatizing in the educational institutions, to “doing double” or striving hard to get a job, to awareness of negative media images of ethnic minorities—lead partly to the feeling of *not belonging*, as well as to curiosity, sustained interest and a feeling of *belonging to the ancestral country* and the multiple *there* as well.

However, there are transformations in different directions as far as feelings of belonging are concerned—from positioning himself as just *Pakistani* to a combination of the best from the Pakistani and Danish culture for Salman along with invocation of *Danish thinking*. For Salman, religious belonging is also sustained through participation in the mosque activities, where new religious practices play a part. Furthermore, new media has also actively impinged on religious experiences as increasingly religious communities all over the world make use of modern mass media, both print and electronic, addressing multiple publics and offering alternative forms of belonging (Meyer & Moors, 2006). For Mita, the change is in the direction of being “Indian” in contrast to a combination in the original study, whereas for Nadia there is a major transformation—from a narrow ethnic identity to a broad cosmopolitan identity. In spite of these changes, these young adults consider both the country of origin and the country of residence as dimensions of their identities.

Most of the young adults are both diasporic and Danish, in different proportions, contexts and different movements, which correspond to the earlier mentioned meta-theoretical middle

position in the current project. The analyses indicate that the concept of *others* and *home* seem to change as time goes by, related to the processes of globalization and the shifts in the world politics for some of the young adults. These changes lead to transformations in the relation between *here* and *there*⁶. Most young adults included in the present study seem to be *here* but also *there*, perhaps more *here* than *there*. They are Indian/Pakistani, Hindu/Muslim, Danes at the same time, though with differing emphases in different phases of life trajectory. Their visions *then*, probably transformed, are still parts of their *now* and the *future* in some way or the other. The analysis of the *mythical longing for return* indicates that the young adults hardly mention returning to the parental country of origin, similar to the young adults in Hole (2005). These findings are in congruence with the conclusions drawn by Bamzai (2004) that OBIs (overseas born Indians) do not wish to be anywhere other than where they are, at the same time, they do internalize India and express it in different ways than their parents.

With great caution, we can summarize that most of the South Asian young adults in Denmark feel both *here and there* in their multiple belongings and contexts, where the secure welfare system (Siim, 2006) and the opportunities for *settlement for life* as delineated by Mita, and some experiences of race discrimination co-exist.

Irrespective of the limited direct social relations, probably aided by the complex transactional flow of media images and messages through global technologies (e.g. Internet and Indian films; Bachu, 1999; Balasubramaniam, 2005), the diasporic identities are significant for South Asians young adults. At the same time, we have to consider that these global media processes are also about the feelings of longing, recreating representation and the sense of belonging (Guzder & Krishna, 2005). These complex relations between the country of residence and the real/imagined country of origin have significant implications for psychosocial intervention for the young adults. Although these findings cannot be generalized broadly, yet they indicate some tendencies about the young South Asian diaspora in a Scandinavian country. Our journey through time a follow up of the young adults studied a decade back indicates complex and paradoxical results. In the backdrop of the late modernity and the Nordic welfare societies, it can be concluded that the young adults are experiencing changes in regards to their parental generation and their own life understandings, as most are building families and networks.

An analysis of the temporal perspective indicates both continuity and changes, as their *then* is still a part of their *now* and the *future*, despite changes in the world around them and in their own family and life course situation. The analysis shows that the young adults are maintaining, creating relations and attachments across the borders, in varying extents from yearly visits to almost no visit to the country of origin. The transnational perspective should not direct our attention away from the young adults' social relation building in the country of residence. In spite of these variations in the concrete social relations, diasporic consciousness is a part of their identity and they are able to feel at *home* in multiple contexts. Using global technologies and microelectronic transnationalism –internet, films and music– contributes in creating *home*, not only in the country of residence, but also in the country of origin and in some countries where part of the diaspora relations and business contacts exist.

This feeling of '*home*' is not only a positive affiliation, a pull towards the country of origin, but it also relates to the processes of being pushed away, through racism and exclusion in different forms –job wise problems to media wise stigmatization in the country of residence. However, in spite of some experiences which lead to feelings such as '*you do not belong*', especially due to the restrictive policies for foreigners in the past few years in the Scandinavian countries, paradoxically most young adults feel at *home* mostly *here* though also *there*, as they have hardly addressed *the myth of return* characterizing the diaspora processes in their self-definition and life trajectories now and in the future.

⁶ Homeless as an existential state has been discussed as an aspect of radical modernity (Dencik, 2005).

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SELF CONCEPT & PERSONAL RELATIONSHIPS

Culture, Self-construal and Social Cognition: Evidence from Cross-Cultural and Priming Studies

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Members of different cultures vary in basic social psychological processes, such as value orientation, attitudes, attitude-behavior relations, person perception and attribution of observed behavior. Previous researchers have traced back these differences to the respective culture members' self-construal: Westerners define their self primarily in independent terms, whereas Asians are more likely to define their selves in interdependent ways. This difference in construing the self in turn affects the above mentioned judgmental processes. However, when relying on cross-cultural studies alone, the critical role of the self cannot directly be tested. In this chapter I argue that the accessibility of either independent or interdependent self-knowledge plays a critical role, because judgments are assimilated to either autonomous –or social– contents to the degree that independent –or interdependent– self-knowledge is accessible in the judgmental situation. If so, making self-knowledge of one kind or the other temporarily accessible, should mirror cross-cultural differences. I will review a series of studies confirming this assumption. These studies will be discussed with regard to their implications a) for the role of the self in judgment formation and b) for the flexibility of cultural differences.

How does culture affect individual thinking, feeling, and action? What are the psychological mediators by which culture affects individual experience and social cognition, including political judgment and decision making? Markus and Kitayama (1991) argued in their highly influential article in *Psychological Review*, that one of the critical variables by which culture affects the way we think, feel, and act is the individual construal of the self. Culture, so they argued, affects how we construe our identity, and this self-construal in turn influences subjective experience in various domains. In particular Markus and Kitayama differentiated between two fundamentally different perspectives on the self. Within the independent construal, the self is seen as fundamentally different from others. Important self-definitions refer to one's autonomous features, such as traits, abilities, and personal attitudes. This way of defining the self is most prominent in Western, individualist societies. The interdependent perspective which is typical for East Asian, collectivist culture members, stresses the fundamental connectedness of the self to others. Important self-definitions within this perspective refer to one's social roles, group memberships or personal relations to important others. Whenever a psychological process implicates the self, the degree of independence-interdependence will affect the outcome. Markus and Kitayama thus argued that a person's sense of the self is influenced by his or her cultural background and influences in turn how the person thinks, feels and acts. But how exactly does this influence come about? What are the exact psychological processes by which the self affects individual experience?

Social Cognition of the Self

In order to partly answer this question, I put forward a Social Cognition perspective on the self. Within this perspective, the self can be conceived of as a knowledge structure containing the total amount of information an individual encodes in memory across the life-span (Hannover, 1997; Linville & Carlston, 1994; Markus, 1977; for a recent review see Sedikides & Gregg, 2003). At any given moment only a subset of this entirety of self-knowledge can be retrieved from memory. This subset can include both independent and interdependent pieces of self-knowledge. Within this view the *relative accessibility* of independent or interdependent knowledge mediates the self's influence on individual experience. Accessibility describes the ease with which a certain piece of information can be

retrieved from memory. A certain piece of self-knowledge is more accessible, the more recently (*situational or temporary accessibility*) and the more frequently (*chronic accessibility*) it has been retrieved from memory (Higgins & Bargh, 1987). Accordingly, inter-individual differences in self-construal can be interpreted as differences in the relative chronic accessibility of independent versus interdependent self-knowledge. This applies for instance to cultures: Individualist culture members encounter social contexts fostering an independent self-view more frequently than do members of collectivist societies, who on the other hand are more frequently exposed to contexts fostering an interdependent self-view. While encountering either independent or interdependent social contexts, the respective kind of self-knowledge is activated over and over again, thus becoming chronically accessible from memory (Hannover, 1997). At the same time, intra-individual differences in the accessibility of independent and interdependent self-knowledge may result from being exposed to contextual factors which temporarily prime self-knowledge of one kind or the other (Hannover, 1997). Chronic and temporary sources of construct accessibility are functionally equivalent (Higgins & Bargh, 1987).

This Social Cognition perspective offers the possibility to link cross-cultural research (which by definition rests on investigating inter-individual differences) to experimental approaches as frequently used in social cognition research. If indeed the self is one of the critical mediators for cultures' influence on thinking and judgment (as suggested by cross-cultural research), and if furthermore chronic and temporary sources of construct accessibility are functionally equivalent (as proposed within social cognition research), then it follows that experimentally manipulating the accessibility of self-knowledge of one kind or another should result in the same differences on subsequent judgments as the ones we know from comparing people with individualist or respectively collectivist cultural backgrounds (Gardner, Gabriel, & Lee, 1999; Haberstroh, Oyserman, Schwarz, Kühnen, & Ji, 2002; Hannover & Kühnen, 2004, 2007; Kühnen & Haberstroh, 2004).

Researchers have identified several priming techniques by which the accessibility of independent and interdependent self-knowledge can be manipulated. For instance, Trafimow and colleagues (Trafimow, Triandis & Goto, 1991; Ybarra & Trafimow, 1998) asked American and Asian research participants to think either about what they have in common with their family and friends or what distinguishes them from these relevant others. In a subsequent self-description task, participants used more independent terms after having thought about differences than after having listed commonalities with their family and friends. Another priming technique has been developed by Gardner et al. (1999). These authors had their (American) research participants read a paragraph about a trip to a city. In one condition, the paragraph included first-person singular pronouns only (such as I, me, mine, etc.), whereas in the other condition first-person plural pronouns were used in the text (e.g., we, us, ourselves, etc.). After having circled these pronouns, all participants faced the same open-ended self-description task as in the Trafimow et al. (1991) study. As predicted, participants in the first-person singular condition described themselves in more independent terms than participants in the first person plural condition.

Self-Construal and Value Endorsement

How does accessible self-knowledge of one kind or the other affect judgment and decision making? Independent self-knowledge refers to an individual's attitudes, traits, and abilities that distinguish the person from others (i.e., to autonomous semantic contents). In contrast, interdependent self-knowledge describes an individual's affiliation to others and to particular social contexts (i.e., it contains social semantic contents). Many authors have shown that people use the mental categories which can most easily be retrieved from memory, with judgments being assimilated towards the denotative and connotative aspects of the activated category (Bargh, 1997; Fiske, Kitayama, Markus, & Nisbett, 1998; Higgins, Rholes & Jones, 1977). Therefore, if independent self-knowledge is accessible, be it either situationally due to previous

priming or chronically to a person's cultural background, autonomous contents about the self should guide information processing with incoming new information being assimilated toward them. Likewise, if interdependent self-knowledge is accessible either through priming or culture, social contents about the self should figure more prominently in the respondent's mind. Accordingly, judgments can be expected to be assimilated to these social contents.

This line of argumentation has several implications for (political) judgment and decision making, including value endorsement, political attitudes, attitude-behavior relations and attribution of political attitudes in others. There is ample empirical evidence that Westerners and Easterners have different values, with Western culture members endorsing primarily individualist values, while East Asians endorse collectivist values more strongly. Does independent and interdependent self-knowledge have a causal influence on value judgments? The already mentioned study by Gardner and colleagues (1999) suggests that this is indeed true. After their participants had circled either I, me or mine, etc. in the one condition, or we, us, ourselves, etc. in the other, they did not only fulfill a self-description task, but in addition they answered several value questions taken from Schwartz's (1992) value inventory, some of which referring to individualist values others to collectivist ones. The results were threefold: First, as described above participants' self-descriptions were influenced by the preceding pronoun circling task. Second, participants in the independent prime condition endorsed individualist values more strongly than collectivist ones, with this difference being reversed for interdependent primed participants. Third, and most importantly, a mediation analysis showed that the effect of the experimental priming on value endorsement was mediated by the kind of activated self-knowledge. The we-primed participants endorsed collectivist values more strongly, because interdependent self-knowledge had been rendered accessible by the priming technique. Likewise having circled I, me, and mine activated independent self-knowledge and as a consequence participants endorsed individualist values primarily. This effect shows the causal impact of independent or interdependent self-knowledge being accessible on value judgments. Priming self-knowledge of one kind or the other thus mirrored cross-cultural differences between the members of individualist versus collectivist cultures. In a second study this study's central findings were conceptually replicated with participants from the US and Hong Kong.

Self-Construal and Attitude Formation

The same line of argumentation can be applied to the formation of attitudes. There is a long standing debate about the stability versus flexibility of attitudes. While some attitudes can be directly retrieved from memory and are therefore more stable, others have to be formed on the spot. At least this latter kind of attitudes are partially influenced by pieces of knowledge being accessible in that very moment, and are therefore subject to the impact of situational priming. If the respective attitudes are related to independence-interdependence, priming self-knowledge of one kind or the other should alter them. This is for instance the case with regard to attitudes toward affirmative action (Kimmelmeier, 2003). Affirmation action policies are to a certain extent incompatible with the Western ideal of an independent individual, because within affirmative action individuals are judged on the grounds of their group membership. Accordingly, Ozawa, Crosby, and Crosby (1996) found that Japanese participants endorsed affirmative action much stronger than American participants. Building on this research, Kimmelmeier (2003) first primed either independent or interdependent self-knowledge in his American research participants, before asking them to report their attitudes toward affirmation policies. He found, that participants who were primed for the independent self subsequently resisted stronger to affirmative action policies than interdependent primed participants. Hence, the study by Kimmelmeier mirrors the cross-cultural findings by Ozawa et al. (1996) by means of experimentally manipulating the accessibility of independent and interdependent self-knowledge, suggesting that political attitudes toward affirmative action are at least partially flexible and influenced by accessible self-knowledge of one kind or the other.

Yet not only the formation of attitudes is affected by accessible self-knowledge, but also the impact of attitudes and subjective norms on behavior is influenced accordingly. Trafimow and Finlay (1996) measured the extent to which participants' self-construals reflect independence or interdependence, respectively, using the self-construal scale developed by Singelis (1994). The authors also measured attitudes, subjective norms (i.e., assumptions about the expectations of others) and behavioral intentions in variety of domains. They were interested in the predictability of behavioral intentions, based on attitudes and social norms. Trafimow and Finlay (1996) predicted that attitudes should be more important for participants with primarily independent selves, and hence, for them the attitude-intentions-correlation should be higher than the norms-intentions correlation. By contrast, social norms should be more relevant for interdependent individuals, and accordingly for them behavioral intentions should correlate higher with subjective norms than attitudes. The results confirmed these predictions. While this study provides only indirect evidence of the causal impact of self-knowledge on the respective correlation, Ybarra and Trafimow (1998) used an experimental manipulation to first render either independent or interdependent self-knowledge accessible, before assessing the same attitudes, subjective norms and behavioral intentions as the ones assessed by Trafimow and Finlay (1996). After being primed for independence, behavioral intentions correlated higher with attitudes than subjective norms, while this pattern was reversed after being primed for interdependence. Thus, the findings by Ybarra and Finlay mirror the results from Trafimow and Finlay, suggesting that independent and interdependent self-knowledge does indeed have a causal impact on the relation of intentions to attitudes versus subjective norms.

Building on this research Yugay and Kühnen (2006) recently investigated how a person who behaved according either to his or her attitudes or subjective norms, respectively, would be perceived and judged by individuals with accessible independent or interdependent self-knowledge. If people with an independent self decide for themselves to behave according to their attitudes rather than subjective norms, they might as well appreciate, if others behave similarly. These individuals may regard it as an indication of weakness to behave according to subjective norms. Interdependent individuals by contrast are more willing to behave according to their subjective norms, and so they may also value, if others decide in the same way. Confirming social expectation for them can be considered a means to strengthen the interdependence with others, whereas making one's decision according to one's attitudes rather than subjective norms may threaten this interdependence.

In order to answer this question, we used similar material as Trafimow and Finlay (1996). We measured participants' self-construal by means of Singelis' self-construal scale (1994) and classified them into those with a rather independent construal of the self and those with a rather interdependent one (median split). In addition, we used the pronoun circling task described above (Gardner et al., 1999) in order to activate either independent or interdependent self-knowledge. Our participants then received little vignettes, in which target persons were described experiencing a conflict between personal attitudes and assumptions about the expectations of others (i.e., their subjective norms). The scenarios were similar to the ones used in Trafimow's studies. Our participants were also informed that these target persons behaved either according to their attitudes or to subjective norms. All participants judged the liking for these targets on several dimensions. The results were in line with the predictions and showed that participants with an independent self-construal, as measured by the Singelis' scale, liked the target person better, if he or she acted according to his or her attitudes rather than subjective norms. This finding was reversed for interdependent participants.

In addition, we found a similar pattern for the priming conditions. Participants in the independent prime condition liked the target person better, if he or she behaved according to personal attitudes rather than subjective norms. Again, this pattern was reversed for participants in the interdependent prime condition. Together these results show that independent and interdependent self-knowledge, if accessible, influences not only how individuals make decisions for themselves, but also how they interpret and judge decisions made by others. As in

the previously described cases, priming self-knowledge of one kind or the other mirrors findings from inter-individual comparisons between persons who differ with regard to what self-knowledge is invariably accessible to them.

Self-construal and Attribution

While in the latter study all relevant information about the target persons was directly given to the judging research participants, in natural settings reasons about why a certain person acted in a given way can usually only be inferred by attribution processes. One of the most pervasive tendencies in attribution processes is the tendency to attribute observed behavior to internal features of the actors, such as his or her traits or attitudes, while not taking situational influences sufficiently into account. One of the most frequently studied consequences of this kind of dispositionalism is the correspondence bias, which refers to attributing behavior to the actor's attitudes that correspond with the behavior, even if one learns that the performed behavior was socially constrained. In one of the most frequently used experimental paradigms participants read an essay about a controversial issue (such as capital punishment) and learned that the author was told by someone else to argue either in favor or against this respective issue. In other words, participants learned that the behavior was socially constrained. Subsequently, participants are asked to infer the author's real attitude. The classic finding is that, despite the fact that participants are informed that the author had no choice in writing either a pro- or anti-essay, participants ascribe a more positive attitude to pro- than anti- authors, reflecting the tendency to attribute the behavior (i.e., writing the pro- versus anti-essay) to a corresponding attitude (Jones & Harris, 1967).

Numerous studies converge in showing that Western and Eastern culture members hold very different concepts of agency: Westerners see agency as a property of the individual, whereas for Easterners, it is the group or one's social surroundings that is the origin of agency (Kagitcibasi, 2005; Kitayama & Uchida, 2005; Markus, Uchida, Omorieg, Townsend, & Kitayama, 2006). One of the consequences of this different conceptualization of agency is the different extent to which these cultures' members are prone to commit dispositional biases in attribution. Although dispositionalism has been shown to be quite robust across cultures (Chiu, Morris, Hong, & Menon, 2000; Choi, Nisbett, & Norenzayan, 1999), there are at least certain circumstances in which members of "Eastern interdependence" cultures seem to apply situational explanations as well (Choi et al., 1999; Morris & Peng, 1994). That is, both Easterners and Westerners think dispositionally, however, they diverge in the extent to which they additionally consider situational information when making attributions. Whereas Westerners most likely ignore the context, regardless of whether it is applicable to the judgment or not and irrespective of how salient or predictive it is (Choi & Nisbett, 1998; Miyamoto & Kitayama, 2002), Easterners take situational factors into account when information about those factors is applicable to the judgment at hand, particularly when the information is salient or highly predictive.

In a recent study by Miyamoto and Kitayama (2002), Western (American) and Asian (Japanese) research participants read either a pro- or con-essay on capital punishment and were informed that the essay writer (a student) had been told by his professor to be pro or con in his/her writing. In addition, Miyamoto and Kitayama varied the length of the provided essay, assuming that a long essay should mistakenly be seen as more diagnostic for the authors' real attitude than a rather short essay. As a consequence, both Western and Eastern participants were expected to exhibit the correspondence bias, if the provided essay was long. If, however, the essay was rather short, Miyamoto and Kitayama predicted that Asians would take the situational impact of the social constraint into account. This should, hence, reduce the observable correspondence bias. For Western research participants on the other hand this was not expected to be the case. Irrespective of whether the provided essay was long (i.e., "diagnostic") or short (i.e., "non-diagnostic"), these participants should attribute more positive attitudes to pro as compared to con authors. These predictions were fully confirmed.

As the above reasoning would suggest, we recently tested whether priming independent versus interdependent self-knowledge would lead to similar effects as the cultural difference (Hannover, Kühnen, Pöhlmann, & Roeder, in review). The design of our study essentially followed the experiment by Miyamoto and Kitayama (2002) with culture as a factor being replaced by experimental priming (our research participants were German students only). We also changed the topic, since a question regarding capital punishment would be inappropriate in Germany. Rather the essays that we used were either in favor of or against banning an extremist Neo-Nazi political party –an issue which is actually a matter of public debate in Germany currently. The essay either supported banning the party or was opposed to it. In addition, the essay was either rather long or short. All participants were informed that the essay's author (a student) was asked by his professor to write about the topic in the respective way. Subsequently, the participants were asked to rate the essay author's real attitude toward banning the party on several scales.

Similar to the pattern from the study by Miyamoto and Kitayama, we found that independent primed participants exhibited correspondence bias, irrespective of whether the essay was long or short, respectively. That is, these participants attributed more positive attitudes to authors in the pro as compared to the con condition, with this difference being independent of the essay's length. This was not so, however, for interdependence primed participants. They exhibited correspondence bias only if the essay was long, but not when it was short and supposedly non-diagnostic for the author's real attitude. That is, if the essay was rather short, these individuals took the situational factor into account (i.e., the professor asking the student to write this essay in the respective way) and, hence, they less likely attributed to the author an attitude supported in the essay.

Both these studies provide empirical support for the notion that independent and interdependent self-knowledge has a causal impact on how we view others and interpret their behavior, either as being a result of the actor (applying the Western conception of agency) or taking more likely contextual factors into account. Making self-knowledge of one kind or the other temporarily accessible, again mirrored the cross-cultural comparison.

Conclusion

The studies reviewed here converge in showing the importance of independent and interdependent self-knowledge for various kinds of judgments such as value endorsement, attitudes toward affirmative action, the relation of attitudes versus subjective norms to behavioral intentions, person perception and attribution inferences. Combined, these findings suggest that the individual construal of the self is indeed one of the critical mediators for the impact of culture on judgment and decision making as already suggested by Markus and Kitayama (1991). The combined approach of cross-cultural studies and priming experiments allows transcending the shortcomings of the quasi-experimental designs in cross-cultural research, in that it provides direct evidence for the effect of self-knowledge, if accessible, of one kind or the other.

At the same time, these studies also challenge cross-cultural research in a certain way. Cultural differences are at least up to a certain extent rather flexible, as the priming studies reveal. This is not to say that there are no stable and reliable cultural differences. The challenge is rather theoretical: if theories about cultural difference refer to the stable aspects of culture alone, they will fail to explain intra-cultural and even intra-individual variation. Incorporating insights from Social Cognition research about the equivalence of chronic and situational accessibility of mental concepts and their impact on human judgment and decision making can help overcome this shortcoming in order to better understand how culture and mind make each other up.

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Subcultural Influences on Self-attitudes: The Expression of Low Self-esteem in Race/ethnicity-, Age-, Gender-, Social class-, and Generation-differentiated Subgroups

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Self-esteem is conceptualized in terms of self-feelings that are evoked by self-evaluation of self-concept and that motivate self-enhancing or self-protective responses. Since (sub)cultural conventions and the self-esteem motive frequently invalidate self-report measures, it is argued that self-esteem should be measured as the confluence of self-evaluative statements and measures of subjective distress. In support of this, findings are presented from a longitudinal multigeneration study that demonstrate variation in the association between self-evaluative statements and reports of emotional distress between groups differentiated according to race/ethnicity, age, gender, social class, and generation. The results clearly indicate that prevalent self-report measures, whether considering total scores or component items, have differential emotional significance depending on groupings.¹

Comparative research on the antecedents and consequences of self-esteem requires the accomplishment of two related tasks, if the inconsistencies that characterize much of the research in this field are to be avoided: (1) the clarifications of conceptual ambiguities surrounding the construct of self-esteem, and (2) the proper operationalization of the construct in the research enterprise. The problematic nature of these issues is reflected in copious writings on such topics as: cross-cultural differences in self-enhancement (Kurman, 2002; Takata, 2003); cross-national measures of self-esteem (Schmitt & Allik, 2005); (in)variance of measures of self-esteem across the lifespan (Whiteside-Mansell & Corwyn, 2003), and between age, gender, ethnic, and birth cohort groupings (Cheng & Watkins, 2000; Twenge & Campbell, 2001; Yin & Fan, 2003); implicit vs. explicit or secure vs. defensive self-esteem, and their behavioral consequences (Bosson, Swann, & Penebaker, 2000; Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003; Kobayashi & Greenwald, 2003); self-enhancing or self-protective responses to self-threatening circumstances including self-handicapping, narcissism, repression, or other adaptations (Bosson, Brown, Zeigler-Hill, & Swann 2003; Mendolia, 2002; Stucke & Sporer, 2002; Thompson & Richardson, 2001).

Informed by this literature and a general theory of behavior (Kaplan, 1986) we identify one of several classes of self-referent responses as most closely identified with the modal use of self-esteem in the research literature –namely, self-feelings that are evoked in response to relatively salient self-evaluations. Further, we argue in favor of a particular method of measuring self-feelings (in terms of the observed association between self-evaluation and self-feelings). Finally, we demonstrate the necessity of employing this procedure by offering findings from a multigenerational longitudinal study of sub-cultural variation in the affective significance of self-evaluating judgments in groupings differentiated according to gender, race/ethnicity, education, developmental stage, and generation.

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Self-Esteem: Concept and Method

Self-esteem is a construct that connotes a variety of self-referent responses. It may imply a subcategory of self-conceptualizing responses whereby a person perceives himself/herself as being more or less proximate to or distant from more or less salient self-evaluative standards that compose the person's internalized hierarchy of self-evaluative criteria. These self-cognitions may or may not have affective significance for the person. He or she may perceive him (her) self as being brave or cowardly without feeling pride or shame, if bravery/cowardice is not a salient criterion for self approval/reproach. Alternatively, self esteem may connote those self-referent responses that comprise self-feeling aroused in response only to salient self-evaluative conceptions. Implicitly, at least, it is this latter conception of self-esteem that appears to drive research on self-esteem. Such research investigates the instigation of, and responses to, the self-esteem *motive*, the *need* to achieve, maintain or restore self-esteem –a need that is exacerbated when the person conceives of him (her) self as approaching emotionally significant disvalued (or being distant from salient valued) standards. The need is reflected in the experience of distressful self-feelings that motivate self-protective or self-enhancing responses that are intended to forestall or assuage these distressful self-feelings. It is not self-esteem that evokes changes in behavior but rather, the self-esteem motive –the need for self-esteem that results from its absence, the imminent threat to its loss, or (worse) self-derogatory states– that effects changes in cognitive, affective, or behavioral responses directed toward the objective of evoking positive self-feelings and/or reducing negative (distressful) self-feelings (Kaplan, 1986). Thus, in this study, self-esteem is conceptualized in terms of self-feelings that are evoked by self-evaluation of one's self-concept, and that motivate self-enhancing or self-protective responses.

This conceptualization of self-esteem both highlights limitations of prevalent measures of self-esteem and recommends an alternative procedure for measuring self-esteem than the use of any of a variety self-report measures that ask the respondent to make judgments of the degree to which self-conceptions approximate (presumably salient) self-evaluative criteria. The criteria may be stated in more or less global terms. Such procedures have at least two important limitations. First, the affective significance of the self-evaluative standards tends to be assumed rather than demonstrated. It is taken as a given that a person who avers that she is useless is emotionally distressed by the “admission” when this conclusion is problematic. Second, and not unrelated to the first observation, the agreement or disagreement with a self-statement is itself a behavioral expression that may serve self-enhancing or self-protective functions through purposely communicating misinformation or by misperceiving personal realities and communicating these distortions as realities. The problems posed by these limitations in research implicating self-esteem are multiplied when conducting cross-cultural or other comparative research given the variability that is to be expected in the salience of self-evaluative standards, particularly when some of these standards might relate to normative (pre)proscriptions regarding the experience and expression of positive/negative self-feelings.

The recognition that self-enhancing needs often invalidate self-reports of “self-esteem” frequently has prompted the use of quasi-projective techniques (Bosson et al., 2000; Jordan et al., 2003; Kobayashi & Greenwald, 2003) to measure “implicit” or “covert” self-esteem. Putting aside the issue of problematic validity of such measures, such techniques are impractical for use in longitudinal survey studies. It is argued that the most face-valid measure of self-esteem, as it is conceptualized here, is the confluence of self-evaluative reports and emotional state, that is, the empirical association of negative self-evaluations with dysphoria and of positive self-evaluations with more euphoric responses. The need to employ such measures is demonstrated by observing the disjunction or conjunction of self-evaluation (using standard self-reports) and reports of distress depending on the specific self-evaluative items and sub-cultural differentiations according to various social roles.

Method

In general, it was hypothesized that the emotional significance of self-evaluative expressions would vary greatly according to the person's generation, developmental stage, race/ethnicity, educational level, and gender, as well as by combinations of these sociocultural differentiations. In order to test this assertion a measure of reports of subjective distress (that is, negative self-feelings) was created by summing questionnaire responses indicating self-attributions of symptoms of anxiety and depression. The correlation between reports of subjective distress and self-evaluative reports were taken to be a measure of the degree to which the self-evaluation was emotionally significant. Self-evaluations, whether as a total score or at the item level, were derived from application of seven items from the Rosenberg (1965) scale that previous analyses (Kaplan & Pokorny, 1969) demonstrated as reflecting one of the two dimensions of self-esteem—the one more closely approximating self-evaluative attitudes (rather than defensive self-presentation). The degree of correlation (Pearson's r in this case) between self-evaluation (whether reflected in the total score or in the component item) and the cumulative subjective distress score (negative self-feelings) was the statistic of interest, operationalizing the emotional significance of expressions of self-evaluation (that is, self-esteem).

The data were derived from a multigenerational study. The data consisted of a cohort (G1) of 7,600 participants tested when they were in the seventh grade (T1, early adolescence), again in their twenties (T2), and finally when they were 35-39 years of age (T3). This cohort (G1) represented fifty percent of the seventh grade population in the Houston Independent School District during 1971. In 1994 we began testing the 7,500 children of the original G1 cohort such that the second generation (G2) was approximately the same age that their parents were when they were first tested in the seventh grade. The first generation subjects at T(ime)1 were tested by a questionnaire administered in group settings at time one, and embedded in personal interviews at T2 and T3. The (G2) subjects also responded to the same questionnaire which was now embedded in a more inclusive personal interview.

Our analyses arrived at correlations of the total seven-item Rosenberg scale score with the subjective distress scale (negative self-feelings) and these were examined and evaluated; this was repeated at the item-level as well (for each of the seven items separately). The magnitude of the Pearson correlations was compared across generations (G1T1, G2T1), within the first generation cohort (G1), by development stage (T1, T2, T3), by race/ethnicity (Caucasian, African American, Mexican-American), by educational level (father's educational level at T1, participant's education level at T2, participant's educational level at T3), and by gender. In all instances, higher magnitudes of correlations signified greater associations between Rosenberg measures of *low* self-esteem and the subjective distress scale.

In order to test whether the relation between self-evaluation and distress measures significantly changed over time or across groups, we employed multiple group analysis (stacked/nested models), utilizing the GROUPING option in the M-plus statistical package (Muthén & Muthén, 2004). This entails running a model of interest across different levels or groups (e.g., Time 1 vs. Time 2) to assess potential differences. After an initial stacked model is run, we run the same stacked model again, constraining the path of interest (e.g. self-evaluation and distress) to be equal. We then calculated the χ^2 difference between the two stacked models (the unconstrained and constrained) to assess whether the difference was statistically significant. A significant χ^2 difference indicates that the relation of interest varies significantly depending on the group (Kline, 1998, pp.180-184).

Results

The analyses are informed by the following premises. First, self-evaluative statements have different emotional significance in different subcultures. Second, groups differ by generation, developmental stage, gender, race/ethnicity, and education level. Therefore, it can

be expected that groupings differentiated in such ways would manifest differential associations between self-evaluative statements and measures of subjective distress that would accompany self-evaluation. We will consider these differential correlations between measure of self-evaluation and distressful self-feelings for the total self-evaluation scale and for its components in turn.

Total self-evaluation scores: intergenerational comparison.

As reference to Table 1 will indicate, for subgroups differentiated by gender, race/ethnicity, and father's educational level, second generation adolescents manifested appreciably higher correlations between negative self-evaluation scores and scores purportedly indicating distressful-feelings than their parents at a comparable developmental stage (T1). Apparently, when the later generation expresses negative self-evaluations, they are more expressive of the need for self-esteem as this is reflected in the experience of distressful self-feelings than is the case for parents at the same developmental stage. Whether these intergenerational differences reflect broad social changes in normative expectations governing the legitimacy of dissembling self-attitudes or rather requiring honesty in emotional expression at this developmental stage is problematic. Some insight into the processes that are operating may be gleaned from an examination of specific items that reflect intergenerational changes and subgroup variation in responses to the component items.

Table 1. Correlations between Self Evaluation and Subjective Distress (Negative Self-Feeling) Scales for G1 and G2 Adolescents

	G1T1	G2T1
Gender		
Males	.53	.64
Females	.52	.64
Race/Ethnicity		
Caucasian	.56	.67
African American	.45	.60
Mexican American	.47	.65
Father's Education		
Less than High School	.54	.65
High School Graduate	.50	.63
College Graduate	.55	.64

Selected self-evaluation items: intergenerational comparison.

For the most part, the intergenerational changes in magnitudes of correlations between self-evaluation scores and distressful self-feeling scores are accounted for by two of the items composing the self-evaluation score –those stated in positive terms such that self-devaluation is expressed by disagreeing with the items. As Table 2 indicates, the correlations for each of the items, “I take positive attitudes toward myself” and “On the whole I am satisfied with myself”, tend to be substantially lower in magnitude for the first generation adolescents. Further, for each item, the intergenerational increases in magnitude of correlation are contributed to disproportionately by African American and Mexican American adolescents and by adolescents whose fathers had lower levels of education. For these groupings, in early adolescence, self-devaluing judgments did not appear to reflect an emotionally significant need to restore self-esteem in the first generation. Disagreements with the statement did appear to be more closely associated with distressful self-feelings in the second generation.

Table 2. Correlations of Positive Self-Evaluative Statements with Distressful Self-Feelings in G1 and G2 Adolescents

	Positive Self Attitude		Satisfied with Self	
	G1T1	G2T1	G1T1	G2T1
Gender				
Males	-.18	-.29	-.23	-.31
Females	-.17	-.30	-.24	-.32
Race/Ethnicity				
Caucasian	-.26	-.37	-.29	-.35
African American	-.02	-.17	-.15	-.25
Mexican American	-.04	-.30	-.16	-.32
Father's Education				
Less than High School	-.09	-.33	-.21	-.32
High School Graduate	-.18	-.29	-.23	-.32
College Graduate	-.26	-.29	-.27	-.28

One other item appears to contribute disproportionately to the overall intergenerational increase observed in the correlations between the overall measure of negative self-evaluation and the measure of subjectively distressful self-feelings. For the item, "I wish I had more respect for myself", G2 adolescents manifested appreciably higher correlations between affirmation of the item and higher scores on subjective distress. For all groupings differentiated by gender, race/ethnicity, and father's education, second generation adolescents manifested appreciably higher correlations between the affirmation of the item and higher scores on the index of subjectively distressful self-feelings.

For the remaining items no overall increase in the magnitude of correlations between the self-evaluation item and the subjective distress score were observed. However, a number of item by subgroup interaction effects were observed. For the item "I certainly feel useless at times", the magnitude of the intergenerational increase in correlation between endorsement of the item and score on the distressful self-feelings scale was greater for Mexican-American adolescents (.37 for the first generation participants and .48 for the second generation participants), was somewhat smaller for the African-American (.37 for the first generation participants and .45 for the second generation participants), and was virtually non-existent for the non-Mexican-American Caucasians (.41 for the G1 participants and .44 for the G2 participants).

For the item, "At times I think I am no good at all", the magnitude of the intergenerational difference in correlation was a function of gender and race/ethnicity. A substantial intergenerational increase in the correlation between endorsement of the item and the magnitude of the correlation was observed for girls (.27 for the first generation youths and .47 for the G2 youths) but not for boys (.39 for the G1 youths and .43 for the G2 youths). With regard to race/ethnicity, a substantial intergenerational increase in the magnitude of the correlation between endorsement of the item and score on the subjective distress scale was observed for Mexican-American youths (.34 for G1 youths and .48 for G2 youths) and for African-American youths (.35 for G1 youths and .46 for the G2 youths), but not for the Caucasian youths (.42 for the G1 youths and .46 for the G2 youths). These race/ethnicity-specific findings were accounted for by variation in the first generation scores (.34 for Mexican-American subjects, .35 for African-American youths, and .42 for the Caucasian youths) with the second generation correlation magnitudes being quite similar across groups (.46 for the Caucasian participants, .46 for the African-American participants and .48 for the Mexican-American participants).

Total self-evaluation scores: developmental stage.

Reference to Table 3 will indicate that in all subgroups differentiated by gender, race/ethnicity, and education, a linear trend is noted whereby the magnitude of association between self-evaluation scores and distressful self-feelings scores increases with developmental stage. In all instances, the correlations between the scores in early adolescence were lowest, the magnitudes increased during the third decade of life, and increased still further during the fourth decade of life. The magnitudes of increases between early adolescence and the fourth decade of life were appreciable for all but two subgroups. For college educated participants and for Caucasian participants the increases between early adolescence and the fourth decade of life were quite modest, particularly for the college educated group. The increases were most substantial for the Mexican-American participants (increasing from .47 during early adolescence to .70 when the participants were between 35 and 39 years of age) and for participants whose fathers' or they themselves had attained less than a high school education (increasing from .54 during early adolescence to .69 during the fourth decade of life). Thus, in these groupings, there is a particularly noteworthy increase in the affective significance of endorsing self-devaluing statements as a participant proceeds from early adolescence through more mature adulthood. For the less educated and Mexican-American subjects, self-devaluing statements had the greatest affective significance in later years as this is reflected in the correlation between endorsement of the self-devaluing statement and the scores that reflect distressful self-feelings. Perhaps those groups are more vulnerable as adults to stigmatizing attitudes and experiences of failure, and to consequent distressful self-feelings when making such judgments about themselves. Mutually exclusive groups are less emotionally invested in such evaluations, the evaluations representing for them more affectively neutral stock-taking of one's status in life.

Table 3. Correlations between Total Self-(d)Evaluation Scores and Distressed Self-Feeling Scores by Developmental Stage

	G1T1	G1T2	G1T3
Gender			
Males	.53	.55	.62
Females	.52	.60	.64
Race/Ethnicity			
Caucasian	.56	.59	.63
African American	.45	.55	.61
Mexican American	.47	.62	.70
Father's Education			
Less than High School*	.54	.59	.69
High School Graduate*	.50	.57	.63
College Graduate*	.55	.55	.58

* For T1, education level refers to father. For T2 and T3, education refers to participant.

Item-specific patterns: developmental stage.

The overall pattern relating to the moderating influence of developmental stage observed for total scores is primarily accounted for by the two positively worded items, "On the whole I am satisfied with myself" and "I take a positive attitude toward myself". As reference to Table 4 will indicate, for each of these items, for all subgroups differentiated by gender, race/ethnicity and education level, the magnitude of correlations between the item score and distressful self-feelings scores increases in a linear fashion between early adolescence, the third decade of life, and the fourth decade of life when the participants were between 35 and 39 years of age. In all instances the overall increase between adolescence and the fourth decade of life is substantial.

No consistent increase in the magnitude of correlation for all subgroups was noted for any of the other items.

It is tempting to speculate that with increasing maturity a person loses the ability to distort reality and to defend against the emotional significance of self-devaluing judgments. However, these processes play out particularly with regard to the inability to endorse positive statements about oneself as opposed to endorsing negative statements about oneself. Perhaps, as one progresses through life, it becomes apparent that approximation to salient life goals will not occur and, in the absence of hope that it will occur, self-dissatisfaction becomes increasingly a distressful state. As long as one has the expectation that approximation of salient self-evaluative standards will occur in the future, recognition that it has not yet occurred will not be considered as much an occasion for distress.

Table 4. Correlations between Selected Self-Evaluation Scores and Distressed Self-Feeling Scores by Developmental Stage

	Positive Self Attitude			Satisfied with Self		
	T1	T2	T3	T1	T2	T3
Gender						
Males	-.18	-.29	-.41	-.23	-.34	-.36
Females	-.17	-.39	-.43	-.24	-.26	-.43
Race/Ethnicity						
Caucasian	-.26	-.40	-.46	-.29	-.37	-.44
African American	-.02	-.26	-.35	-.15	-.29	-.35
Mexican American	-.04	-.35	-.45	-.16	-.40	-.35
Father's Education						
Less than High School*	-.09	-.32	-.34	-.21	-.32	-.36
High School Graduate*	-.18	-.36	-.44	-.23	-.35	-.41
College Graduate*	-.26	-.39	-.47	-.27	-.35	-.39

* For T1, education level refers to father. For T2 and T3, education refers to participant.

Subgroup by item interaction.

A number of subgroups by item interactions are considered noteworthy. First, regarding race/ethnicity, it may be observed that the linear increase in magnitude of correlation between self-evaluative statements and subjective distress scores, as observed for all subgroups with regard to the positively worded self-evaluative items, was uniquely observed for the Mexican-American participants for the negatively worded items as well. For each of these five items an appreciable linear increase was observed for Mexican-American participants between early adolescence and the fourth decade of life. The most appreciable increase was observed for the "I certainly feel useless at times" item reflecting a correlation of .37 during early adolescence, .47 during young adult hood, and .57 during the fourth decade of life, although similar linear increases were observed for the other negatively worded items as well. Similar linear increases were not observed for the other groups in the case of the negatively worded items.

Depending upon which development stage was being examined, the groups differentiated by race/ethnicity manifested distinctive patterns. During the fourth decade of life, the Mexican-Americans manifested appreciably higher correlations between endorsement of the self-evaluative item and the subjective distress scores than the other two groups for the items "I certainly feel useless at times" and "At times I think I am no good at all." The Mexican-Americans manifested a correlation of .57 compared to .46 for the Caucasian and African Americans during the fourth decade of life for the former item, and for the latter item they manifested a correlation of .53, compared to .35 for the African Americans and .41 for the Caucasian participants. During early adolescence, Caucasians manifested appreciably higher correlations between the self-devaluing response and subjective distress for three items: "I wish

I had more respect for myself”, “On the whole I am satisfied with myself” and “I take a positive attitude toward myself”. For the last case, the correlation was not significant for the African-American and the Mexican-American samples.

With regard to education-related differences, during the fourth decade of life the magnitude of correlations was appreciably greater for subjects who had less than a high school education in the case of only 3 items: “I certainly feel useless at times,” “At times I feel I am no good at all,” “All in all I am inclined to feel I am a failure.” For one of the items, “I take a positive attitude toward myself”, at this developmental stage it was the college educated participants who manifested the highest correlation between self-devaluation and subjective distress. For the remaining items, there were no marked relationship between educational level and subjective distress. During early adolescence, the only remarkable relationship between magnitude of correlation and educational level observed was for the item “I take a positive attitude toward myself.” For this item, college educated participants were more likely to display a stronger negative association between taking a positive attitude towards self and subjective distress score, with college educated participants manifesting a correlation of $-.26$, high school educated subjects manifesting a correlation of $-.18$, and less than high school educated subjects manifesting a correlation of $-.09$.

Compared to the moderating influence of race/ethnicity and educational status, gender exercises relatively little influence on the affective significance of a self-devaluing statement. The only noteworthy effects were observed with regard to the appreciably greater correlation between self-devaluing endorsement and subjective distress scores during the 20s for women in the case of the items “I wish I had more respect for myself” and “I take a positive attitude toward myself.” For these items, at this development stage, women manifested a correlation of $.40$ and $-.39$, respectively, compared to correlations for the men of $.31$ and $-.29$ respectively.

Discussion and Conclusion

When a person expresses a positive or negative self-evaluation, that expression may or may not reflect a veridical belief regarding one’s own worth. A person may actually believe that he or she is better or worse than the statement implies, but feel constrained from overly asserting his/her true beliefs because of conventions regarding humility, self-protection, presentation of self, or other normatively prescribed/prohibited requirements. In short, what the person says about himself may not reflect his/her true self-evaluation. If it does not reflect what the person really believes about his/her own worth, then we cannot expect support for theoretically informed hypotheses regarding the antecedents and consequences of self-esteem motivated responses. However, even if it could be taken as given that the person’s assertions about himself completely reflect the person’s self-evaluation, the self-evaluative judgments might not reflect *salient* self-attitudes. That is, the self-judgments about one’s approximation to (or distance from) self-evaluative criteria might not be emotionally significant. If that is the case, then self-esteem of an individual would not be threatened, and the absence of self-esteem would not occasion self-esteem motivated responses to forestall or assuage negative self-feelings associated with the perception that one has failed to approximate valued standards or is approximating disvalued standards.

Depending upon the cultural meanings assigned to symbolic expressions, individuals will be highly variable in how they express emotionally significant self-evaluation (when they in fact express how they feel about themselves). The question arises as to whether or not we can trust apparently relevant self-evaluative judgments as truly reflecting emotionally significant self-evaluative judgments. The present study was intended to suggest at the same time both the need to consider, and to offer a solution to, the problem of how to determine that self-expressions reflect emotionally significant self-evaluative judgments. It was argued that the emotional significance of self-evaluations, and therefore the exacerbation of the self-esteem motive, may be measured by the degree of association between self-devaluing judgments and

expressions of subjective distress (that is, negative self-feelings). It was asserted that the variable expression of emotionally meaningful self-evaluations would be associated with sub-cultural differences based upon differentiation according to generation, developmental stage, race/ethnicity, educational level, and gender. The results clearly support the expectations that the degree of association (correlation) between self-evaluative judgments and the expression of negative self-feelings indeed would vary according to these differentiations. Presumably, the ability to measure the emotional significance of self-evaluative judgment would more easily express activation of the self-esteem motive and facilitate valid tests of theoretically informed hypotheses relating to the antecedents and consequences of an exacerbated self-esteem motive.

Nevertheless, the correlation of expressions of subjective distress with self-evaluative judgments is a less than perfect way of demonstrating emotional significance of self-perceptions of being proximate to or distant from salient self-evaluative standards. Just as expressions of self-evaluations have different meanings according to sub-cultural differentiations, so may expressions regarding emotional experience vary by these same sub-cultural differentiations. One might be on far surer grounds if one were to measure the emotional significance of symbolic statements (particularly self-evaluative judgments) by directly measuring the physiological substrate presumed to underlie the subjective experience of affect. Certainly, current developments in theory and technologies relating to investigation of the interface between subjective experiences of affect and its central nervous system and autonomic nervous system correlates increase confidence that the linking of verbal expressions of self-evaluation with physiological measures of emotions hold promise of resolving ambiguities in the research literature regarding antecedents and consequences of exacerbation of the self-esteem motives across (sub)cultures. For the moment, however, the confluence of (negative) self-evaluation and reported subjective distress appears to be the most valid of available measures of self-esteem, as conceptualized in terms of self-feelings evoked in response to salient self-evaluations of self-concept that motivate self-enhancing or self-protective responses.

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Uncertainty Orientation: A Theory of Self-Regulation Within and Across Cultures as Related to Cognition

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Erich Fromm once said “the quest for certainty blocks the search for meaning. Uncertainty is the very condition to impel man to unfold his powers.” For some, this quote is unmistakably true, impelling them to great discoveries of nature and the mind. For others, uncertainty is the very essence of confusion and ambiguity, offering nothing more than reason to retreat to more predictable and certain times. In this chapter, we explore the theory of uncertainty orientation as related to cognition and cognitive processes, including research that was conducted in Canada, Japan, and China. First, we discuss the characteristic uncertainty self-regulation styles that distinguish uncertainty-oriented individuals from certainty-oriented individuals. Next, we discuss the uncertainty orientation framework which integrates one’s uncertainty self-regulation style, the uncertainty present in the situation, and one’s characteristic motivations (e.g., achievement motivations) to predict performance outcomes in the related motivation domain. After discussing these basic tenants of our framework, we examine some of the cross-cultural research that has directly tested the predictions of the theory of uncertainty orientation. Concluding, we contrast our conceptualization of culture with how culture is commonly conceived in cross-cultural research.

Consider the following scenario: “A high school student is confronted with a major life decision, one that has innumerable consequences for the future. It is the spring and near the end of the final year of her high school career. This student has achieved good grades in school and many universities have offered major scholarships to attend their school. Some of these offers are from universities out of the country and in places where she has never traveled to or know much about, essentially, in places that are new, unknown, and non-established for the student. Alternatively, she has a very stable and happy life in the small town where she was brought up in. Her parents own a very successful restaurant in town, where she enjoys serving the customers and taking care of the everyday details involved in running a restaurant. Eventually, her parents will let her take over the restaurant if she would like to. What should she do? Should she venture into the unknown and attend university in a place she has not been or know anyone? Or should she stay in with what is known and work in the family restaurant, someday becoming the owner of it?”

Differential cognitive processes in uncertainty-oriented and certainty-oriented individuals

We propose that what this student decides to do is dependent on the individual difference variable called uncertainty orientation. Uncertainty orientation is a self-regulatory style that focuses on how one approaches and handles uncertainty (Sorrentino & Roney, 2000; Sorrentino & Short, 1986; Sorrentino, Smithson, Hodson, Roney, & Walker, 2003). Uncertainty, within our conceptualization, is neither aversive, nor inherently positive. Rather, uncertainty is viewed as a cognitive variable, specifically informational rather than affective (Sorrentino & Roney,

2000; Raynor & McFarlin, 1986). Individuals exist on a bipolar continuum, from those who are uncertainty-oriented (UO) to those who are certainty-oriented (CO). UOs approach uncertainty and uncertain situations in an attempt to resolve it in a direct and effortful manner. They are especially engaged by new information about the self and environment and the prospects of learning from such situations (e.g., Roney & Sorrentino, 1995; Sorrentino & Hewitt, 1984). Conversely, COs do not approach uncertainty, opting for the maintenance of certainty and clarity by resorting to what they already know about themselves and their environment, or relying on heuristics (e.g., Hodson & Sorrentino, 1997, 2001; Sorrentino & Hewitt, 1984).¹ Therefore, UOs and COs characteristic uncertainty regulations styles lead them to have different cognitions and divergent cognitive processes.

Uncertainty orientation and self-relevant cognitions. In the seminal study on uncertainty orientation, Sorrentino and Hewitt (1984) investigated the different approaches that UOs and COs take when given the opportunity to seek self-knowledge. First, participants were given a new test that could distinguish between people, low, moderate, or high on a novel mental ability. Then, participants were given false feedback on the test, being told they were either not in the low range (i.e., either high or moderate) or not in the high range (i.e., either moderate or low) on this mental ability. Participants were given an opportunity to help construct a second test that can further discriminate their ability by selecting items to go into this new test. Three types of items were available to be chosen. The first type of items was *ascending* items that could discriminate between someone moderate or high on this mental ability. The second type of items was *descending* items that could distinguish between those low or moderate on this mental ability. The last type was a constant type, which is neither indicative of low nor high mental ability. In general, UOs chose items on the second test that would further discriminate their ability. Specifically, UOs given feedback that they were either moderate or high on this mental ability chose, on the second test, items that discriminated between moderate and high ability. Analogously, UOs told they were either low or moderate in ability, chose items that discriminated between low and moderate ability. However, COs, tended to choose items that were not diagnostic of their abilities. Therefore, COs that were given feedback as to being either moderate or high in ability chose items that discriminated between low and moderate ability, while they told they were either low or moderate in ability chose items that discriminated between moderate and high ability. Moreover, both UOs and COs chose their preferred items types regardless of positive (i.e., moderate or high ability feedback condition) or negative outcome (i.e., low or moderate ability feedback condition).

A recent study, conducted by Haynes, Olson, Sorrentino, Szeto, Wirkki, and O'Connor (2007), further accentuates the differences that UOs and COs manifest for cognitions about the self. Specifically, these authors tested to see if one's uncertainty orientation would have an effect on the generation of counterfactual thoughts after positive and negative events. Counterfactuals are thoughts about how events might have turned out differently, and are generated as a way to prepare for the future (Mandel & Lehman, 1996; Roese, 1994, 1997; Roese & Olson, 1995). Moreover, this type of cognitions comes in two forms: an upward and a downward type. Upward counterfactuals are thoughts of how things could have turned out better (e.g., "only if I studied more, I would have aced the test"). Whereas, downward counterfactuals are thoughts about how things could have turned out worse (e.g., "if I hadn't crammed last night, I would have received a lower mark"). Nasco and Marsh (1999) have demonstrated that upward counterfactuals are especially useful in serving a preparatory function,

¹ Our measure of individual differences in uncertainty orientation might appear on the surface to be similar to other variables such as novelty seeking. However, uncertainty orientation is informational, dealing with resolving uncertainty by different ways of handling it. Novelty seeking is a variable that is affective, dealing with preference for specific situations and emotional responses (e.g., anger and frustration) to stimuli (e.g., Cloninger, Svrakic, & Przybeck, 1993).

as they identify the factors that lead to the outcome and what can be done to aid future occurrences. Many researchers have found that negative outcomes generate much more counterfactuals, especially upward counterfactuals (e.g., Roese, 1994; Roese & Olson, 1997; Sanna & Turley, 1996). Haynes et al. (2007) predicted that UOs and COs might generate upward counterfactuals differentially, as this process involves considering hypothetical outcomes. As predicted, UOs generated more upward counterfactuals than COs for recent negative events. COs probably refrained from generating upward counterfactuals as doing so involves a self-appraisal process that would have evoked uncertainty and confusion about the self. In contrast, UOs had no problems dealing with such uncertainty, and therefore demonstrated their characteristic self-regulation style with generating more upward counterfactuals than their CO counterparts.

The above findings have also been replicated in a more applied setting, specifically within a health context. In a study by Brouwers and Sorrentino (1993), it was found that UOs and COs sought different amounts of information as a function of response efficacy (and threat). UOs that read a pamphlet describing a highly threatening (i.e., high personal relevance, see later section), but easily self-diagnosable disease (i.e., high self-efficacy), made more requests for more information about the disease and asked to obtain the self-diagnosis test more often than COs. However, this pattern was reversed when the self-diagnosis test was unreliable and hard to use (i.e., low self-efficacy). In other words, COs made more requests for information and test kits than their UO counterparts. The authors suggest that in the high efficacy condition, UOs can easily make a self-diagnosis, in other words learn something new about themselves. In contrast, COs made more requests than UOs in the low efficacy condition because the test is not very reliable and hard to use. This offers the CO an opportunity to maintain their knowledge about themselves. These divergent uncertainty approach styles, not only lead to differences in regard to cognitions about the self, but it also leads to divergent cognitions when thinking about groups or within a group context.

Uncertainty orientation and group-relevant cognitions. Hodson and Sorrentino (1997) was one of the first studies to demonstrate differences in functioning under a group context across UOs and COs. The authors believed that leadership style in a group, open vs. closed, would affect how UOs and COs functioned leading to differences in group processes and the decisions the group would arrive at. In an open-leadership style, the leader encourages expression of ideas, encourages voicing of divergent opinions, and facilitates voicing of opinions throughout the course of discussion (Janis, 1972). In contrast, closed-leaders tend to express their own opinion at the beginning of discussion, leading to the formation of group norms and expectation of conformity (Janis, 1972). Hodson and Sorrentino predicted that a closed-leadership style would create more certainty within the discussion context, while open-leaders encouraged new information, and thus uncertainty. Therefore, COs under the closed-leadership style would reach a biased decision (i.e., defer to the leader's opinions) to a greater extent than UOs. As predicted, the authors found that COs did defer to the leader under the closed-leadership style, more than their UO peers. Specifically, under a closed leadership style, COs reached a biased decision 82% of the time in a mock trial paradigm, compared to 60% for UOs. The authors believed that COs aligned with the group norms created by closed-leaders' expression of their opinions early. Additionally, the more certain environment created by these leaders' less consideration of objectives and risks was also preferred by COs. In the open-leader condition, UOs, again, agreed with the leader's decision about 60%. Perhaps UOs did not differ between conditions because they favored the leader's decision to go to court (this was held constant) as it contained the most uncertainty. However, COs only deferred to the leader 39% of the time in this condition. Hodson and Sorrentino believed that COs were more hesitant in this condition because their leader did not express an opinion early in the discussion. Moreover, COs, in this condition, also exerted more pressure to members who did not agree with the group consensus.

In general, this study demonstrated that COs prefer to rely on the group for direction, like a heuristic device, when compared to their UO peers, especially for a leader that will create an environment of certainty and clarity.

Continuing this theme, Sorrentino, Seligman, and Battista (2007) examined UOs and COs when need for assimilation and differentiation were aroused. Brewer's (1991) optimal distinctiveness theory suggests that social identifications will be adjusted to match one's currently aroused motivations. When one's need for assimilation is aroused, the person then feels a need to belong and include into the in-group. In contrast, when one's need for differentiation is aroused, then the person will feel a desire to feel unique and distinct from others. In support of this theory, Pickett, Silver, and Brewer (2002) found that when participants' need for assimilation was aroused (by asking participants to write about times they were similar to others), they rated their in-groups as more important than when their need for differentiation was aroused. Despite these findings, Sorrentino and colleagues believed that UOs and COs should differ on their reactions to these motives when they are aroused. Citing Hodson and Sorrentino (1997, 2001) who found that COs are influenced by leadership style and favor in-groups more than UOs, these authors felt that COs would rate their in-groups as more important than UOs, when the need for assimilation was aroused. However, when the need for differentiation is aroused, UOs and COs should not differ as UOs and COs do not seem to vary on their need to be unique. As predicted, COs gave higher group importance ratings than their UOs, when their need for assimilation was aroused. COs also rated their values more similarly to their group peers than UOs. When the need for differentiation was aroused, COs and UOs did not differ on their ratings of either group importance or values. These above studies point out the importance of uncertainty orientation as an individual difference variable, especially within the context of cognitions. We will now explore how individual differences in uncertainty orientation interact with other variables to determine behaviors.

The Theory of Uncertainty Orientation: The Interface of Cognition and Motivation

Presently, we have described the prototypical individual differences in cognition that characterize UOs and COs. However, the theory of uncertainty orientation is more complex than just these individual differences. It also incorporates situational uncertainty, as well as personal relevance and affective motivations (e.g., achievement motivation) to predict information processing and performance outcomes (see Figure 1). The latest form of our theory (i.e., Sorrentino et al., 2003) also predicts emotional experience as a function of uncertainty orientation and situational uncertainty.

Information processing. First and foremost, the theory of uncertainty orientation is a theory describing cognitive processes, specifically, information processing (e.g., Sorrentino, Bobocel, Gitta, Olson, & Hewitt, 1988). Alluded to previously, COs, when made to confront uncertainty (i.e., an uncertain situation), will engage in less effortful processing information, relying on heuristics. However, when COs are in a situation of certainty, in other words a match between uncertainty orientation and situational uncertainty, they become actively engaged by the situation and will process the information in a more careful and effortful manner. In contrast, the theory of uncertainty orientation posits the opposite for UOs. Specifically, when UOs are given an uncertain situation (i.e., a match between uncertainty orientation and situational uncertainty), they become actively engaged by the situation and will process information in a careful and effortful manner. When UOs are given a certain situation, rather than actively engaged, they become passively engaged and will process information with less effort, relying on heuristics over careful scrutiny of the information.

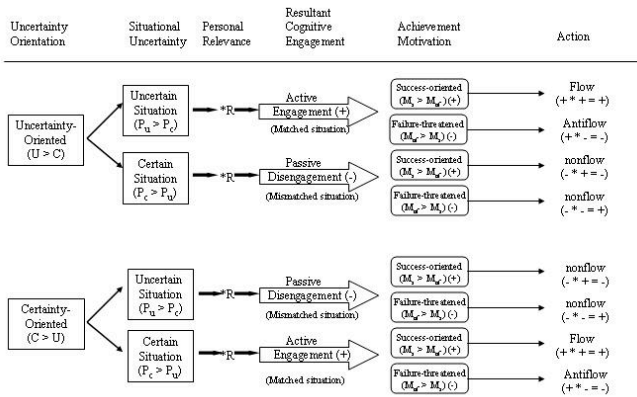


Figure 1. The Uncertainty Orientation Framework. Adapted with permission from Sorrentino et al. (2003).

Personal relevance. An important component of the uncertainty orientation framework was tested by Sorrentino et al. (1988). Specifically, these authors found that the type of processing one was engaged in is accentuated by the increasing personal relevance of the situation. This is contrary to dual processing theories of information processing that found personal relevance led to more effortful processing in all people, such as Petty and Cacioppo’s (1986) elaboration likelihood model or Chaiken’s (1980) heuristic-systematic model. Expanding on a study conducted by Petty, Cacioppo, and Goldman (1981), Sorrentino et al. (1988) examined the effects of personal relevance on information processing in UOs and COs. After assessing uncertainty orientation, first-year undergraduate students read an argument for the implementation of comprehensive exams for graduating students in either 1-2 years (i.e., high personal relevance condition) or 5-10 years (i.e., low personal relevance condition). In their study, Petty et al. found a greater difference in attitude scores between those receiving strong and weak arguments for those in the high personal relevance condition than those in the low personal relevance condition. Presumably, low personal relevance led participants to scrutinize the arguments with less effort, leading to less discrimination between strong and weak arguments and resulting in less difference on attitude scores between the two conditions. In contrast, high personal relevance led participants to scrutinize the arguments more carefully, leading to greater discrimination between strong and weak arguments and resulting in a greater difference on attitude scores between strong and weak conditions. Sorrentino and colleagues (1988) did replicate this finding. However, this was only true for UOs. COs, on the other hand, evinced the opposite pattern. There was a greater difference between attitude scores in the strong and weak arguments when COs were in the low personal relevance condition than they were in the high personal relevance condition. Sorrentino and Roney (2000) suggest that careful and effortful evaluation of arguments requires careful consideration of the arguments, potentially leading to new knowledge about the self and environment and possibly uncertainty about the self. This is something that UOs would gladly engage in. However, COs might not be so keen because their characteristic uncertainty self-regulation style is to maintain clarity and certainty. COs would rather maintain clarity and certainty by not scrutinizing arguments carefully, offering less chance for confusion and uncertainty. Therefore, high personal relevance

should increase the current processing style of COs, in this case less effortful processing, leading to a smaller difference between strong and weak arguments than when personal relevance is low.

The integration of motivation and cognition. The final component of the theory of uncertainty orientation deals with an individual's affective motivations (e.g., achievement motivation). Sorrentino, Short, and Raynor (1984) believed that Atkinson's (1964), along with Trope's (1975) and Weiner's (1970, 1972) analyses of task difficulty was incomplete. Atkinson argued that intermediate difficult tasks were the most motivating because easy tasks offer little value at success but difficult tasks offer little expectancy of success. In contrast, both Weiner and Trope believed that moderately difficult tasks were most engaging because these tasks were most diagnostic of one's ability. Sorrentino and colleagues (1984) objected to both sets of interpretations. They believed that intermediate difficult tasks contained the most uncertainty in outcome, as opposed to very easy and very difficult tasks that were the most certain in outcomes (i.e., certainty of success or failure, respectively). To support their supposition, these authors conducted a study that demonstrated that individual differences in uncertainty orientation interacted more with achievement motivation and situation (i.e., task difficulty) to predict performance, rather than influenced just performance as a function of one's achievement motivation and situation along. As stated previously, UOs are actively engaged by uncertainty and passively engaged by certainty, while COs are the opposite. Therefore, they predicted that UOs would be engaged by tasks of intermediate difficulty (i.e., probability of success of .5 because they were most uncertainty of success or failure. Analogously, COs would be most engaged by tasks that were very easy (i.e., probability of success of .8) or very difficult (i.e., probability of success of .2), as they contained either a certainty of success or a certainty of failure. In such matched situations, active engagement leads one's characteristic achievement-related motives to be activated and expressed. Specifically, if one was success-oriented (SO) they would outperform those who were failure-threatened (FT). In situations where uncertainty orientation is mismatched with task difficulty, such as UOs given easy and difficult tasks or when COs are given task of intermediate difficulty, the individual is passively engaged, resulting in non-expressed achievement motives and no performance differences between SOs and FTs. The results demonstrated that in matched situations (i.e., UOs in the intermediate and COs in difficult or easy conditions), characteristic differences in achievement-related motives were engaged, leading to SOs correctly answering more questions than FTs on a complex arithmetic task. When participants were mismatched (i.e., COs in the intermediate and UOs in difficult or easy conditions), characteristic differences in achievement motivation were not engaged, leading to similar performances by SOs and FTs. With this study, achievement motivation was demonstrated to be subsumed by one's uncertainty orientation. Therefore, performance outcomes were determined by the interaction of one's uncertainty orientation with the situation and one's achievement-related motive. In essence, uncertainty orientation can be considered the master motive in affecting an individual's outcomes in this case, and one's performance in achievement situations.

Uncertainty orientation within the Japanese culture

Thus far, we have discussed the basic cognitive and motivational components within the theory of uncertainty orientation and studies that have demonstrated support for its predictions. What about culture? Specifically, how does culture fit into the theory of uncertainty orientation? We do know that UOs and COs in Japan behave in the same way as they do in North America. Yasunaga and Kouhara (1995, in preparation) have conducted two studies in Japan that conceptually replicated findings in North American samples. In their partial replication of Sorrentino and Hewitt (1984), Yasunaga and Kouhara (1995) found that, UOs preferred to choose items on a personality test that were diagnostic of their abilities, whereas COs preferred

to choose items that were not diagnostic of their abilities. Analogously, these authors also conceptually replicated Brouwers and Sorrentino (1993) finding that UOs sought more information about a life-threatening disease when a cure was uncertain (Yasunaga & Kouhara, in preparation). In contrast, COs sought more information when a cure was certain. With these findings, it was possible to examine the theory of uncertainty orientation across cultures, as the individual difference measure of uncertainty orientation was found valid in Japan.

One of the first studies to investigate cross-cultural differences in uncertainty orientation was conducted by Shuper, Sorrentino, Otsubo, Hodson, and Walker (2004). They reasoned that because UOs have been found to be more self-oriented, preferring to resolve uncertainty about the self (e.g., Brouwers & Sorrentino, 1993; Brouwers, Sorrentino, Roney, & Hanna, 2004; Sorrentino & Hewitt, 1984; Sorrentino et al., 1988), while COs are more group-oriented, preferring to defer to group norms and standards (e.g., Hodson & Sorrentino, 1997, 2001), uncertainty orientation might vary at the cultural level between East Asian and North American cultures due to the different values these cultures hold towards the self and the group. As predicted, Shuper and colleagues (2004) found that the Japanese sample was significantly more certainty-oriented than the Canadian sample. Moreover, chi-square analyses also showed that there was more COs than UOs in Japan, but vice versa in Canada. These results were subsequently replicated in two other studies (Sorrentino, Nezelek, Yasunaga, Kouhara, Otsubo & Shuper, 2008; Szeto, 2005) and further support the idea that Japanese culture is more certainty-oriented than North American culture. Exploratory measures were also included in this study, examining unrealistic optimism, individualism, and uncertainty avoidance. These measures yielded very interesting results. Specifically, those who did not match their culture's preferred way of uncertainty regulation (i.e., UOs in Japan and COs in Canada) reported higher levels of unrealistic optimism and uncertainty avoidance and lower levels of individualism. Shuper et al. (2004) suggest that the individualism and uncertainty avoidance scales probably tapped freedom and anxiety in the workplace, respectively. Therefore, these findings suggest, those who do not match their culture's preferred way of handling uncertainty, are worse off than their matched counterparts, engaging in more self-enhancement and experiencing less freedom and more anxiety.

In a second cross-cultural study in Japan, Sorrentino et al. (2008) found that affective outcomes varied as a function of uncertainty orientation and situational uncertainty (conceptualized at the cultural level), in accordance to the predictions of the theory of uncertainty orientation (Sorrentino et al., 2003). As discussed above, the type of information processing that one engages in, whether passive or active, is dependent on one's uncertainty orientation and its match or mismatch with situational uncertainty. We propose that not only is the type of information process the result of the interaction between uncertainty orientation and situational uncertainty but one's flow state can also be derived from this interaction (Sorrentino & Roney, 2000; Sorrentino et al., 2003; see also Kuhl, 1986). If there is a match between one's uncertainty orientation, positive motivation (e.g., SO), and the situation, then one might be absorbed and enjoying the experience or task he/she is engaged in, not at all worried about his/her performance. Conversely, if one is in a matched situation but negatively motivated (i.e., FT), then he/she might be preoccupied by his/her performance, in a state of worry and anxiety. These two types of experience are termed *flow* and *antiflow* experiences, respectively. On the other hand, if there is a mismatch between one's uncertainty orientation and the situation, one becomes disengaged from the task and situation, reacting in a passive manner. This is termed *nonflow*.

We also propose that, in addition to these flow states, one experiences affect that is congruent with the state he/she is currently in. Russell (1980) distinguished affective experiences along a two-dimensional classification (i.e., activation and valence), resulting in four different types of emotions: active-positive, active-negative, passive-positive, passive-negative. Those who are experiencing flow are actively engaged and positively motivated. This

should result in the experience of active-positive emotions (e.g., happy, excited) along Russell's classification. Analogously, those experiencing antiflow are actively engaged and negatively motivated, resulting in experiences of active-negative emotions (e.g., anger, alarm). For those in a nonflow state, they are passively engaged and experience either passive-positive (e.g., calm, relaxed) or passive-negative emotions (e.g., depressed, bored), depending on their motivation.

To test this hypothesis, Sorrentino et al. (2008) asked Japanese and Canadian participants to rate the extent they experience 20 different emotions (five for each of the four types) on a 7-point scale, ranging from 1 "very little" to 7 "very much". However, motivation was not examined because this was a study of general life experiences and not specific situations. Therefore, only hypotheses regarding emotions along the active-passive dimension were tested. Results indicated strong support for the theory of uncertainty orientation. Those whose uncertainty orientation was matched with their culture's preferred way of handling uncertainty (i.e., Japanese COs and Canadian UOs) experienced more active emotions than their mismatched peers (i.e., Japanese UOs and Canadian COs). For matched participants, being in a situation (in this case culture) that is congruent with their uncertainty orientation seems to lead them to more daily experiences of active emotions. In contrast, mismatched participants seem to live constantly in a situation that is not in synchronization with their uncertainty self-regulation style and this seems to lead them to more passive activation, resulting in more experiences of passive emotions.² The two cross-cultural studies discussed above point out the important role that culture plays in determining outcomes, especially in conjunction with uncertainty orientation. More importantly, these two studies demonstrate the psychological and emotional disadvantage that individuals face if their uncertainty orientation does not fit to their culture's valued way of uncertainty self-regulation.

Uncertainty Orientation in China: Children in a Changing Society

Thus far, the cross-cultural research in uncertainty orientation described has been conducted solely in Japan. Do the findings from Japan generalize to other East Asian countries? Also, what about children? Most uncertainty orientation research has been conducted on adult university student samples. To address these two questions, we conducted an exploratory study comparing uncertainty orientation and adjustment outcomes in a sample of Chinese and Canadian children (Szeto, Ye, Sorrentino, Chen, Wang, & Jin, in preparation). Shuper et al. (2004) and Sorrentino et al. (2008) both demonstrated the disadvantage that mismatched participants face. We also speculated that children whose uncertainty orientation does not match their society's way of handling uncertainty will be worse off than their matched peers in regard to performance in a school setting. With this said, we made no predictions regarding uncertainty orientation in the Chinese children. What we found was very interesting. First, regardless of culture, both Chinese and Canadian UO children were better adjusted than their CO peers. Overall, UOs had higher self-perceptions for their cognitive abilities, social competence, and global self-worth. Moreover, UOs also were rated by their teachers to be better academically in math and language, and to have less learning problems. Second, Chinese children, in general, were more uncertainty-oriented than Canadian children. This finding was also corroborated by a university sample (Study 2).

Although we acknowledge that China and Japan are very distinct cultures, they both, however, espouse similar sets of values regarding interpersonal harmony and the group (Markus & Kitayama, 1991; Triandis, 1989). If this is so, then what lead to these intriguing results? One possibility was suggested by Chen, Cen, Li, and He's (2005) 12-year longitudinal research on

² In addition to experiencing more passive emotions, mismatched participants also experienced more negative and less positive emotions than their matched peers. Although this is not directly predicted from the theory of uncertainty orientation, the authors do speculate that living in an environment that does not value one's preferred way of uncertainty regulation may lead to a cumulative build-up of negative experiences, resulting in more negative and less positive emotions.

shyness in Chinese children. In 1990, shyness was associated with better adjustment, such as, higher peer acceptance, higher teacher-rated leadership and competence, and superior scholastic performance. However, in 1998, this relationship between shyness and adjustment ceased to exist in the Chinese children. Finally, in the 2002, the previous relationship between shyness and adjustment had reversed. Now, shyness was related to peer rejection and depression, along with lower teacher-rated competence. Chen and colleagues (2005) proposed that this change in the relationship between shyness and adjustment mirrors the changes that have undergone within the Chinese socioeconomic system, from a communist political-economic structure to a western open-market economy. Shyness within the old system was valued, as demonstrated by its association with superior adjustment. However, within the context of the new Chinese society, shyness might not fit so well. Assertiveness and emphasis on the self, rather than shyness, is probably more effective in navigating through a more open and competitive economic setting. Analogously, uncertainty orientation might have been affected in the same way. Certainty-orientation might have been more valued in the old system, but with the change in political-economic systems, parents might encourage their children to behave more like UOs, as this more self-oriented regulation style might be more conducive to the new societal structure. It would seem that uncertainty orientation might have been affected by China's evolving social structure, much like shyness. However, this is only speculation. We did not assess uncertainty orientation over time nor across different cohorts. Therefore, more research is needed to ascertain the exact nature of this result. Nonetheless, this is an intriguing finding and affords some new insight into a dynamic society.

Uncertainty Orientation, Culture, and the Future

We feel that, in general, the theory of uncertainty orientation represents the conjunction of two psychological domains, namely social cognition and motivation, to form a complete and integrative description of individual behavior (see Sorrentino & Higgins, 1986). Rather than a limitation, culture offers new opportunities to expand and test our theory. Already, by incorporating culture within our research program and extant theoretical framework, many fruitful findings have surfaced. For example, a supportive finding for the theory of uncertainty orientation was conducted cross-culturally with a sample of Japanese and Canadian participants (i.e., Sorrentino et al., 2008). With this said, one of the most interesting and original aspects that is derived from cross-cultural uncertainty orientation research is our conceptualization of culture. Traditionally, culture is conceptualized more as a personality variable (e.g., Heine, Lehman, Markus & Kitayama, 1999; Kim & Markus, 1999; Markus & Kitayama, 1991). In Heine et al. (1999), culture's ultimate effect on the individual is described as the formation of "relatively autonomous psychological structure[s]" in the mind of the individual (p. 768). In other words, by engaging in affect, cognitions, and behaviors that resonate with the culturally accepted way of thinking, feeling and behaving, they are repeated and maintained, forming stable psychological structures as time passes. Within this conceptualization of culture, cross-cultural differences in affect, cognitions, or behaviors are a function of culture itself. For example, Kim and Markus (1999) examined differences in individuals' choice of colored pens as a function of East Asians' preference for majority rather than minority. It is interesting that East Asians chose pens that were the majority color, while Western participants chose pens that were the minority color. Although fruitful, these cross-cultural studies examining phenotypical differences have been well-documented.

Within the theory of uncertainty orientation, culture is conceptualized as a situational variable. This conceptualization offers a unique way of examining culture, allowing one to explore the processes that underlie cognition and motivation within divergent cultural contexts. Treating culture as a personality variable, rather than a situational variable, leads to homogenization of individuals within a culture. In other words, if one lives in an East Asian culture, then he or she is typecast and ascribed a set of specific traits. The theory of uncertainty

orientation takes into account individual differences beyond those ascribed by one's culture, accounting for individual motivations and cognitive styles. This allows our theory to make unique and novel predictions, where others do not. In Sorrentino et al. (2008), it was predicted and found that one's uncertainty orientation would interact with culture to predict specific types of emotions one would experience. Although UOs and COs in Japan approach uncertainty in the characteristic styles as they do in Canada (Yasunaga & Kouhara, 1995, in preparation), they do not, however, experience the same types of emotions on a daily basis as their Canadian peers. Specifically, the Japanese have created a society that is structured in a way that is most conducive for COs. They have instituted cultural norms, values, and beliefs that provide a cloak of certainty and predictability.³ This is why Japanese COs experience more active emotions than passive emotions in Japan, while their peers in Canada actually experience more passive emotions than active ones. Of course, the cross-cultural research we have conducted so far is only the beginning. We have yet to examine the full tenants of our theory across cultures, such as the motivational component. Suffice it to say, the theory of uncertainty orientation offers a new and exciting vantage point for exploring culture, within an integrated framework of motivation and cognition.

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³ Sorrentino et al. (2008) note that the Japanese cultural proclivity for certainty as a societal whole could be argued to be affect-based, such as uncertainty avoidance (Hofstede, 1980). For example, Japanese culture might have created a society of certainty and predictability to avoid the anxieties that might arise from uncertainty. Although these arguments are valid, Sorrentino et al. believe that this affective conception of uncertainty in Japanese culture can easily be interpreted within the theory of uncertainty orientation's cognitive components. That is, uncertainty is used in the informational sense, such as for attaining clarity for UOs and maintaining clarity in COs individuals, rather than affectively.

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Strategies of Friendship Maintenance in Mexico: Gender Differences

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Friendship development refers to the course that people follow since they know each other until they may stop being close friends any more. In this process, the actions making the progress of the relationship possible should be considered, as well as what attracts one person to another and the actions that maintain and deepen the relationship. Blieszner & Adams (1992) agree that friendship develops from knowing each other to obtaining emotional closeness; they define phases that describe changes in friendship. They also agree that those phases do not follow a predetermined sequence, for some friendships become quite close and some others remain in an occasional level; so the stages of friendship are not static events. Maintenance stage involves both dynamic behaviors and activities influenced by culture (Dainton, 2003). The purpose of this chapter is to explore how Mexicans from 19 to 40 years old maintain their friendships. An inventory was developed to assess such strategies. The outcomes revealed that among the several ways of keeping a best friend is the fulfillment of behaviors in order to avoid discussions, surpassing the setbacks, giving support, listening, showing affection and having many things in common as well.

Friendship constitutes a fundamental process in our life. Greek and Roman Philosophers recognized the importance of friends as a source of affection, diversion understanding, support, companionship and advice (Blieszner & Adams, 1992a). Litwak & Szlenyi (1969) believe that friends are the means to deal with big problems in life. Studies indicate that friends help people to reduce its fear toward physical or emotional damage and make fear and anxiety more tolerable (Epley, 1974).

The cultural point of view of the term of friendship becomes indispensable, due to its impact on the way a relationship is defined and constituted. Culture is the framework that allows understanding the nature of human relationships. Díaz-Guerrero and Szalay (1993) propose that relationships for Mexicans are the core of their lives, as well as the family, because friends are a kind of family by election, they are the persons that fulfill the affective-emotional needs outside home (Diaz-Guerrero & Szalay, 1993).

In countries with their population holding a “collective” view of life, social and affective relationships are appreciated (Triandis, 1990). Diaz Guerrero states that the Mexican culture is the culture of love whose life philosophy prescribes self-change, affiliated obeying, the positivism of human relationships as a foundation of quality of life where friend and family harmony is preferred over money. Based on a socio-culture that dictates rules and expectations on how women and men should behave, differential socialization practices are performed. These actions influence the development of personality features with collective views in Latin America (Díaz-Loving & Sánchez Aragón, 2002). While studying the socio-cultural “self” of Mexicans, La Rosa and Diaz-Loving (1991) find that social and emotional attributes (respectful, kind, friendly, polite, thoughtful, communicative, fun, expressive, sociable, affectionate, romantic, etc.) allow appropriate and constructive relationships.

A friendship process refers to the course people follow from the time they meet to the point where they decide that they’ll no longer continue to be close friends. As part of this process, factors that help the relationship move ahead should be considered, as well as what

attracts one person to another and the actions that help preserve and deepen the relationship. In this regard, Blieszner and Adams (1992) state that friendship develops from the time two people meet until they get emotional proximity. They refer to phases¹ to describe friendship transformations, stating that they do not take place in a fixed sequence, since some friendship relationships get really close, while others remain at an occasional level. These phases are:

Phase 1: Friendship Formation. It involves a movement in which both persons change from strangers to acquaintances. It starts with the first impression in becoming “social friends” as Reisman (1979) refers to it. It involves a process in where each of the two persons is identified with the other one (potential friend) feeling attraction, getting knowledge, and giving the chance for decisions on the progress of the relationship. Allende (1997) adds having something in common with the other person and developing closeness (Berscheid, Snyder & Omoto, 1989).

Phase 2. Maintenance. If a decision to continue the relationship is made, the next step is to maintain it through specific actions for continuity. According to this, Ayres (1983) mentions that maintenance strategies help reaching satisfaction levels in the relationship after the interchange patterns (both persons are adapted to) are stabilized.

Phase 3. Dissolution. It is possible that any dissolution factors could bring disgust and the wish to opt out from the relationship, and such are internal changes, and relationship variations and cultural influences (Hinde, 1997). According to this, Fehr (1996) establishes that negotiation is basic and should be oriented to achieve equilibrium between independence and dependence, proximity and distance, honesty and self-protection, in order to avoid separation or learn to solve conflict.

In regard to the friendship maintenance process, there are several approach methods in the international literature. For Dainton (2003), the maintenance phase involves dynamic behaviors and activities, which are influenced by culture. This author mentions that maintenance actions occur in four contexts: 1) about oneself (where psychological references or the individual influence the process), 2) the system (with behaviors stipulated by the system), 3) the network (the influences of the community where the system is inserted), and 4) culture (the historic patterns of ideas, beliefs, rules and roles).

As this stage in friendship life is of great importance, Canary and Dainton (2003) put forward to different contributions about this issue. Duck (1988) stated that maintaining friendship involves efforts to sustain a relationship, maintain it, make it more intimate and stabilize a relationship that has gone through several stages. According to Dindia and Canary (1993) the maintenance phase on satisfaction and stability of the relationship, as well as on important features, such as commitment, is essential in personal relationships. Finally, Dindia and Canary (1993) and Dainton and Aylor (2001; Dainton, & Stafford, 1993) suggest that maintenance refers to efforts made to change deteriorated relationships.

Friendship maintenance denotes a stage of development of the relationship, as well as the dynamic processes involved therein (Dindia & Canary, 1993). Lately, Duck (1994) and other authors as Canary and Stafford (1994) have stated that two elements preserve personal relationships: 1) Strategic planning to keep up the relationship, 2) Continuous concessions as part of the relationship, besides everyday interaction and dialogue that characterize it. From her perspective, Fehr (1996) indicates that maintenance strategies in this kind of relationship are countless and she categorizes them as: implicit (of everyday use, unconscious and automatic in

¹ At this point, it is necessary to notify that such friendship phases do not have a precise duration of time but they are dynamic.

the routine, such as conversation or some mechanisms to create intimacy) and explicit (such as conscious actions like providing support in time of need and looking for moments to share).²

Implicit Strategies

Obviously, when friends decide to engage in an activity or hold a conversation, they are motivated (and therefore they receive an intrinsic reward), rather than “planning” with the intention of preserving the relationship. Everyday talk is essential in maintaining the relationship (Duck, 1994). Openness is considered by many to be the primary and implicit basis to maintain friendship and the means for individuals to consciously maintain and improve their relationship. Perretti and Venton (1984, 1986) found that emotional expression, understood as positive and negative reciprocal expression of feelings, was highly scored in studies applied to male and female students aged 18 to 25; females supported that feelings and emotions expressed, mutual understanding, truth and commitment in friendship are the most important components of this kind of relationship. Oswald, Clark and Kelly (2004) found gender differences in maintenance behaviors; female same-sex friendships reported using more supportiveness, openness and interaction than male same-sex friendships did. Duck (1988) has noted that routine behaviors are as important as strategies in making relationships prosper. Some researchers have focused on the paths to be followed in an everyday fashion to secure the continuation of friendship.

Explicit Strategies

Ayers' (1983) study included a variety of settings with different kinds of relationships (friends, teacher-student, colleagues, etc.). Initially, 38 possible maintenance strategies were found, which were reduced to three factors: Avoidance, Balance and Direct Strategy. The second strategy-factor, which is more commonly used, according to Canary and Stafford (1994), is supporting behavior that is, providing social support, comfort, help in solving problems, and celebrating success. It is also stated that friendship is maintained because there is some form of reward while friends are together.

In Mexico, there is scarce information in existing literature about how friendship is maintained, except for the study conducted by Escobar-Mota & Sanchez-Aragon (2002) who found that friends in their daily routine and for 70% of the cases, used to practice sports, drink and eat together, go shopping, go to the cinema, have fun, dance, argue, laugh and interact as brothers/sisters. Also, they listen to each other, chat, talk about personal subjects, talk on the phone, exchange e-mail (64%), support each other (26.8%), and more. According to these findings, Diaz-Guerrero and Szalay (1993) mentioned that notions imbued in the interpersonal reality of Mexicans, such as help and support allow friends to know how much commitment exists between them; so does the relevance of sincerity and loyalty in the presence or absence of its members (Diaz-Guerrero & Szalay, 1993). To Mexicans, friendship is represented by supporting, sharing ideas, experiences and feelings that are only proper for someone who makes us feel confident and trustworthy. Friendship implies listening and giving advice, freedom, respect, understanding and total acceptance. This relationship is created through the intimate interaction which makes the identification of possible members, the recognition of similarities and the valuation of the presence of the person (Sánchez Aragón, 2001). This personal relationship then, has a huge affective basis; friends integrate an important close-knitted selected group of people. Among them, what really matters is collaboration, cooperation, sharing, giving (and receiving) whatever a friend needs, while for Americans, friendship is more oriented to entertainment, fun and happiness (Diaz-Guerrero & Szalay, 1993).

² Strategies may vary according to the subject's sex, the friend's sex, the subject's life-style, the role he/she plays, the nature of friendship, etc. (Fehr, 1996).

Based on this review of the literature and the pertinence of studying friendship in the context of Mexican culture, our interest was to identify the main strategies used in keeping a friend by Mexicans aged from 20 to 40 years.

Method

Participants

The non probabilistic and intentional sampling consisted of 300 volunteers, males (N=127) and females (N=173), with ages ranging from 20 to 40 years old. Participants' educational levels were: 215 from high school students, 55 under graduate, 19 postgraduate students and of 11 middle high school.

Instrumentation and procedure

The Inventory of Friendship Maintenance Strategies (IFMS) was developed by Lopez-Becerra, Rivera-Aragon & Reyes-Lagunes (2007) in the context of Mexican culture to evaluate the usual strategies used to preserve this kind of relationship, by employing 65 items divided into eight factors accounting for 57.97% of the variance, and with an overall reliability of .967 (Table 1). Mexico City inhabitants (20 to 40 year olds) volunteering to participate, were tested.

Table 1. Inventory of Maintenance Strategies (Definition of strategies)

FACTORS	Example	Items	α
Emotional Support: Behaviors and the expression of feelings that encourage friend's self-esteem.	My friend makes me feel important	14	.9190
Tolerance: Behaviors of unconditional acceptance of the other, offering help and acting to solve conflicts when they arise.	My friend is tolerant to my changes of humor	13	.9018
Closeness: Willingness to be together, keep in touch and establish dialogue and deep communication.	We spend time together	9	.9018
Similarity: Compatibility in the way of thinking	We think in similar ways	6	.8538
Growth: Frequent contact, encounters that promote mutual support and sharing changes and different moments of life.	We have "changed" together	7	.8762
Equity: Homogeneity of interests, age and social condition.	We have the same economic status	5	.8074
Loyalty: Expressions of love, acceptance and faithfulness.	He/she has never cheated on me	7	.8373
Conflict Avoidance: Behaviors aimed at avoiding quarrels and fights.	We avoid get angry with each other	4	.8183

Results

Table 2 comprises the theoretical means for males and females along with the observed means for the eight strategies of friendship maintenance. Overall means are presented, also. The strategies most commonly employed by Mexicans in order to keep their friends are: 1) Emotional support: behaviors and expression of feelings that encourage friends' self-esteem; 2) Tolerance: showing unconditional acceptance, offering help and acting to solve conflicts when they arise; and 3) Closeness; dedicating time in being together and keeping in touch, thereby establishing deep communication. Females in particular, are the ones who provide more emotional support to their friends ($Mn= 62.7$), accept them unconditionally, are closer, are willing to be together ($Mn= 59.7$) and share life changes ($Mn= 31.4$) with them.

Table 2. Theoretical and observed means of Maintenance Strategies

FACTORS	Sample mean	Mean (Men)	Mean (Women)	Theoretical mean
Emotional Support	60.8	58.1	62.7	42
Tolerance	58.8	57.7	59.7	39
Closeness	38.3	37.7	38.8	27
Similarity	24.7	24.4	25.0	18
Growth	31.0	30.3	31.4	21
Equality	20.4	20.0	20.6	15
Loyalty	29.3	28.6	29.8	21
Conflict Avoidance	16	15.9	17.2	12

In order to find out whether there were significant differences in friendship maintenance strategies depending on gender, Student's t test was applied, which showed that there are differences between males and females in terms of friendship maintenance strategies.

For the Emotional Support strategy Student's $t = -4.328$ $p < .001$. Females display more behaviors whereby they make their friends feel important, encouraging their self-esteem ($Mn=62.7$), as compared to males ($Mn=58.1$). For the maintenance strategy called "tolerance" Student's $t = -2.509$ $p < .01$. Women bestow unconditional acceptance on their friends and act to solve conflicts in order to maintain the relationship. There were also significant differences in the Growth ($t = -2.102$ $p < .05$) and Conflict Avoidance ($t = -3.413$, $p < .001$) strategies, where females were again the ones who dedicate more time to be with and share significant moments with their friends ($Mn=31.4$) and who, in different ways, avoid quarreling or fighting ($Mn=17.2$), thereby securing the continuation of the friendship relation, unlike males (Figure 1).

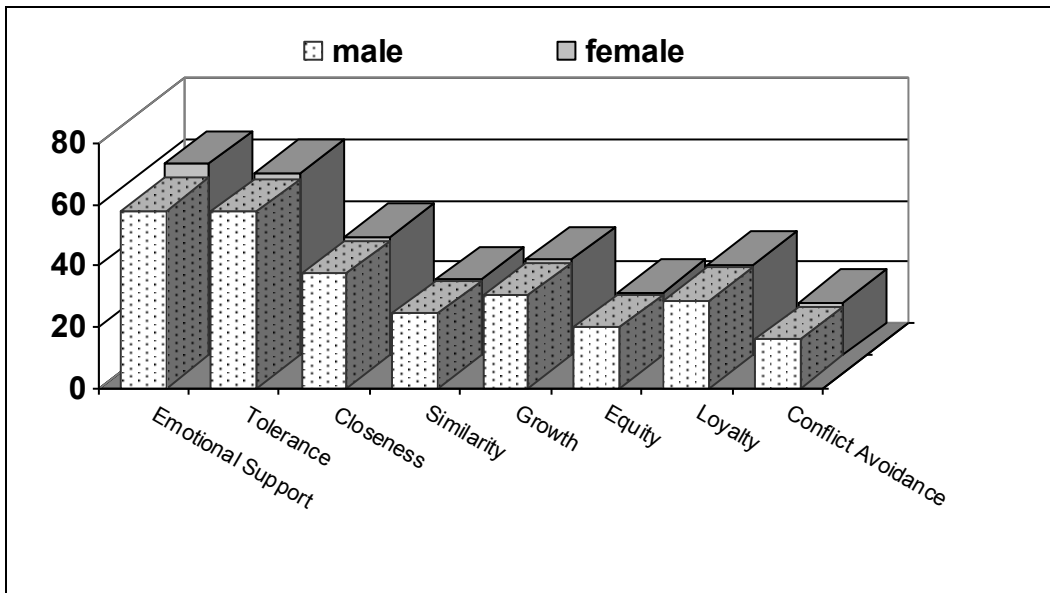


Figure 1. Mean scores by gender.

Discussion

Our results showed that the strategies most commonly used (at least in terms of arithmetical differences) by Mexicans to keep their friendship relations are: emotional support, tolerance, growth and conflict avoidance. These strategies reflect socio-cultural standards internalized by individuals regarding what they think helps maintain friendly relations. These standards are related to historical and socio-cultural premises that emphasize the value of love over power, courtesy, amiability, kindness and consideration to establish or maintain a good deal of relations with the group of reference. This group could be the family, the extended family, the community, the religious group and so forth; and all this, to have harmonic relationships full of cordiality. The basic idea of socio-cultural precepts is to secure a basis of group thinking, feelings and behaviors aimed at keeping friendly relationships. Likewise, Diaz-Guerrero (2003) mentions in “the Psychology of Mexican”: “*Maybe Mexicans have gone too far in their way to be. They prefer to lose a discussion, money or time in order to keep their relationships in a good deal*” (p. 48).

These results show that there are significant gender differences in the four maintenance strategies. Females, more than males, express their affection and develop behaviors which make their friends feel important, providing support and unconditional acceptance and avoiding quarrels and fights. It seems that, to females, feeling affection for friends is the implicit strategy to keep friends. This is probably because, as Spence and Helmreich have remarked (1978), being sentimental, kind, understanding and affectionate are positive feminine traits, which is consistent with Diaz-Guerrero’s (2003) findings, which state that females often opt for expressive and communicative manifestations.

Accordingly, cultures have a profound impact on how (and why) relationships might be (Goodwin & Pillay, 2006). The impact of male-female differences is clearly present in the results, in the way they relate to or socialize with each other, on what the participants in this study regard as significant ways in keeping friends. As stated by Diaz-Loving (2002), socio-culture prescribes rules and expectations on how women and men should behave affecting their interpersonal relationships. Blietner and Adams (1992b) contended that men’s friendships tend to be relatively more activity focused, whereas women’s friendships tend to be more ‘emotion focused’.

As a result of the importance of friendship, not only for Mexicans, but all human beings' interpersonal satisfaction, all friendship members seek long-lasting relationships. Taking into account the contributions by Diaz-Guerrero (2003) and by Sanchez-Aragón (2001) towards the characteristics of this kind of relationship (support, sharing ideas, experiences, listening and giving advice, freedom, respect, understanding and total acceptance of a person), the highly valued friendship concept is understandable. It symbolizes self-esteem, identification with other human beings, possibility of being sociable and –at the same time acceptable, and it also allows people to enhance their social skills while being exposed not only to criticism, but also to love.

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Cultural Conception of Friendship: What do Ecuadorians and Poles Expect from a Friend?

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The present study investigates similarities and differences in perception of emotional support and conversational intimacy between friends. Burleson's (1994) typology of emotional support and analysis of Polish vs. Latin American cultures served as the theoretical framework for this study. Participants (Ecuadorians=87, Poles=60) completed a questionnaire consisting of five episodes-dialogues between two women whose behaviors reflected two variables: (i) Type of emotional support: Low versus High person-centered; and (ii) Success versus Failure story. Both partners, in dyads, where emotional support was high person-centered, enjoyed more positive evaluation than friends in low person-centered support dyads. Poles were more sensitive to how the needs of the self-disclosing partner were served by her friend, while Ecuadorians paid more attention to the quality of interaction. Also, personal matters attracted more interest of Poles, unlike Ecuadorians, for whom a casual small talk was more enjoyable.

Some researchers claim that friendship constitutes a culture-free phenomenon in interpersonal relations (Argyle, Henderson, Bond, Iizuka, & Cantarello, 1986), while others suggest that culture plays essential role in what people consider as friendship (Triandis, Bontempo, Villareal, & Masaaki, 1988). In traditional societies, relationships taking place within age groups undergoing shared adolescence initiation (*rites de passage*) can be regarded as "a proto-friendship". Other processes accompanying adolescence such as joint school attendance or active military service may also constitute foundations of friendship. All of them are based on early periods of "making friends" and loyal life-long friendships. The importance of such external requirements seems to decrease over time.

For psychologists, emotional support appears as the central theme around which the bond of friendship is being built (Adams, Blieszner, & De Vries, 2000). This dimension relates to expressing such values as concern, commitment or mutual closeness aimed at attention to the partner's emotional well-being (Jaworowska-Obłój & Skuza, 1986). This is the most desirable kind of support in close interpersonal relationships (Moreno, 2004), critical for the maintenance of friendship (Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005).

In view of studies on behavioral aspects of the emotional support, it is worth focusing on Burleson's (1994) hierarchical analysis of messages aimed at providing support for an interaction partner. Burleson systematized "supporting" messages on a nine degree scale. The basis of that hierarchy was a degree of adjustment between the message contents and actions; the latter, is featured by the author as "person-centered", i.e., based on empathy, understanding, as well as acceptance of feelings and situation of the support needing person. Messages of low degree of person centeredness can be distinguished by keeping distance and challenging or contradicting appropriateness of emotions felt by the partner. They also include advice and guidelines relating to what an interaction partner should feel or do in the given situation. Messages moderate in person centeredness are aimed at analysis of the particular situation in order to rationalize the experienced feelings, and also they include messages characterized by compassion. Persons whose behaviors are identified with high degree of person-centered approach are aimed at supporting the partner with understanding of his/her feelings, alongside with signals indicating that these feelings are accepted. Thus, at one end of the emotional

support scale, behaviors relating to a high degree of person-centered approach can be found, –while at the opposite end– are these relating to its low degree of person-centered approach.

Research findings on close relations suggest cultural differences in the preferred emotional support (Adams & Plaut, 2003; Burlleson, 2003; Ryan et al., 2005; Samter, Whaley, Mortenson, & Burlleson, 1997). As Jacobson (1987) has pointed out, “analysis of cultural context is critical to understanding social support and support networks. It influences the perception of what constitutes support, who should provide it, to whom, and under what circumstances” (p. 49).

In individualistic cultures, “being a friend” may indicate someone whom we have recently met, enjoying good time together, or someone we have mutual dealings with. Kitayama and Markus (2000) discuss friendship in cultures of independent and interdependent self. According to these authors, having, expressing, and sharing with partner high self-esteem, is the main psychological principle characterizing friendship in North American culture of independent self. Friendship serves as an external source to reinforce these good intra-psychic feelings with mutual approval, praise and admiration. In Japanese culture, on the other hand, typical for an individual is having and expressing self-critical attitudes. In such circumstances the bond of friendship is founded on mutual sympathy, compassion and support in the dyad (Kitayama & Markus, 2000).

Friendship and cultural context of this study

Humanism is the construct proposed by Boski to depict central characteristics of Polish culture of interpersonal life (Boski, 1999, 2006, 2008). The scale of humanism is a measuring instrument consisting of items which reflect the importance of close intimacy and mutually caring relationships with individuals who enter one’s interpersonal space. Humanism runs against instrumental (“business-like”) treatment of other people. One of the items on that scale refers to friendship explicitly: “*I maintain and deeply care for my long-lasting friendships*”. Also, Wierzbicka explains the meaning of friendship in Polish language as a relationship marked by its unique depth, binding people more closely than the expression of ‘best friend’ in English (1998). Independently, Niebrzydowski & Płaszczczyński (1989) made a conceptual distinction between “deep” vs. “shallow” friendships; they confirmed the importance of friendship in personal lives of young Poles. According to these authors, “deep friendship” is a highly valued and exceptional bond with another person, whose well-being becomes a driving force in actor’s daily life activities. In “shallow friendships” by contrast, young Poles are striving for mutual satisfaction and cheerfulness emerging from shared life experiences and time spent together.

The shallow friendship, as described by Niebrzydowski & Płaszczczyński (1989), resembles *simpátia* –the Latin-American cultural script emphasizing great significance ascribed to harmony of interpersonal relations (Triandis, Marin, Lisansky, & Betancourt, 1989)¹. According to Triandis and his colleagues, person defined as *simpático* is nice and “easy-going”². Being in close relations, such a person shows “an adequate” degree of conformism, treating the harmony of interaction as a superior value. In case of Latin-Americans, the above script carries a preference to avoid conflicts and a desire to accentuate positive (“nice”) behaviors and situations, as well as to avoid controversial behaviors and situations that are not conducive to good interaction’s ambience. Avoiding actions that would upset the harmony of interaction is equivalent with expression of respect for the partner, and also a desire to maintain a sense of dignity of that partner (Triandis et al., 1989). For Poles, respect to a friend and emphasis of his/her value are primarily accomplished through focusing on his/her needs and problems.

¹ “*σμπάθεια*” in Greek.

² “*σμπαθής*” in Greek. The Greek terms though emphasize ‘how much’ one likes someone else, not the attribution of personality traits to this person.

Connecting Burleson's theory (1994; 2003) of person centeredness (high vs. low support) with cultural analysis of the meaning of friendship, we formulated the following hypothesis: Compared to Latin Americans, Poles would consider friendship as a relationship demanding relatively more of personal involvement in friend's life. This is why Poles might be expected to react more negatively than Latin Americans to situations where person's needs and expectations would be met with a low person-centered support from his/her friend.

Method

Participants

Participants were students from University of Warsaw in Poland, and from the Central University of Ecuador, Quito. In total, 143 persons (68 females and 75 males) aged from 18 to 27 were tested ($Mn = 22$; $SD = 2.96$). The Polish sample size was $N_P=58$ persons; 29 females and 29 males, aged from 18 to 27 ($Mn = 23.2$; $SD = 2.94$). There were $N_E=85$ participants in the Ecuadorian sample: 39 females and 46 males, aged from 18 to 27 ($Mn = 21.1$; $SD = 2.67$).

Materials

The questionnaire consisted of five conversation vignettes between two young women³. In four of these dialogues, one woman was disclosing to the other a personal event which has just occurred to her. These vignettes differed in: (a) the kind of feelings revealed by the self-disclosing person (negative, failure-related experience vs. positive, following an experience of success); and (b) the quality of emotional support offered by the second woman (high vs. low in person centeredness). This distinction was also based on the Burleson's theory (1994). In addition to the four vignettes resulting from these two criteria crossing each other, the fifth was a "small talk", oriented to daily routines and free from intensive emotions on either side.

A Polish set of vignettes' was created; it was based on a pilot study conducted among Polish students. The episodes were built around the following themes: *failing a driving test*, *father's laid off and falling in depression* actor's *getting a job*, and *boyfriend's engagement proposal*. They were back translated into Spanish, covering Ecuadorian language regionalisms. Yet, some problems of cultural inadequacy appeared with the "original" Polish dialogues, especially with an experience of *failing a driving test*, which was not considered by Ecuadorian students as a valid issue on the list of their life events. Therefore new dialogues were created, exploiting themes considered as appropriate in the Ecuadorian context. They exploited the themes of boyfriend's betrayal, loosing money, lottery win, and again a boyfriend's proposal.

Sample vignette (The boyfriend's betrayal) and measures.

"I think Jan is cheating on me... You know Magdalena? Yesterday we went to my cousin's party. Everyone was there, you know, as usual. Magdalena too, off course... From the very beginning he was into her, but we were all dancing so I wasn't upset about it that much. But then they disappeared, and I found them... kissing each other! In that moment I didn't know what to do... I joint the others... Jan even didn't notice that I saw him... he was so involved"

In high person-centered condition her partner responded this way:

"Ann... I'm so sorry... But you know, Jan is the last person you should be worried about. You're great and valuable girl and you deserve someone much better than he is. He lost you and I'm sure he'll regret it."

In the low person-centered condition the partner responded differently:

"Oh, I think you are too much concerned about this. Guys come and go; Jan is not the first and not the last one. And none of them is worth your tears. You better get changed –we're

³ The reason of gender limitation was to create a large gap between high- and low person-centered support. We believed that this would be easier to accomplish with female dyads, where the assumption of close intimacy, characteristic for high person centeredness, would be more warranted.

going to the party! You have to get some fun! I'll do your make up and you're going to look great! Well... the life's waiting!

Following each conversation, participants were requested to fill out questions concerning: (a) definition of the relationship between the two protagonists in terms of "acquaintanceship", "colleagues" or "friendship"; (b) appropriateness of their behavior on a five point Likert type scale; (c) personal emotional attitude to each of them, also on a five point Likert type scale.

Thus, we had a mixed research design with Ecuadorian and Polish, female and male participants responding to our questionnaire wherein two repeated measures factors were built: two levels of emotional support (low vs. high person-centered) and two interaction roles (self-disclosing vs. support provider)⁴. Partner evaluation was the dependent variable (it consisted of two item-scales in each case: actor's behavioral appropriateness and actor's emotional evaluation).

Procedure

The Ecuadorian part of the study was carried out at Central University of Ecuador in Quito. Students were approached at the university campus and requested to fill out the questionnaire in Spanish. The questionnaires were distributed, instructions provided, and data collected by the first author. This procedure was then repeated in Poland with University of Warsaw students. The order of five vignettes was counterbalanced.

Results

Two types of measures were recorded for self-disclosing and responding actor-friends in each vignette: approval ratings for their conduct and emotional attitude. Since these measurements were highly inter-correlated (from lowest $r=.57$ to highest $r=.77$), they were aggregated into single scores.

A repeated measures analysis of variance of 2 (nationality) by 2 (high/low person centered support) by 2 (self-disclosing vs. recipient actor) design, with the latter two as within-factors, was carried out to test the hypothesized effects. Figure 1 illustrates the means for this analysis. To start with, we found a significant effect of the type of support [$F(1, 133) = 44.30, p < .001, \eta^2 = .25$], such that partners in dyads high in person-centered orientation were evaluated more positively than those low in person centeredness ($M_{nH} = 2.88 > M_{nL} = 2.48$). Next, an interaction between the quality of support and the target person in a dyad fashion [$F(1, 133) = 24.71, p < .001, \eta^2 = .16$]; simple effects showed that this difference was more pronounced for the supporting [$F(1, 133) = 49.39, p < .001, \eta^2 = .27$] than for the self-disclosing actor [$F(1, 133) = 10.82, p < .001, \eta^2 = .08$], respectively. Since the self-disclosing actor remained fixed across the two conditions, these findings confirm expectations that our measures would more affect the provider of emotional support. Finally, a

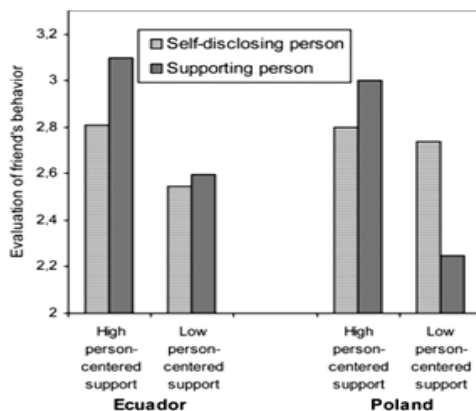


Figure 1. Evaluation of friend's behavior: emotional support seeker and provider in Ecuadorian and Polish sample. Depending on the context of the conversation (type of emotional provided).

⁴ We also controlled the cultural content of the vignettes, which originated from Ecuadorian and Polish contexts respectively, and also positivity/negativity outcomes of events reported to the friend. Together with participant's sex, they did not contribute to any significant results and have been discarded from our presentation in this chapter. From the fact that Ecuadorian and Polish research materials contributed to similar statistical effects in our analyses we infer that construct equivalence of our measures was adequate.

three-way interaction [$F(1, 133) = 7.24; p < .01; \eta^2 = .055$] indicates, that this last effect is qualified by participants' nationality. In Ecuador, the interaction between actor and support type reached only marginal significance ($F(1, 75) = 3.76, p = .06, \eta^2 = .05$); both actors are given more preference, at almost the same rate, in high than in low person-centered support. In Poland, the interaction of these variables was highly significant ($F(1, 56) = 24.32, p < .001, \eta^2 = .30$). Here, was the only case, that the self-disclosing partner was more liked to his low person-centered friend (for simple effect, $F(1, 56) = 13.44, p < .001, \eta^2 = .19$). Thus, we may say that Poles were more sensitive to the quality of actor's intervention in response of friend's self-disclosure. For Ecuadorians, it was rather the whole interaction which deteriorated in low emotional support.

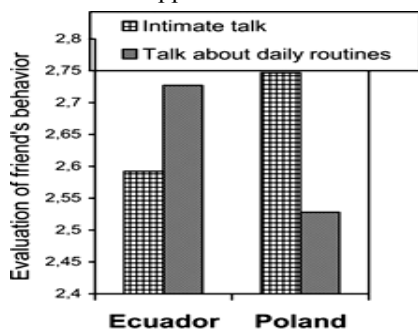


Figure 2. Evaluation of behavior of friends talking intimately of about daily routines.

To verify the impact of culture on evaluation of intimate and casual messages, another two (Nationality) by two (Intimate/Casual talk) analysis of variance was carried out. Since these measures were more stable across the support conditions, only the ratings for self-disclosing partners have been aggregated to create a new variable "Intimate talk". A statistically significant interaction of nationality and degree of message intimacy was revealed [$F(1, 123) = 6.35, p < .05; \eta^2 = .05$]. Poles evaluated the small talk lower than conversations on important personal events [$F(1, 56) = 7.4, p < .01$] with Ecuadorians manifesting an opposite tendency (Figure 2).

Discussion

This study was designed to explore cultural conditions for emotional support in friendship. In this regard, both similarities and differences between Polish and Ecuadorian cultures were observed. It might be the case that preference for dyads with high level of interpersonal support—as found in our research, reflects a universal phenomenon beyond the two cultures under investigation. This can be easily explained in terms of interpersonal reinforcements: high person-centered support is rewarding and people like those individuals who are providers of such rewards (Byrne, 1971). Also, the warm glow of high person-centered support is generalized to the self-disclosing partner. Yet, and in line with the law of generalization, the effects of person centeredness had stronger impact on evaluation of supporting partners than on ratings of their self-disclosing counterparts. These classical mechanisms prevailed over cultural differences, but were limited to situations where interpersonal support (reinforcement level) was high.

Cultural differences appeared when personal problems disclosed to the partner were met with "deficits" of empathy concern or care. Polish participants showed not only high disapproval for actors who were inept to act as dedicated friends but also cast against them, the self-disclosing partners relatively gained in their approval ratings. In line with our theoretical expectations, Poles show substantially higher negative attitude towards low person-centered forms of treating personal problems by their friends. It should be added, that Poles were more likely that Ecuadorians to attribute friendship (rather than acquaintanceship) to the relations depicted in the vignettes [$M_{np} = 3.46 > M_{ne} = 2.30; F(1, 133) = 29.86, p < .001, \eta^2 = .17$]. Thus Poles may be setting higher standards for interpersonal intimacy in such dyads, and because of that they evaluated actors not conforming to these standards more critically.

Polish-Ecuadorian differences in evaluation of the self-disclosing partner depend on the context a talk was held. Ecuadorians evaluated the confiding friend less favorably under condition when she received a low person-centered emotional support than in case she was offered a high person-centered support; these results affected both members of the dyad.

Among Ecuadorians, the evaluation depends on the person who is listening to confessions. If an interaction partner responding to intimate contents keeps herself at distance, the Ecuadorians perceive the whole dyad in worse terms than in case a listener's response is full of attention and concern to her friend's problems. Unlike with Poles who took the self-disclosing person's side when she experienced a somewhat "lukewarm" support. In other words, they gave high evaluations to a friend in need (no matter whether it was a desire to share one's sorrow or joy).

As we have already suggested, friend's needs stand –for Polish participants– as an independent standard of reference for her partner's evaluation. To be a friend means to fulfill high requirements and expectations. Here the English proverb: "a friend in need is a friend indeed", finds its full cultural illustration. Treating a friend off-hand would be discrediting. Who fails to meet these standards does not deserve to be awarded an honorable name of "a friend of mine". Such understanding of friendship finds its confirmation in several studies conducted by Boski (1999, 2006, 2008) concerning humanism's dimensions within Polish culture.

As for Ecuadorians, it is rather the ambience of interaction which matters for the quality of relationship. In the low person centeredness conditions, both partners of the dyad suffer equal decline of evaluation. This last suggestion is further supported by evidence concerning comparison of small-talk vs. personal disclosure. Poles evaluated intimate talks higher than a trivial causal talk. Ecuadorians displayed the opposite tendency: compared to intimate confessions, their preferences were in favor of mutual "small talk". Therefore, we can repeat after Triandis, et al. (1989), that the Ecuadorian friend is *simpático*, striving to maintain nice and concerted ambience of the relation, and –to this end– tends to maintain the conformist approach. From the works by Wierzbicka and common experience, it is well evidenced that Poles are culturally not endowed for carrying and appreciating such small talks interactions (Wierzbicka, 1999).

For many reasons, taking up issues of friendship, and particularly in comparative research context, should be considered as important. First of all, data show that having friends is one of major predictors of individual's subjective well-being (Argyle, 1999; Myers, 2000). However, paraphrasing the statement concerning love ("love has many names"), also "friendship has many names". Some cultural misunderstandings can thus appear in relation to what we consider as friendship or "true friendship". This is why a simple prescription such as "make friends" or "have more friends" can turn out insufficient or plainly ineffective to increase level of someone's sense of happiness. Therefore, we always need to ask what kind of friendship we have to do with.

Occurrence of cultural differences in the scope of emotional support in friendship can be considered as a justification for further intercultural researches concerning its other aspects. It would allow to explore the heart of the matter and to better understand its true nature.

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**CROSS-CULTURAL PSYCHOLOGY
AND COMMUNITY PSYCHOLOGY:
RESEARCH, AND PSYCHOLOGICAL
INTERVENTION**

An Emerging Integration of Universal and Culturally Specific Psychologies and its Implications for the Study of Psychopathology

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There is an emerging consensus among researchers on the need to integrate universal and culturally specific psychological perspectives. Important tasks in this process have included identifying the appropriate level of generality for putatively universal processes, how to understand culturally different processes in light of shared universal capacities, and the development of transparent scientific means for investigating cultural differences. In this chapter, the authors discuss each of these issues. It appears to be true that many psychological processes appear to reflect culturally-specific instantiations of universal capacities. The authors then consider implications of this emerging integration for psychology, by applying it to the study of psychopathology. They report on formal models that explain why some cultures embrace dysfunction among members. They then use the integrative framework to describe methods for determining whether putative disorders bring universal or contextual life dysfunction, and to clarify etiological models of three disorders. Models of psychopathology can be more informed and precise if they include careful consideration of both universal and cultural influences on behavior. Cultural psychology is not a separate discipline within psychology; rather, it informs, and should be integrated with, the various content domains within the field.

In this chapter, we first describe the nature of an emerging integration between universal and culturally specific psychologies and give examples of that integration. Second, we consider recent thinking on the process of cultural evolution, because doing so provides a relatively transparent, scientific way to understand cultural differences. Third, we apply this integrative perspective to the study of psychopathology. Specifically, we evaluate possible universal and culturally specific etiological factors for three disorders: alcoholism, bulimia nervosa, and anorexia nervosa. We do so to demonstrate the value of the systematic consideration of universal psychological capacities, forces that influence the emergence of cultural variability, and culturally specific psychological processes. We argue that the emergence of the science of cross-cultural psychology has made this integrative perspective possible, and that systematic consideration of these different processes is essential for the development of sound psychological theories.

Nature of the Emerging Integration

We believe there is growing evidence for the following broad integration of the universal and the culturally specific. There are universal human psychological capacities and there are culturally distinct responses to distinct histories and circumstances. The culturally distinct responses to distinct circumstances require that universal psychological capacities are made manifest in different ways in different cultural contexts. Thus, there appear to be content-free, universal capacities that are instantiated differently as a function of cultural factors. Psychological processes that can appear to be very different are sometimes the expression of the same universal capacity. In the next section of this chapter, we consider three examples of this process.

Good Self but not Self Enhancement. Historically, most theorists considered the need to maintain a positive view of the self (i.e., self enhancement) as universal. Theoreticians have argued that self enhancement serves to maintain status (Barkow, 1989), to increase one's desirability as a mate (Nesse & Lloyd, 1995), and to facilitate belongingness (Heine, 2003). However, consider some of the differences between Eastern, collectivist cultures and Western,

individualist cultures. Members of collectivist cultures are thought to emphasize the welfare of the group rather than of the self, to set aside one's interests for the sake of group harmony, and to emphasize self-improvement rather than past successes (Kitayama, 2002; Kitayama & Markus, 1999; Markus & Kitayama, 1991; Triandis, 1989). Personal self enhancement seems inconsistent with this cultural representation of the self. Indeed, a recent meta-analysis found strong evidence for self-enhancement among Westerners (average $d = .86$), but there was no evidence of the process among East Asians living in East Asia (average $d = -.02$: Heine & Hamamura, 2007).

There appears to be a striking difference between Westerners and Easterners: Westerners appear to engage in many psychological processes in order to maintain a positive self-view, but Easterners do not. Identification of this difference may be considered one of the many successes made possible by the emergence of cross-cultural psychology as a scientific discipline. At the same time, this difference between Westerners and Easterners may also be understood on a broader level. There appears to be a universal content-free human psychological capacity that underlies both Western self enhancement and the Eastern focus on self-improvement: the capacity/orientation to be a good person in one's context (Heine, 2003). It is expressed differently in different cultures, leading in the West to the process of self enhancement but leading to something very different in the East. It is universally adaptive to be viewed as good and worthy of high regard in one's culture (D'Andrade, 1984; Heine, 2004; Heine, Lehman, Markus, & Kitayama, 1999; Kluckhohn, 1962). Whether in the West or in the East, the good person, i.e., the successful, valued person, has improved status, the opportunities for survival and reproduction that follow from that status, as well as the day-to-day rewarding correlates of those opportunities (Heine, 2004). Expression of the universal need to be a good person looks very different in different group contexts, because human behavior must be contingent on the context and the behavior of others (Cohen, 2001; Kenrick, Li, & Butner, 2003). Self-enhancement, then, can be understood as one cultural instantiation of a universal desire to be a good self. This perspective enables one to understand both important cultural variability and a shared, underlying psychological process that gives rise to the cultural difference.

Autonomy but not Individualism. The Western presumption that individualism is universal has been criticized as "alien to the Asian ethos" (Ho, 1998). Interestingly, Chirkov, Ryan, Kim, and Kaplan (2003) identify autonomy as a likely universal, following their examination of the construct in multiple cultures. To integrate these two perspectives, it is crucial to appreciate that in the Chirkov et al. (2003) definition, autonomy is a more general, abstract concept than individualism. One is autonomous when one's "behavior is experienced as willingly enacted and when [one] fully endorses the actions in which [one] is engaged and/or the values expressed by them" (Chirkov et al., 2003, p. 98). Heteronomy is the contrasting concept. One is heteronomous when one's actions are experienced as controlled or compelled by others, regardless of one's values or interests. From this point of view, one can be autonomously dependent on another, if one's dependence is willingly enacted and one fully endorses it, just as one can be autonomously independent. Similarly, one can be heteronomously dependent on others, or heteronomously independent. Chirkov et al. (2003) found that members of individualist cultures tended to autonomously embrace individualism, and members of collectivist cultures tended to autonomously embrace collectivism. Thus, the need for autonomy is content-free: it describes a desired outcome, but does not specify the means to that outcome.

When one autonomously embraces culturally normative behaviors, one's needs are more likely to be met. In contrast, individualism identifies a particular set of interests and priorities and so may be a culturally-specific instantiation of a general need for autonomy.

Personality. To discuss the universality and cultural specificity of personality is a slightly different enterprise from the foregoing. The focus is not on universal needs and their specific instantiations, but rather on individual differences in the experience of events and in behavioral responses to events. Individual differences in personality can be discussed in terms of their universality and

cultural specificity, though. There is an emerging consensus that there are largely universal dimensions along which individuals differ, but there are also culturally specific antecedents to personality-based reactions and there is culturally specific content to the behavioral expression of universal traits. Therefore, a comprehensive understanding of the role of personality requires attention to both universal and culturally specific processes.

The universality of personality has been examined using both etic approaches, in which investigators translate Western personality instruments and examine their structure and validity in different cultures, and emic approaches, in which investigators develop new personality measures “from the ground up” in different cultures, relying on the existing trait language in those cultures (Church, 2000; Smith, Spillane, & Annus, 2006). Strikingly, the findings have been consistent with the two methods and across personality scales. Lexical studies in 12 non-English languages have generally produced variants of four of the five broad factors of personality recognized in the West (neuroticism, extraversion, conscientiousness, and agreeableness), with some lack of clarity concerning the fifth factor of openness to experience (De Raad, Perugini, Hrebickova, & Szarota, 1998; Peabody & De Raad, 2002; Saucier & Goldberg, 2001). In addition to the structural consistency of the domains of personality across cultures, there is considerable evidence for the construct validity of trait measures across cultures (Smith et al., 2006). Although, of course, the antecedents to trait-based reactions vary across cultures, and expression of these traits varies across cultures, there nevertheless appears to be a noteworthy level of consistency in the domains of individual differences in personality across cultures.

To summarize this first section of the chapter: there appear to be psychological universals that are content-free psychological processes or needs. As a function of their membership in different cultural contexts, individuals instantiate the universal processes and needs in different ways. There appear to be common dimensions of personality across cultures, but within different cultural contexts, individual differences in personality are triggered by different events and are expressed differently. We next summarize current thought concerning how pronounced cultural differences emerge.

Cultural Evolution Theory

In this section, we will sample from cultural evolution theory in order to show how researchers have come to understand some contributors to cultural differences. This work will also provide a means for understanding the emergence of cultural norms that turn out to be maladaptive. One of the important contributions of cultural evolution theory is that investigators have provided explicit, mathematical models for understanding cultural change. This advance is important, because current cultural evolution models are transparent and subject to critical review. The possibility of critical review of this work is crucial, in order to minimize the ethnocentrism and racism that characterized past models of cultural comparison (Dickemann, 1989). We will not provide a review of cultural evolution theory (see Durham, 1991; Richerson & Boyd, 2005). Instead, we will highlight a few key aspects of this body of theory.

Humans Rely on Cultural Processes. Humans’ ability to survive ecological challenges appears to have depended on their capacity to engage in rapid, cultural learning. For example, analysis of very deep ice cores in Greenland has indicated that during the last 500,000 years of the Pleistocene era (the last block of significant human evolutionary time before the emergence of modern, complex societies), temperature changes of 10 degrees per century appear to have occurred (Anklin, Barnola, Beer, Blunier, Chappellez, Clausen, & Dahljensen, 1993; Broecker, 1996; Ditlevsen, Svensmark, & Johnsen, 1996; Lehman, 1993). Changes of this magnitude produced rapid, ongoing, and perhaps chaotic changes in the environment. The locations where species could survive were in regular flux, producing species movement and cascading effects on local ecologies. The changes were much too rapid for many species to adapt successfully (Richerson & Boyd, 2005). To survive this period, humans must have had the capacity to change economic, social, and cultural processes very rapidly (Richerson & Boyd, 2005).

Cultural and Ecological Circumstances. The demands of a group's physical environment may directly influence the nature of its social structure (Cohen, 2001). For example, in the Mediterranean plains region, abundant, easily traversed, and arid land may, together, have facilitated the appearance, more than 2,000 years ago, of powerful individuals who could influence others by providing or withholding irrigation. It is possible that the emergence of such individuals facilitated the development of strong clans, and centrally controlled, rigid social orders (Braudel, 1972; Wilson, 1993). In contrast, much of northwestern Europe had arable land that could be carved out of dense forests or steep hillsides. Peasants could provide for themselves, and they were less accessible to, and controllable by, the would-be powerful. Perhaps peasants acted more for their own survival, rather than acting for the benefit of a controlling other. One result may have been a greater influence toward individualist psychological perspectives on northwestern Europeans than on those living in the Mediterranean plains.

A group's physical environment may influence or constrain its economic choices, and those choices, in turn, influence the emergence of social structures (Cohen, 2001; Wilson, 1993). Diamond and Bellwood (2003) reviewed extensive evidence that the ready availability of domesticable plants and animals in areas within Eurasia, following warming of the climate, appears to have led to food surpluses as early as 5000 B.C. Food surpluses likely had extraordinary influences on economic and social conditions. Rather than spend each day hunting and gathering food for survival, many groups in Eurasia may have had the luxury of having members devote their time to other tasks. Perhaps the invention of new tools and the specialization of labor, along with the social structures necessary to accommodate their emergence, were among the results.

A crucial thing to appreciate about the evolution of cultures, though, is that cultures do not necessarily adopt the most efficient norms for success in their current ecology. Evolution is shaped by prior conditions: existing social practices both facilitate and constrain the emergence of new social practices. A cultural group's solution to a particular environmental challenge is thus likely to be an adaptation constrained, shaped, or facilitated by the current social structure (itself perhaps, in part, an adaptation to some prior ecological circumstance: Cohen, 2001; Forde, 1934). Cohen (2001) argued persuasively that initial social conditions, developed partly in response to initial ecological circumstances, have a disproportionate influence on subsequent social conditions, often for centuries (see also Nisbett, 1993; Nisbett & Cohen, 1996).

Processes of Cultural Learning and Cultural Change. Even given the limitations of physical demands and past history, cultures appear able to change very rapidly (Richerson & Boyd, 2001). Some of the processes by which rapid cultural change occur have recently been described. For example, indirect bias (or differential modeling or role selection) refers to a process in which individuals adopt an ideal, symbol, or behavior because it characterizes important, powerful people (Richerson & Boyd, 2005). Behaviors that are adopted range from the innocuous (hairstyle) to the harmful (extreme thinness). Boyd and Richerson (1985) presented mathematical models of how indirect bias processes can produce rapid change, even resulting in a kind of "runaway" embracing of behaviors of no, or even negative, adaptive significance.

Frequency-based bias refers to a process in which individuals adopt a practice because of its frequency in the cultural population; the term is analogous to psychology's use of conformity bias (Richerson & Boyd, 2005). Direct bias (Richerson & Boyd, 2005) refers to the transmission of cultural perspectives because they are believed to provide benefits to the group. Mathematical models of the operation of these processes suggest they may be responsible for the rapid rate at which cultural norms change (Boyd & Richerson, 1985; Cohen, 2001; Richerson & Boyd, 2001).

To summarize: we have a growing understanding of that which is universal, that which is culturally specific, and the processes by which cultures diverge. We also have a growing understanding of the means by which cultures come to develop different norms and practices. In the third section of this chapter, we will consider the implications of these developments, both in general and in the specific example of the study of psychopathology.

General Implications of this Emerging Integration

The implications of the work reviewed above have not yet been fully realized by researchers in many psychology subdisciplines. Researchers should seek to understand both the universal and cultural components of the psychological phenomena they study. Use of cross-cultural methods makes the assertion of universals, as well as the assertion of contextual phenomena, open to scrutiny, thereby reducing the degree of bias and ethnocentrism in our work. Researchers' understanding of many content domains within psychology will become more informed, precise, and clear as they integrate these perspectives into their work.

In short, cultural psychology is not a discipline distinct from the rest of the field. Rather, it has produced an integrative framework that can inform many topics of concern in psychology. We are particularly interested in how researchers studying applied areas of psychology can take advantage of these advances. In what follows, we illustrate this process by applying these findings to the study of psychopathology.

Implications for Psychopathology

The study of psychopathological processes focuses on psychological content that is quite removed from the examples of universality and cultural specificity considered above. But, the implications of the emerging integration for psychopathology, as for many subdisciplines within psychology, concern basic organizing, theoretical principles rather than specific content. To show the importance of the emerging integration for psychopathology research is to illustrate its importance across content domains within the field. And in fact, on a basic, theoretical level, consideration of the integrative framework illuminates several concerns that should occupy psychopathology researchers. First, the concept of dysfunction needs to be understood from an integrative perspective. Just as there appear to be universal needs, and individual differences in the ability to meet those needs, there are likely to be behavior patterns that are universally dysfunctional: that, in any context, interfere with successful functioning. In the same way, just as there appear to be culturally specific psychological processes, it is important to determine empirically whether a given behavior pattern is dysfunctional within a given context. Thus, somewhat analogous to considering whether a psychological process is universal or culturally specific, one can consider whether a behavior pattern is universally dysfunctional or dysfunctional only in context.

Second, because psychological characteristics may be universal or cultural, researchers need to consider whether causes of dysfunction include components characteristic of humans cross-culturally, components characteristic of individuals specific to a culture, or a combination of the two. Etiology researchers need to develop models that identify maladaptive psychological properties that can characterize individuals from any culture, and distinguish them from maladaptive properties that are shaped by particular cultural events. Explanations for the emergence of dysfunction will become more precise and complete as researchers do so. Relatedly, the documented and striking differences in cultural contexts illustrate that universal psychological characteristics may lead to dysfunction in one context but not another, or they may lead to one form of dysfunction in one setting and to another form in a different setting.

Third, researchers should consider the possibility that characteristics of a culture tend to facilitate maladaptive psychological functioning in one or more domains. With the advent of formal models for understanding the emergence of cultural processes and cultural change (Richerson & Boyd, 2005), it has become possible to evaluate claims that a culture's current practices are maladaptive in some ways.

Cultural Systems Can Embrace Dysfunction. Just as is the case with biological evolution, cultural evolution refers to change, but not necessarily to progress. Suppose an existing cultural system reflects some degree of successful adaptation to ecological circumstances. Should some physical circumstance change, or should some new individuals with different norms come into proximity

with the group, what was once adaptive may now not be. Change would then be necessary. But, the possibilities for change would be constrained by the prior norms. One result may be an inability to change in the adaptive direction.

Another way in which cultural change may not serve adaptation is when the change occurs as a result of a group being conquered or dominated by another group (Durham, 1991). Cultural change by imposition is, of course, far more likely to serve the needs of the dominating group than the needs of the dominated group. Conquered groups may take on maladaptive practices as a result of both direct coercion and indirect pressure (Durham, 1991; Richerson & Boyd, 1999). Simple examples may be slavery, servitude, or engagement in high-risk occupations on behalf of the dominant group. Complex social structures tend to have underclasses, whose practices may have the functional value of not threatening the dominant class, and may even serve the interests of the dominant class—and they may play a maladaptive role for the underclass (Richerson & Boyd, 1999). Since current practices are necessarily predicated on the possibilities present from past practices, once maladaptive structures are in place, they constrain future options.

In short, there is no theoretical reason to think that any particular cultural system represents optimal adaptation for its members. Sometimes, in some circumstances, cultures support maladaptive practices, and cultures vary in the extent to which they do so. We next argue that there are accountable systems for determining whether behaviors are dysfunctional: the systems operate independently of whether the behaviors are so defined by a given group.

Identifying Dysfunction within Context and Independent of Context. Mental disorders are so labeled because they produce negative life outcomes. It is crucial to determine empirically whether a given behavioral syndrome represents mental disorder within a target cultural setting. Specifically, if the presence of the syndrome and degree of life dysfunction are unrelated in a given culture, the syndrome is not maladaptive in that culture. Independently of that process, one can also assess whether the syndrome is dysfunctional independent of context. Some syndromes are not identified as dysfunctional within a target culture, but are nevertheless maladaptive universally. For example, among the Fore tribe of New Guinea, eating the bodies of deceased relatives was a valued and normative behavior, but the tribe was slowly dying off because the resulting illness kuru was fatal (Durham, 1991): the culturally sanctioned behavior was harmful. On the other hand, some syndromes are not dysfunctional in a basic or general sense, but are dysfunctional within a culture because they violate social norms (openly cooking and eating cats and dogs in the U.S.).

We suggest that behaviors are universally dysfunctional if they bring physical harm, regardless of context, or if they bring social or personal harm regardless of context. A syndrome that brings physical harm is alcohol misuse. A syndrome that likely brings social, personal harm regardless of context is active psychosis. Psychosis typically involves responding to stimuli that are not present (DSM-IV, 1994). Psychotic individuals often hear voices, and those voices often tell them they are worthless, they should die, they should commit suicide, or perhaps they should kill (DSM-IV, 1994). For psychotic individuals, those voices are often so compelling that they respond to the voices, rather than to other aspects of their current circumstance. They do not control the timing of the occurrence of the voices, the content of the voices, nor their responses to the voices. Psychosis is likely dysfunctional in any social context.

Universal and Culturally Specific Causes of Dysfunction: Alcoholism among reservation-dwelling American Indians (AIs). AIs have higher mean levels of problem drinking than do Caucasians in North America (Akins, Mosher, Rotolo, & Beauvais, 1992; Beauvais, Oetting, & Edwards, 1985; May, 1982). Spillane and Smith (2007) recently argued that culturally specific factors were responsible for the high mean levels of AI problem drinking, and universal factors were responsible for individual differences in drinking among AIs. To understand the influence of culture/context on AI problem drinking, they used the concept of Standard Life Reinforcers (SLRs), which are the basic set of rewarding circumstances or experiences that persons strive for across cultures: examples are

housing, economic security, work opportunity, family closeness, and knowledge. For many reservation dwelling AIs, access to SLRs is either guaranteed (for example, reservations typically provide housing and health care); essentially unavailable (employment opportunities tend to be rare and of low quality on reservations, so work opportunities and economic security are largely unavailable); or access to them is not contingent on sobriety (it appears that family closeness among AIs is not contingent on sober status: Spillane & Smith, 2006).

In contrast, for North American Caucasians (NACs), alcoholism can bring significant loss of SLRs. Following repeated failures to maintain sobriety, well-paying jobs can be lost, as can housing, health insurance, opportunities for education, and even family closeness. Thus, the systemic incentive structure for NACs provides clear disincentives for heavy drinking, but that is not true within reservation culture for many AI tribes. That incentive structure, which appears to be an indirect consequence of the history of domination and conquest (Spillane & Smith, 2007), does in fact appear to relate to higher rates of problem drinking rates among many reservation-dwelling AIs (Spillane & Smith, 2006). The force of frequency-based bias may also help to maintain those problem drinking rates. In this way, contextually/culturally specific factors can explain the high mean levels of AI problem drinking.

There is evidence that personality and learning factors combine to increase problem drinking risk in each of the cultures yet studied. Individual differences in certain target traits and learning processes appear to play an important role in the risk process. It may therefore be true that individual differences among AIs in their drinking levels can be understood in ways similar to how individual differences among NACs or other groups are understood. Indeed, Spillane and Smith (2006) documented parallel personality and learning influences between NACs and AIs (Anderson, Smith, & Fischer, 2003; McCarthy, Kroll, & Smith, 2001).

Bulimia Nervosa (BN). Recent qualitative and meta-analytic work appears to indicate that BN is a culture-bound syndrome; there is no evidence of BN except in Western cultures or in countries heavily exposed to Western culture (Keel & Klump, 2003). Perhaps this is not surprising: never before in human history has a set of cultures combined massive food surpluses with an extreme value on thinness. Over 50% of the 40,000 TV commercials US children watch concern food (mostly junk food: Strasburger, 2001), and the standard of beauty has gotten progressively thinner over the last 30 years (Rubinstein & Caballero, 2000). Women who respond to these forces by developing Bulimia Nervosa (BN) tend to endorse the thin ideal for beauty more strongly than others, hold higher expectations that thinness leads to overgeneralized life improvement, and simultaneously hold higher expectations that eating helps alleviate negative affect (Hohlstein, Smith, & Atlas, 1998). They tend to report that binge eating helps alleviate their subjective distress and improve their mood (Crowther, Sanftner, Bonifazi, & Shephard, 2001; Stice, 2002).

BN appears to be somewhat heritable (Bulik, Sullivan, & Kendler, 1998). But, heritability in this case is not inconsistent with cultural specificity. Perhaps the heritable component of BN involves a universal psychological factor that is not specific to BN, but rather increases the likelihood of many different behaviors. The trait of urgency may be implicated: urgency reflects the tendency to act impulsively in response to distress. High urgency scores may identify those individuals whose distress is most likely to lead to action in general, and so to BN symptoms among some women in the West. Investigators have found that urgency correlates much more highly with BN symptom level than do negative affectivity and other forms of impulsivity (Fischer, Smith, & Anderson, 2003; Fischer, Smith, & Cyders, 2008). Nothing about urgency automatically commandeers BN symptoms; it is likely a risk factor for a variety of risky behaviors. In other cultural contexts, urgency might lead to engagement in other risky behaviors for mood improvement. Because urgency appears to be heritable (Jang, McCrae, Angleitner, Reimann, & Livesley, 1998), individual differences in urgency may be part of the heritable cause of BN.

Anorexia Nervosa (AN). In a cross-cultural review of AN, Keel and Klump (2003) found that AN occurs in roughly the same frequency in different cultures, and has through recent history; they

argued that the disorder itself appears to be universal. If they are right, many of the putative risk factors investigators study in the West, such as societal emphasis on thinness (Heinberg, Thompson, & Stormer, 1995; Stice, 2002) and expectancies for overgeneralized reinforcement from thinness (Hohlstein et al., 1998), are artifacts, because they do not exist in other cultures with similar prevalence rates of AN. Instead, they are likely culture-bound, post hoc explanations women construct for themselves in order to try to explain behavior that is actually driven by a presumably biological, universal cause.

Women suffering from AN in other cultural contexts may have constructed other explanations for their disorder. Keel and Klump (2003) reviewed several fascinating accounts of what appear to have been post hoc explanations for AN. For example, in the 17th and 18th centuries some Catholic nuns fasted for religious purity. A subset of nuns who identified themselves as fasting for religious reasons may have been suffering from AN. Those nuns appear to have been unable to control their food refusal: some described their inability to eat and others were treated by their peers for self-starvation.

In the case of AN, what may be universal is the disorder itself, and what may be culturally specific are the causal explanations constructed by AN patients and the researchers who study them. This possibility came to light not from specific findings in the universal-cultural literature, but from application of cross-cultural research techniques designed to identify the universal and the culturally specific (Keel & Klump, 2003; Norenzayan & Heine, 2005). Although the nature of the apparently universal cause is not yet entirely clear, researchers have begun suggesting specific genetic loci for susceptibility to AN (Grice, Halmi, Fichter, Strober, Woodside, & Treasure, 2002; Koronyo-Hamaoui, Danziger, Frisch, Stein, Leor, Laufer, et al., 2002; Westberg, Bah, Rastam, Gillberg, Wentz, Melke, et al., 2002). The genetic mechanism may well be specific to weight-loss or food aversion, in contrast to the likely more general heritable process related to BN.

Conclusion

A fresh look at the etiology of three disorders, using the methods of cross-cultural psychology, appears to have helped clarify the risk process for each. That work could not have been conducted without the methods of cross-cultural psychology. Nor could it have been conducted without consideration of universality. Cross-cultural psychology, and the integration of the universal and the culturally specific, are beginning to inform basic and applied research programs throughout psychology. One is unlikely to do successful psychological research without systematic consideration of culture.

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Early Childhood Services and Supports in the Context of Cultural Community Psychology

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As early childhood programs continue to grow across the globe, they reflect both the cultural and community aspects of the family's and child's experience. Though the effects of each of these variables may be hard to separate, distinct elements of each can be seen in the three examples used to illustrate this point. The common theme of the three case studies demonstrates that neither the community ecology nor cultural archetypes provide sufficiently satisfactory explanations for the everyday behaviors of the family members. Rather, the common denominator involves the context in which community and cultural influences interact to determine the outcome. When the context is one that supports both sets of influences, the families of young children are not in conflict. Rather, the context supports the developmental goals of the family in ways that are beneficial to everyone—child, family, and community.

The general recognition that enriching early experiences have lasting effects on children's developmental trajectories has propelled early childhood educational and health programs into a strong worldwide movement (Consortium for Longitudinal Studies, 1983; Roberts & Magrab, 1991; Roberts, Rule, & Innocenti, 1998). Efforts to increase the health outcomes for children have been tied to more comprehensive early childhood development programs because health and learning are so closely related (Roberts, Behl, & Akers, 2004; World Health Organization, 2002). Each of these areas (early education, child health, early childhood development, parenting, early child care, and schooling) are inevitably best understood when they are tied to "place" as well as cultural patterns and beliefs. Hence, the disciplines of community psychology and cultural psychology inform both the work and the interpretation of findings in each of these areas.

In this chapter, examples from recent large early childhood program development efforts in different "places" are used to make the argument that community and cultural psychology share many basic connections. O'Donnell (2006) argued that cultural psychology and community psychology are inevitably entwined. Though they are not the same discipline, they have many common values and areas of interest. Both disciplines have been used as a frame to understand the forces that shape familial/child behaviors and outcomes. The common ground between these two disciplines may provide a more parsimonious model to understand variables that shape the behaviors of families with young children and thus, appropriate interventions that have both community and cross-cultural relevance.

Both community and cultural psychologies involve principles of analysis in which variations on "context" are unifying predictive and explanatory variables. Yet in the examples to follow, neither explanation completely captures the full story needed to understand the challenges to intervention that must be solved in order to provide "culturally competent treatments in the context of the communities in which the families live" (O'Donnell, Tharp, & Wilson, 1993; Roberts & Magrab, 1999).

A more complete explanation of family-child system interaction can only be understood through a transdisciplinary approach. As the case studies unfold, the reader will find that both cultural and community components are very distinctly present in the eco-cultural contexts described (Weisner, Gallimore, & Jordan, 1993). The case studies represent families from diverse cultural and community contexts and demonstrate the contextualized nature of learning environments of young children. The complexities of disaggregating culture and community, which are so significantly intertwined, are illuminated in the examples. Space does not allow a complete analysis of this disaggregation that can be found in book-length works. Through

references provided in this manuscript, considerably more in-depth descriptions of cultural/community characteristics that bear on the descriptions and conclusions represented in this chapter are available. The intent here is to suggest that it is not as easy as one might first assume in disaggregating the connections between the two disciplines and the epistemological issues that separate them.

In the stories that follow, children receive early intervention services in very different settings. From a public health perspective, “early intervention” is understood to be a form of secondary prevention. That is, risk factors are already in place, but the developmental trajectory has not been irreversibly affected by these risk factors. Early intervention is formalized within the Individuals with Disabilities Education Act (IDEA; P.L. 102-119). It provides assessment of the child and family assets and risk factors; community-based services designed to interrupt, and perhaps, reverse negative developmental consequences of the impact of biological or environmental toxic factors in the environment through support for the child and family within the natural, everyday learning environments of young children (Dunst, Hamby, Trivette, Raab, & Bruder, 2000). As recently documented by Roberts, Behl, Goetze, and Johnson (2005), the *practice* of early intervention tends to be more prescribed by medical and educational paradigms for treatment of condition “X” as opposed to adapting the environment so the child and family can be successful within it (Roberts, Behl, & Akers, 1998).

Cree, Her Family, and the Navajo Early Intervention Program

Each state is mandated to provide services through IDEA for children from birth through 21 who qualify under the definitions of disability prescribed in the legislation. In the case of children residing on the Navajo Reservation, these services are jointly provided through state agencies for Utah, Arizona, and New Mexico as well as through the Department of Education for the Navajo Reservation.

In order for such a program to succeed, it needs to make sense to state and tribal agencies as well as Navajo families who span a wide range of culturally prescribed behaviors in understanding the developmental challenges of their children. The discussion of the Navajo Early Intervention Program (NEIP) will be confined to the creation of service systems in concert with, and respectful of, the cultural norms and practices of the community (see Begay, Matheison, Weisner, & Roberts, 2000; and Roberts, Jump, Gutshall, Morris, & Seanez, 1999 for a more in-depth analysis of the cross-cultural interactions between families and state/tribal providers of services).

Cree lives with her mother and grandparents on the Navajo reservation. Her father has never been involved in her life. She was born prematurely, suffered respiratory distress, and had motor and learning delays as a result. Before Cree was born, the family lived in a remote area, near extended family members where Cree’s grandparents had sheep, a few cattle, a cornfield, and a vegetable garden. They had no electricity or running water. Cree’s respiratory care, however, required these necessities so they moved into an apartment in a Housing and Urban Development (HUD) sponsored project, which had utilities. As Cree’s health improved, she was enrolled for both center-based (three days a week) and home-based services once a week for about an hour. Eventually, Catherine, Cree’s grandmother, became Cree’s legal guardian.

The early intervention staff instructed Catherine in some exercises she was supposed to do with Cree, but she did not like to do the ones that made Cree cry. Catherine had doubts that these exercises would help Cree learn to walk. She believed that Cree would develop and improve naturally. A traditional Navajo healer told Catherine, “It is just slow development in her...it is just that it will be slow getting there.” “She is going to grow out of it,” Catherine said, “so I believe that she will.” After Cree’s grandparents arranged for several traditional Navajo ceremonies for her, they were more at peace and felt she improved. The purpose of the ceremonies was to restore harmony in the family and resolve the spiritual problem believed to

have caused Cree's condition. As a result of the ceremonies performed by the traditional healer or medicine man, the grandmother became more cooperative about Cree's physical therapy.

What does Cree's family story tell us about the interaction of indigenous belief systems and more formal western models of health and well-being? First, the multigenerational family is living together in a very rural –almost frontier– setting with few amenities. Their absence is not an issue until Cree's life is threatened by not having electricity, running water, and access to western medical care. Conflicts between traditional vs. western medicine became an issue almost immediately. Cree was born in an Indian Health Service (IHS) hospital. Her condition was quickly diagnosed differently by two sets of people. Parents and grandparents interpreted the health difficulties and physical anomalies as a sign that the members of the family had violated taboos and were not “in harmony with the Beauty Way” –a Navajo model of living in harmony with the natural and spiritual world. The Navajo cultural solution to this “disharmony” includes ceremonies conducted with the family by a respected healer/medicine man/woman. Culturally, the ceremonies work to right the spiritual disharmony manifested in the child's condition. The community and extended family members are often involved in both the ceremony itself and the activities surrounding it. From a community perspective, the ceremonies allow the child to be accepted in the community without prejudice. It also allows families to acknowledge the differences in their child and other children outside of a medical/genetic or behavioral/psychiatric model. In doing so, the family and the child find additional support from community members and formal nonindigenous structures such as health care, schooling, and so forth. Thus, the benefits of culture and community are combined in the family solution.

Native Hawaiian Traveling Preschool: Hau'ula

In the next example, we move from the temperature extremes and arid landscape of the Red Rock desert to the humid, often wet and breezy North Shore of O'ahu to visit a traveling preschool –one component of a prenatal to 5-year-old experimental program for Native Hawaiian families to provide support, information, and educational experiences in communities on each island. The overall program and the research surrounding its development is described in an edited volume in which researchers and program personnel contributed their insights on the early schooling experiences of Hawaiian families with young children (Roberts, 1993a).

The Kamehameha Schools Bishop Estate (KSBE) in Honolulu is a private school for Native Hawaiian children Kindergarten through grade 12. It is funded through the Trust of Princess Puahi Bishop who was part of the Native Hawaiian Royal family. The Kamehameha Early Education Project (KEEP) program and its sister program Preschool Research Education Project (PREP; birth to 5), conducted active applied research to improve the developmental and educational outcomes for Native Hawaiian children (Roberts, 1993a; Tharp & Gallimore, 1988). The intent of both PREP and KEEP was first to understand the context and the cultural gestalt of Hawaiian children in their families and then to build or modify programs to honor and respect the patterns of behavior and interaction both within and across family ties: *Rousing Minds to Life: Teaching, learning, and schooling in social context* (Tharp & Gallimore, 1988) and *Teaching Transformed: Achieving Excellence, Fairness, Inclusion, and Harmony* (Tharp, Estrada, Dalton, & Yamauchi, 2000). *Coming Home to Preschool: The Socio-Cultural Context of Early Education* (Roberts, 1993a). The titles captured both the neo-Vygotskian framework that drove much of the applied research while at the same time, demonstrating the appropriateness of early childhood education as an extension rather than a replacement of familial, community, and cultural patterns of interaction and child development. The discussion of PREP will be confined to one component –the traveling preschool for families targeted with children below the age of 6. Below is a description of a typical traveling preschool day.

Every Tuesday and Thursday morning at about 9:30 am, a blue van pulls up to the Beach Park in Hau'ula on the North Shore of O'ahu, Hawaii. Seven or eight Hawaiian parents from the neighborhood are sitting on the picnic table or benches while a group of their children from the ages of 2 to 5 are playing on the swings, digging in the sand, or chasing each other around the tables. Some of their older siblings watch them. Across the street, a group of about the same number of Hawaiian mothers is walking down the street toward the park with their children in tow. The group has been growing as they make their way from the valley to the beach. As people arrive, they greet each other, chat a bit (talk story), and begin unloading the van as they set up the traveling preschool activity areas for the day. Some parents sit on the sidelines and supervise as others and the children carry the blue plastic bins filled with toys, lau'hala mats, books, paints, beads, dress up clothes, etc., to the large grassy area. The older children know how to set up the various centers and work with some of the younger children to do this. Several of the parents spread the mats and watch as the children place the baskets and bins on the mats. The parents watch from the picnic tables as children place the materials according to the activity pictures on the sheets handed out by the traveling preschool teacher. The children assist or interrupt each other depending upon their age and disposition. As the set up is completed, the children begin to involve themselves in one activity or another. There is no formal beginning of the session but everyone gets involved in something. The parents watch as the teacher greets the children and supervise indirectly as the school begins to take shape in the park. As the morning routine unfolds, the parents work together to repair some of the lau'hala mats, talking story while they do so. The teacher spends time in each "center" and encourages the parents to mingle with the children to see what they are doing and how they are doing it. Parents may say some things to the older children as the younger ones get rowdy, but expect the children to monitor and direct their own behavior fairly well.

Parents have time with the teacher on whatever the topic of the day may be—from how the children have been behaving at home to helping the parents problem solve an issue. The children know their jobs both as part of the preschool and as protectors and supervisors of each other. The morning progresses through group and individual activities, singing, dancing, playing group games, story time, and so forth. Parents, with no need of encouragement or a requirement, get involved with the activities as they wish and help out where help is needed. Most frequently, if they are helping, it is in activities in support of the program rather than in the direct involvement with the children themselves. They may be repairing mats, putting together material for another day, and so forth.

How is this preschool particularly Hawaiian and how might it differ from a preschool in Minneapolis, Minnesota, or Logan, Utah? There is structure but it is not structured in a formal way. Sibling caretaking is very much in evidence. Parents intervene only when they feel the need to make sure the older children are taking care and helping the younger ones. Language is a mix of Hawaiian Creole with some Japanese, Chinese, and perhaps a bit of Korean interlaced with English. Materials, games, stories, and other activities such as singing and dancing, have a distinct local Hawaiian flavor in content, materials, and language. As the session comes to a close, everyone expects to help with the chores in the reverse order of the setup—folding things up, packing them away, and getting them into the van. Children, teacher, and parents work together to make this happen.

Sam

Sam has been diagnosed at birth with Down syndrome and later with Attention Deficit Hyperactivity Disorder (ADHD). His parents are Caucasian, well educated, and middle class. His mother remains at home and has not sought additional employment. The whole family is very active in their local church. When Sam was born, his family lived in a state where a variety of services were offered. Sam and his parents began early intervention services via home visits

when he was 3 months of age. He later “graduated” to center-based services where he attended a classroom that included some children who had disabilities and others who were developing “typically.” Sam’s parents were encouraged to be very involved with service providers in setting goals and planning strategies to optimize Sam’s growth and development. Open-heart surgery, chronic respiratory infections, and rapidly deteriorating vision created the major challenges for the family during Sam’s early years. When Sam was 4 years old, his family moved to another state in which early childhood special education was not available in integrated classroom settings. Sam’s parents became frustrated with the new system they encountered. The intervention staff did not welcome Sam’s parents’ proactive participation and Sam’s mother found it necessary to fight for the educational goals that she and her husband felt were essential for Sam’s optimal development.

Sam’s parents were concerned about his cognitive development and social skills. His mother’s own research led to an animal alphabet program (Zoo Phonics) in which she taught Sam a letter in conjunction with an animal by saying the sound of the letter and making the shape of the letter by gesturing with her arms. She also introduced video and computer alphabet materials. At the close of most meals, the family played a game in which Sam said a word he wanted to spell and his mother or father wrote them on Wheat Thins (one of Sam’s favorites!) using cheese from a pressurized can. Together, they sounded out the words. Sam’s mother was very proud of Sam’s development, worried about his future, and was exhausted each night. Sam’s mother talked to his grandmother who lived 1,200 miles away at least weekly with respect to Sam’s progress and discussed new concerns regarding Sam as they arose.

How are culture and community woven together in Sam’s family’s experience with a child with Down syndrome? Just as the Navajo cultural markers displayed in Cree’s story or the Hawaiian culturally defined symbols and behaviors supported by the preschool setting, Sam’s family finds their own markers to guide their interactions with family and community supports within their religious heritage as well as with the medical and school community they encounter on an almost daily basis. They see their role as making Sam “whole” by pushing beyond the recommendations of the professional community to include a “therapeutic” or “purposeful learning event” in many of the daily routines of the family. The cracker/cheese wiz example demonstrates both the creativity and commitment of family members to helping Sam have as “normal” a set of skills as possible. In doing so, the everyday activities of the family begin to blend family time with therapy time. The cultural/religious value expressed here is “perfectability” by achieving as much as one can –moving through the stages of developing a skill from rough crude approximations to mastery. The community value is to fit in with other children so that Sam can be an accepted part of the wide range of activities experienced by his peers. Though there are limits on what Sam can eventually reach for, he is involved in everyday community activities of his peers in a very integrated way. Sunday School, sports teams, and family and community outings are all places where the extra effort exhibited by the family results in higher-level skills for Sam. Yet at the same time, the family and extended family stress in keeping these routines going has their own consequences to family harmony that would not have been experienced by Cree’s family.

Discussion

What do these stories tell us about our understanding of formal interventions from service systems related to community support for families in different cultural contexts? How do formal services and supports honor and respect cultural norms and practices within the context of community life? How should research and program development components reflect community, context, and culture? Similar activities take on vastly different meanings in the interactions of service providers with these three families.

Families in each example have distinct views about the purpose of the program in which

they are involved. Their understanding may differ dramatically from that of the service provider based on differences in cultural beliefs and practices as well as the standards of behavior based on the community context in which they live. The activity settings in which the family interacts with a “formal” service provider will reflect this tension because of the different beliefs, expected roles, purposes and motives, and scripts for conduct—all of which are contextually derived based on both the community and cultural frames (Roberts et al., 1998; Tharp & Gallimore, 1988; Weisner et al., 1993).

In the example of teaching a new skill, Sam’s parents are more verbal in describing what they had been doing with Sam all week with respect to differing therapies and what they identified as outcomes. They see the therapist as a source of information, direct assistance, and emotional support. They may expect the interventionist to share their belief that they must weave learning opportunities for Sam into every context possible. For Sam’s parents, the goal for each daily routine is to teach Sam a new skill or to reinforce one that he had already acquired. In doing so, they expect to affect his developmental trajectory. The goals of the interactions may differ as well. Sam’s parents want him to live as close to a “normal life” as he can. For them, this means that he should be able to hold his own in everyday activities for his age peer group—at school, at home, on the ball field, or in church. The service provider may see therapy as a discrete activity outside of the daily routine to teach a skill particular to a specific setting with less concern for community applicability (Roberts et al., 1998).

Cree’s grandparents present quite a different perspective to their service providers. As a result, the activity settings that constitute the family-professional interaction are quite different. Cree’s grandparents expect that it is the responsibility of the therapist to provide formal teaching and care. Activity settings that force the grandparents into active formal teaching roles are not accepted and would not be maintained. Cree’s physical and cognitive differences are the locus of formal intervention by the program with the intention of teaching her skills to help overcome some of the consequences of the medical condition. This makes little sense to the grandparents. Rather, disharmony in the family, as represented by her condition, disrupts the ability of the family to work together. In the Navajo tradition, the physical and cognitive differences displayed by Cree are the physical manifestations of this disharmony. The traditional intervention, therefore, does not involve therapeutic regimens but a ceremony that cleanses the family and allows them to move forward (Begay, Roberts, Weisner, & Matheson, 1996). It is at the point after the ceremony that the grandparents come to peace in cooperating more with the therapeutic routines because the more significant and culturally relevant issue has been addressed. Cree’s family is once again welcomed back into the community.

Native Hawaiian families in Hau’ula have yet another perspective on their roles. Native Hawaiian children have traditionally grown up in group- and extended-family settings. As both parents have been drawn more into the workforce outside the home, this tradition is still maintained to the degree possible through aunts and extended family members. The role of the adult involves a number of child-management strategies. They observe. They watch. They use the naturally occurring hierarchy among the children to make sure that the older ones know their roles in being helpers for the younger ones (D’Amato & Inn, 1993). They do not intervene unless something gets way out of hand and then only with the older children. It is the older children who, over time, must learn the role of sibling caretaking as part of their place in the family ecology. The traveling preschool serves as a context in which parents can interact with their children in the way that follows their cultural scripts. At the same time, it provides new and different experiences for the adults and the children. The context, in this situation, like those in the first two examples, is culturally defined to some degree and ecologically defined as well. How and whether the cultural scripts are displayed is dependent on the context. Thus, children learn how and where to follow one script or another depending on place. The indigenous patterns of support in all three situations are strong and reflect the context in which the behaviors are exhibited. Although all of the families

in the examples share a common goal (the well-being of the child and the family), the ecocultural circumstances, values, and beliefs that lead them to their central definition of well-being vary dramatically. These differences interact and may be in conflict with the values and beliefs that the service providers bring to the interactions. As described above, Native Hawaiian families in Hau'ula have a shared perspective on their roles. They observe, watch, and use the sibling hierarchy as a teaching and management strategy (D'Amato & Inn, 1993).

In the Navajo example, Begay and colleagues (1996, 2000) found that Navajo families are much *less* likely to define a disability within the context of a medical condition. Rather, they view it more in a spiritual sense. It is at the point after the ceremony that the grandparents come to peace in cooperating more with the therapeutic routines because the more significant and culturally relevant issue has been addressed. Cree's family is once again welcomed back into the community. Therefore, the goals of a helpful interaction are not only to assist the child with identified medical or developmental challenges but also to restore the family's sense of balance and harmony. A Navajo parent of a child with Down syndrome explained it this way, "[Be]cause for a while we were just going in all directions, we couldn't get our minds focused, but that [ceremony] helped. We were like going wild trying to figure out why, why, why, and we were trying to find out answers, but [after having ceremony] it doesn't matter now. I pretty much accept it now. I accept her whole to the point that, ya know, she's our child with special needs, she [just needs special things]."

Sam's family has a very strong perception/value that it is their collective responsibility to do everything they can to help Sam reach his full developmental potential and minimize the impact of his disability. *Native Hawaiian parents* and family members see their role as creating intergenerational *independence* and peer group *interdependence* as a culturally held belief. In all three examples, the constructs of "potential, disability, treatment, and outcome" are defined by the context in which Sam, Cree, and native Hawaiian children live. The meaning behind these words contains both cultural and community scripts in how to help Sam, Cree, and the preschool children take on roles and integrate into their larger community. For Cree, Sam, and the native Hawaiian children, the more each can be like the normative child in their cultural and contextual settings, the more likely he or she will be able to participate in the community life of school, church, and family. However, the definition of what that means makes all of the difference. The definition cannot be defined simply through the context of the setting or the culturally held beliefs but requires both components. Families (and individuals within families) respond to situational (place specific) as well as culturally stereotypic scripts depending upon how they read both sets of cues (Roberts et al., 1998).

The cultural and familial values are explicitly played out in Sam's case by a strong emphasis on creating specific opportunities within family activities to enhance Sam's academic achievement in order for him to "fit in." Cree's family emphasizes the cultural- and community-held value that it is most important for Cree to be able to fit into the family's life on the reservation. Yet "fitting in" for Cree is not measured through a developmental gain. It is understood more in the spiritual sense of being in harmony. Though they are not universally expressed, many families interviewed on the Navajo reservation share common beliefs with Cree's grandparents. The benefits of Navajo spiritual services for the families are many; parents feel that the services help their child improve physically and developmentally, they help families to accept and cope with their child's disability, and provide material support by gathering their resources. In addition, the spiritual services interact with formal medical systems in a positive way by helping parents to feel better about complying with medical procedures. Preschool parents are comfortable in the preschool setting with their children because the ecology of the preschool reinforces—rather than challenges—deeply held beliefs about how children and adults should behave.

How best to describe the lessons learned from these three examples of early childhood

learning experiences? Are the lessons a function of the community ecological press or the cultural context of the families described here? Rappaport (1981) allows for both views to be reasonable explanations. Paying attention to two different and apparently opposing thoughts or sets of cues becomes a dialectical problem. This becomes one of the important lessons for intervention with a family independent of the cultural makeup. "...[T]o pay attention to one side...so as to fail to take into account an equally compelling opposite is what I (Rappaport) refer to as being one sided" (p. 124). Families adapt depending on the local ecology and their cultural beliefs/practices that are not community specific. The cultural frames are a function of the patterns of behavior encased in the cultural stereotype that families carry from community to community. Thus, an individual's response to these mixed sets of cues varies with the synchrony of the messages in the context of the setting in which they are presented.

Though it is an interesting intellectual discussion to argue cultural versus ecological variables and their effect on behavior, any one-sided solution provides little in the way of assistance in understanding the behavior that may be subject to intervention as well as the intervention itself. As described earlier in this chapter, both culture and community are constructs that are instantiated in the context of place or setting. Behavior, by its nature, is a function of setting. Since the setting has both psychological and physical attributes, information drawn from cultural patterns of interaction and knowledge of behavioral constraints within community settings themselves must be simultaneously combined to produce appropriate responses in the given context. The actor must be sufficiently familiar with, and have the skills, to read the cues and provide the appropriate response based on cultural and community components (O'Donnell et al., 1993; Roberts, 1993b; Seidman, 1988).

Behavioral or social regularities are the scripts of social interactions and the connections between people and settings. Having sufficient history to be able to provide the appropriate expected social response to the setting cues determines, in part, if behavior will match the expectations. People come to settings with a history that makes it easy to translate the code and be successful or not. Our understanding of setting is a powerful predictor of behavior and can be described using several paradigms independently or interactively (Weinstein et al., 1991).

The lessons taken from these three case studies involve highly explosive and controversial issues in applied psychology, community psychology, cultural psychology, and the helping professions in general. The artificial boundaries set up by disciplines continue to splinter rather than integrate our understanding of behavior in context. As stated eloquently by Yoshikawa and Shinn (2002), "We are only beginning to understand the ways in which culture and context may enhance or constrain the effectiveness of interventions and hence how to tailor strategies for diverse populations" (p. 42).

Movement from "doing to" to "doing with" as a major paradigm shift has captured the field in many ways –yet, is by no means the gold standard for practice. The application of findings from one context to another in applied science should never be a "given" because the community is never the same, the culture is never expressed in a uniform fashion, and the context (setting) in which behavior is expressed is, by definition, a transient phenomenon involving both the physical and psychological planes of activity. In this sense, each intervention (learning activity) is, in fact, a function of joint productive activity defined by the players. To the extent congruence occurs, joint productive activity occurs as well. They are joined at the hip in setting. The full explanation requires cross-disciplinary integration of information –first understand how culture and community interact in child development and learning and then work within this frame to provide experiences that increase school-specific skills while at the same time honoring and respecting community and cultural iconic behavior (Roberts, 1993a; Tharp & Gallimore, 1988).

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Research and Action on Intimate Partner Violence: Interdisciplinary Convergence of Cultural Community Psychology and Cross-Cultural Psychology

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An analysis of the respective organizational histories, missions, and scholarly activity of the International Association for Cross-cultural Psychology (IACCP) and the Society for Community Research and Action (SCRA) indicates many points of shared values and actions, as well as some important differences. Both scholarly organizations developed out of a similar historical and cultural zeitgeist in the late 1960s and early 1970s. Our missions emphasize the role of culture/diversity in psychological phenomena, adopting an interdisciplinary orientation, the value of collaboration, the importance of research methods and ethics, and the value of action research. However, community psychology generally lacks an adequate treatment of cultural phenomena, while cross-cultural psychology often fails to draw on community and participatory methods useful for understanding culture in context. In this chapter, we examine these common roots and differences and then briefly present a study¹ of intimate partner violence (IPV) in a community of Latinos in the United States that illustrates the benefits of an interdisciplinary, cultural community psychology. Finally, we propose several actions to develop further an interdisciplinary collaboration between the two fields.

Cross-cultural and community psychology took root as professional scholarly fields in the mid 1960s and early 1970s from much of the same sociopolitical soil. Both fields were established based on two, core ideas characteristic of the cultural zeitgeist of the time –that the individual must be understood in sociocultural context, and that this context gives rise to a great diversity in human experience and behavior. In their efforts to test these ideas, both fields have grappled with how to define and assess person-environment relationships and how different levels of analysis can be used to study these relationships.

Despite these commonalities, however, cross-cultural and community psychology have not integrated valuable knowledge and skills that each field has to offer the other (O'Donnell, 2006; Trickett, 1996; Watts, 1994). For example, cross-cultural psychology offers community psychology more sophisticated theories to guide the study of culture and cultural diversity, knowledge about how to form culturally diverse teams of researchers, and useful concepts for understanding cultural values, processes and practices in research on diverse communities. On the other hand, community psychology offers to cross-cultural psychology a set of values and conceptual frameworks useful for studying the relationship between social problems and individual functioning among diverse communities, practice strategies for conducting social systems intervention and change, and research methods useful for evaluating these efforts.

Given the unfulfilled potential created by the tension of these similarities and differences, the purpose of this chapter is to attempt to spur the development of an integrated cultural community psychology. First, we will present a content and bibliographic analysis of the common roots and unique differences in the historical narratives and organizational values of the two fields and their respective scholarly associations. Next, we will briefly present a research and action project on intimate partner violence that illustrates the potential value of an

¹ This work was partially supported by NIH/NINR R01 NR08771-01A1 (9/04-5/08).

integrated cultural and community psychology. Finally, we will describe several concrete actions that leaders and members of the respective fields can take to develop further this collaboration.

Common roots of IACCP and SCRA

As Cliff O'Donnell (2006) noted in his Presidential Address to the Society for Community Research and Action (SCRA), the International Association for Cross-cultural Psychology (IACCP) and the SCRA, which is the Division 27 of the American Psychological Association, both were formed during the fertile period of the mid 1960s and early 1970s.² These were the “catalytic years” (Lonner, 2004, p. 126). During this time, context -cultural, political, social, and environmental- was regaining attention in the overly individualistic focus of psychologists' efforts to understand human behavior and improve living conditions. In the U.S., we saw during this time increasing growth in civil rights, women's equality, and sexual liberation, –all indicative of and a challenge to the view of people as equal and the same, regardless of context and environment. In particular, community psychology grew out of society's increasing recognition of the failure of mental health policies and practices to, among other things, address the mental health needs in society (Bennett, Anderson, Cooper, Hassol, Klein, & Rosenblum, 1966). The main response was to segregate individuals who were different from the prevailing cultural norms, or were ill, in hospitals, and isolate them from their communities. Lonner (2004) asserted that cross-cultural psychology developed at this time for some of the same reasons –an emergent idealism after WWII and the civil rights movement, among others such as the cold war and increasing global migration, travel and communication that brought cultures together in conflict and harmony. In short, both fields trace their roots to sociopolitical developments that highlighted the importance of context in understanding and creating psychological well being.

During the past 50 years, a more formal history has developed, marked by the establishment of scholarly organizations and all of their associated structures, namely the IACCP and the SCRA. Influential accounts within each organization trace their birth to a pivotal, energizing conference (or set of conferences, in the case of IACCP) held during the mid 1960s. For IACCP, these were held in Istanbul³, Nigeria, Hawaii, and Thailand (Lonner, 2004; Segall, Lonner & Berry, 1998), and for SCRA, it was the Swampscott, Massachusetts conference on the Education of Psychologists for Community Mental Health (Bennett et al., 1966).⁴

Following these seminal conferences, at roughly the same time, organizations formed and established academic journals, namely the *Journal of Cross-cultural Psychology* (JCCP) and the *American Journal of Community Psychology* (AJCP). They began hosting biennial research conferences that are attended by roughly 500-600 participants each. Since this founding, both disciplines have contributed an almost identical number of research publications to the body of scientific knowledge, as indicated by the number of articles in the PsychInfo

² Of course, both disciplines trace their histories much further back than these formal, modern beginnings, especially cross-cultural psychology. Cross-cultural psychology existed for hundreds, if not thousands of years, in philosophical and anthropological ideas about human nature and human diversity (Jahoda & Krewer, 1997). Similarly, community psychology links itself to ideas about and reforms in society's treatment of individuals throughout the ages who did not fit into 'normal' definitions of human behavior and mental health (Levine, Perkins, & Perkins, 2005; Rappaport, 1977).

³ The Istanbul Congress in 1971 was also a “pre-IACCP” meeting, and resulted in a book entitled “Mental Tests and Cultural Adaptation”, edited by L. J. Cronbach and P. J. D. Drenth (The Hague: Mouton, 1972).

⁴ Importantly, from the beginning, cross-cultural psychology conferences have been international in name and location. The first international conference on community psychology was held only just earlier this summer (2006), in San Juan, Puerto Rico.

database that are indexed by the terms “cross-cultural psychology” (1,095) and “community psychology” (1,134) as of July, 2006.

To further evaluate the potential for interdisciplinary collaboration between cross-cultural and community psychologists, we conducted a content analysis of the mission statements of our respective organizations, which revealed further similarities, as well as some important differences in the emphases of each field. In particular, five themes were found in both organizations’ mission statements and associated documents on their websites: the role of culture/diversity in psychological phenomenon, an orientation toward interdisciplinarity, the value of collaboration, the importance of research methods and ethics, and a value on action research (Table 1). Notably, both mission statements address the importance of culture, although it appears to be more assumed and unstated in the IACCP statement. Both statements express the importance of interdisciplinary work and speak about the value of collaboration, though SCRA’s statement is concerned with collaboration among researchers, community members and practitioners; IACCP’s statement is focused on collaboration among cultural researchers themselves. In terms of methodology, IACCP is most concerned with validity whereas the theme in SCRA is about diversity and plurality of methodologies. Finally, both societies are concerned with using research to address social problems, though this value seems more elaborated and central to the SCRA mission.

Finally, we reviewed several bibliographic analyses of our respective journals (Brouwers, Van Hemert, Breugelmans, & Van de Vijver, 2004; Martin, Lounsbury, & Davidson, 2004), which provided further insight regarding the shared roots and differences of community and cross-cultural psychology. In JCCP, from 1970 to 2004, 79% of the publications were cultural comparative studies. By contrast, only 25% of the articles in AJCP in the more recent period from 1993 to 1998 (and only 13% in an earlier, 1988 review of related journals) addressed diversity. Half of these used a within group design, similar to a cultural psychology or cultural relativism approach. Community psychology has not yet addressed culture to the extent that its stated value of diversity and context would command.

Another difference in the published scholarship was the treatment of methodology and the characteristics and relationships between the researcher and the researched. Qualitative methods and the characteristics and community affiliations of the research participants and the researchers were central topics of discussion in the AJCP review, whereas these topics went unanalyzed in the JCCP review. Community psychologists may hold a greater interest in the relationships between the researcher and the researched as it informs the nature and use to which research is put in changing society; community psychologists are more self-reflexive in our use of theory and how we relate to those with whom we conduct research and intervention (Watts, 1994).

Rather than viewing these differences as barriers, it is more useful to understand them as sources of complementary strength that represents the potential value in collaborative, interdisciplinary interaction between cross-cultural and community psychology. As an illustration of this potential, in the next section, we present part of a larger community-based, participatory research project that addresses the cultural context of workplace intimate partner violence.

Cultural community psychology:

An illustrative research and action project on intimate partner violence (IPV)

Project development and overview

Galvez, Mankowski, Ruiz, McGlade, Rollins, & Glass (2006), are engaged in a community-based, participatory research project that attempts to follow some of the principles and recommendations suggested by community and cross-cultural psychologists (Segall, Lonner, & Berry, 1998; Trickett, 1996; Watts, 1994) about the study of diversity and culture

Table 1. Similarities and differences in the mission statements of cross-cultural (IACCP) and community (SCRA) psychology

Value	IACCP	SCRA
Role of culture/diversity in psychological phenomenon	<i>Study of the role of cultural factors in shaping human behavior.</i>	<i>Research and action require explicit attention to and respect for diversity among peoples and settings; Human competencies and problems are best understood by viewing people within their social, cultural, economic, geographic, and historical contexts.</i>
Interdisciplinary orientation	<i>Draw the attention of other psychologists and scientists in related disciplines to the dynamic interactions between culture and behavior; the Association encourages relationships and possible formal affiliation with other organizations or associations that have similar aims.</i>	<i>SCRA serves many different disciplines that focus on community research and action; bring together people from various disciplines and contexts.</i>
Collaboration	<i>Provide a vehicle for communication and cooperation among its members and a means of drawing the attention of other psychologists and scientists in related disciplines to the dynamic interactions between culture and behavior.</i>	<i>Community research and action is an active collaboration among researchers, practitioners, and community members.</i>
Methods	<i>Development of valid measurement techniques and research methodology in cross-cultural psychology.</i>	<i>Change strategies are needed at multiple levels; use of multiple methodologies.</i>
Action research	<i>Knowledge for the amelioration of social problems.</i>	<i>Social action...to promote health and empowerment, enhance well-being, prevent harmful outcomes and liberate oppressed peoples.</i>

Note: Adapted from www.iacpp.org and www.scra27.org

as they inform our understanding of gender and intimate partner violence. The project, sponsored by the U.S. NIH/NINR (National Institutes of Health/National Institute of Nursing Research), is an interdisciplinary partnership of people from diverse institutions, disciplines, and sectors in society, including nurses, organizational psychologists, community psychologists, domestic violence advocacy programs, and labor unions. Like many projects conducted by community psychologists, it developed from the principal investigator's (third author's) long-term engagement with the local community and community organizations. The principal investigator, a Euro-American, female, public health nurse, provides services to survivors of intimate partner violence through local, community based health advocacy organizations in Portland, Oregon, USA. In listening to the stories of many of the Latina survivors, she learned that the available resources to assist survivors in the health care and legal systems were inappropriate and inaccessible to them, for several reasons (Kasturirangan, Krishnan, & Riger, 2004). The services could require them to disclose information that would jeopardize their legal status as immigrants to the United States. The service providers may not speak Spanish or other native languages that the women spoke. Many of the service providers and the Latina women held different views about women's roles in the family, the meaning of family and of intimate partner violence, and the importance of separating or continuing to live with their abusive partner. This was true particularly if the family resided in the U.S. without documented status, which often made the partner much more financially and socially dependent on her abusive partner.

The principal investigator gradually realized that the women needed more appropriate and accessible services. She began to wonder whether because many of them were working

outside the home, in service sector jobs (e.g., migrant farm work, hotel/motel service staff, food service) that the workplace might be an organizational system in the women's ecology in which culturally appropriate services could be made more accessible. After further investigation, she also learned that men who abuse and stalk their partners often do so at their workplaces, as well as in the home, and that these forms of abuse often interfere with the women's employment and ability to leave abusive relationships. For example, the leading cause of death to women in U.S. workplaces is homicide by an intimate partner (Riger, Ahrens, & Blickenstaff, 2000; U.S. Department of Labor, 1997). In addition, in the course of our work, we learned that employers often respond in unhelpful ways when hearing about abuse experienced by their employees, for example, by offering to contact the police, which could have negative consequences for the family due to their documented status in the country.

The investigator brought together a culturally and linguistically diverse, multidisciplinary team of psychologists, nurses, labor organizers, *promotores* (community-based Spanish health advocates) and other community based workers, including domestic violence shelter staff to study this problem and develop an intimate partner violence preventive intervention program for service sector employers. It is noteworthy that some of the team members are survivors of intimate partner violence who brought valuable experiential knowledge to the design and implementation of the project.

In Phase I of the project, we focused on collecting data from multiple sources to inform the development of the intervention, including employers and employees (some of whom are also survivors of intimate partner violence or coworkers of survivors), as well as men who had been arrested for abusing their partners, and facilitators of batterer intervention groups that the arrested men were ordered to attend by court judges. In phase II, two additional years will be spent to develop, implement and experimentally test the effectiveness of a workplace IPV preventive intervention focused on changing how employers respond to employees who are survivors or perpetrators of abuse in the workplace.

As part of this research and action project, separate focus group interviews were conducted with Latino men living in the United States who have abused their partners, and with facilitators of the batterer intervention groups attended by the men. The interviews were guided by three research questions that we developed from an ecological model of IPV (Edleson & Tolman, 1992) or which we formulated based on responses to our first sets of interviews: 1) What abuse tactics, strategies and workplace resources do men use to perpetrate IPV in the workplace? 2) What workplace policies and norms address IPV in the men's jobs? and 3) How does cultural context inform men's experience, understanding and perpetration of IPV?

Study samples and method

A total of six focus groups were conducted. Twenty-two men from batterer intervention programs (BIPs) participated in one of four focus groups. All participants were Latino. They ranged in age from 19 to 45, and had been attending the BIP between 1 and 31 months. Ninety percent of the men identified as Mexican (1 identified as Cuban and 1 identified as Puerto Rican); all spoke Spanish fluently. Two additional focus groups consisted of eight male and one female BIP facilitators, and four male and two female community mental health professionals with experience in IPV among Latinos. Thirteen participants were Latino/a and two were Euro-White. They ranged in age from 27 to 56, and had between 1 and 10 years of work experience that informed their participation in the focus groups. All spoke Spanish fluently.

Focus groups were facilitated in Spanish by the second author, a bilingual/bicultural male graduate student, assisted by the first author. One group was co-facilitated by a bilingual/bicultural female Latina community leader. Audio recordings were transcribed in Spanish and then translated to English by a team of bilingual/bicultural research assistants. The team of bilingual/bicultural researchers jointly conducted descriptive content analysis of the groups.

Findings

The cultural context of workplace IPV

Although not originally a focus of the research, we quickly learned that the men had a great deal to say about their employers' responses to their violent and abusive behavior. The men's narratives situated their violence in the context of their experiences with the U.S. criminal justice system, their immigration to the U.S., acculturative stress, and aspects of Latin American culture, especially the importance of family ties and gender role expectations and norms. Facilitators passionately discussed these as important aspects of the context in which IPV occurs and must be understood. The facilitators described a host of stressors including language, not having social networks, and financial hardships, which were thought to contribute to IPV. Several facilitators addressed the cultural conflicts that their clients experienced and how this could be related to their IPV.

"I start off with the cultural conflict issue. When I raise it, their awareness of the possibility of what is happening to them in the home is connected to the cultural clashes they are experiencing".

"When we come here we find ourselves with no English [language], not knowing where to go, not knowing where to work... The cultural clash, the acculturation is enormous... [From] there comes anxiety, the stress".

"There are a lot of factors that contribute to this (domestic violence)... we know that stress due to limited economic advancement, no access to jobs, not having the basic needs met all create a tension... that [lead] to problems in communication [with their partners]... and things escalate and explode like a volcano".

The facilitators discussed how their clients felt angry at the criminal justice system and the larger government. Several facilitators believed that the anger stemmed from cultural clashes that the batterers were experiencing. Many felt that it was important to educate their clients about the difference in laws, customs, or beliefs in the U.S. culture and in the Mexican culture.

"And that's why it is so important to make them understand that there are two different cultures... You aren't in Mexico... It's true that here in Mexico, you can do one thing but, in the US, no... Because many of us, the Hispanics, we are accustomed to the famous "mordida" (bribing authority) for everything... The police makes a lot of restrictions in this".

"She can go out even to dance, go out with friends, with their partners, even with their ex-partners, and you have to understand this. And, for us Mexicans it's difficult... Why? Because in our culture, it is not permitted."

"The first thing that we start to talk about is what is appropriate and what is not appropriate of the culture difference. I had a client that told me that '[U.S.] is not my culture.' OK, I'm not saying that it is your culture. What I am saying is that you are living here and you have to change... the consequences are going to be different. The abuse on women is not accepted. You cannot rule (your home) with violence. Because many of them see women as property, which is what is instilled in the man... for many of them, to change this [belief] is very difficult".

The abusive men themselves corroborated the facilitator's comments about acculturation and the differences between the U.S. and Mexico. Several discussed that they did not approve of their partners' changes. Many believed that their partners were becoming too independent and felt that the U.S. culture influences Latinas not to rely on their male partners. Participants described that these types of changes created conflicts with their partners.

"Here they start telling them how they [women] can free themselves from us [men]"

"There [Mexico] one can say... 'do this for me'... not treating her badly, but one can order her [around]... and here [U.S.] she will say if you want something, you go get it... I think that that change here is what provokes these types of problems... I say it's a total change."

"You can't stop them because her friend will say 'if you want to go and enjoy yourself, you can go, he shouldn't be able to detain you'. Then that's where the problems start because she is following the flow from her friend..."

“But when two people get married it is different. [You] change and you form... a home... and the both of you know how it’s [supposed] to work.”

“It’s like they get together with you but they want to [still act] like they are single”

“They want to get the customs of here... of the Americans”

Many of the participants believed that the police or criminal justice system treated them in unfair manner. In many cases, the participants described that the unfair or discriminatory treatment exacerbated problems with their partners.

“And when they told them [the police] that I was Mexican, they set a trap [for me] just because I had an argument with my partner”.

“It is like they [police] are already against us, against Mexicans”.

“Do they want to change our culture? They are not going to change us. We are already from that culture. So we can try to adapt to... the American culture. But they can not change us completely... our roots are like this, we come from other countries. We can change a little bit but not completely...”

Some participants felt that they were treated unfairly by the courts because they felt that the sanctions only involved them and not their partners. In one of the focus groups, the batterers talked about how they perceived that men come out of this situation losing more than their partners because of the loss of work, limited or no access to their home, and court mandated batterer intervention programs.

“I think that things should be mutual. Not only me, because a family problem is a problem of the two [it is] not only one...”

“They send us here to the classes (BIP), but for them, no. Then we can change, but when are they going to change? They’re never going to change...”

“She gets everything and you are the one who has to leave”

“I lost [the job] definitively...It’s too much ten days [in jail]... it’s impossible and then without communicating to them [employers]”

Discussion

The findings indicate that IPV occurs in a culturally significant context for Latinos living in the U.S. Interestingly, the facilitators used examples related to acculturative stress or U.S.-Mexico differences as opportunities to discuss IPV and educate their clients. More specifically, the facilitators spoke about cultural clashes their clients experience as a point of entry to discuss their client’s IPV and/or to challenge assumptions and beliefs that underlie their abusive behavior. On the other hand, the abusive men themselves discussed acculturative stress and unfair treatment of the criminal justice system as explanations for their violence. They described how their partner’s acculturation (e.g., partner’s becoming independent, changing norms around familial obligations) contributed to their perpetration of IPV.

Our research team has been working to understand how the men’s cultural position as Latinos in the United States, their values about family and gender, and their experience of racism and discrimination in employment and legal systems shapes the meaning they give to their abusive behavior in these focus groups. We do not view cultural context, cultural differences, or acculturation stress as excuses for partner violence but rather as explanatory concepts that need to be considered in designing appropriate and effective workplace intervention curricula to prevent IPV. Yet, community psychologists do not know very well how to theorize about cultural diversity in behavior or “subvert” oppression that masquerades as culture (see also Ortiz-Torres, Serrano-Garcia, & Torres-Burgos, 2000). Cross-cultural psychologists could help community psychologists address this important problem concerning the tension between value-based intervention and “hands-off” cultural relativism.

Efforts to address the problem of IPV in diverse communities will need to draw on the kind of situated knowledge generated by this study. We were able to gather this information through a partnership of people in the local community who work on the problem of IPV and

academic researchers. By developing collaborative relationships in which the design and conduct of the research was negotiated and shared between academic researchers and community members, the research knowledge produced is more contextually and culturally valid. Cross-cultural psychologists have unique experience in the development of international and culturally diverse research teams whereas community psychologists have demonstrated expertise in community-based participatory research. Combined together in a cultural community psychology, these sources of knowledge would increase the quality of research each field is able to conduct.

The findings from this research and additional information the team has collected from female employees, female survivors, and employers will inform our development of a culturally appropriate workplace intervention. Primary and secondary preventive interventions are needed because many employers seem not to effectively address intimate partner abuse affecting the workplace. Experimental evaluation of the intervention will continue the cycle of research informing action, in turn informing research that is a hallmark of community psychology. Knowledge about the synergistic practice of research and action can be useful to the field of cross-cultural psychology, which has a wealth of theory and empirical data regarding cultural aspects of psychological phenomenon, but not the same experience using data to inform intervention development and assessment in diverse communities.

Conclusion: Activities to foster the development of a community cultural psychology

Our description of this research and intervention project and the preceding historical and bibliographic analysis of the values and concepts represented in cross cultural and community psychology both indicate the potential benefits of developing an integrated cultural community psychology. Although collaboration can take many forms, and sometimes produces unintended consequences (Trickett & Espino, 2004), the present analysis has highlighted some likely benefits. In this light, we conclude the chapter by briefly describing some concrete actions that could foster thoughtful interdisciplinary collaboration.

1. Establish liaisons from the IACCP and SCRA to serve as reference persons and to coordinate communication and information sharing between our associations.
2. Develop and maintain a listing on IACCP and SCRA web pages of members in our respective associations who are interested in potential research collaborations on specific topics or problems.
3. Publish special issues of the *Journal of Cross-cultural Psychology* and/or the *American Journal of Community Psychology* that highlights the key theories, research methods and value perspectives we have to offer each other, as illustrated in exemplary research and action projects.
4. Develop a graduate student exchange program to provide opportunities for students from different programs in cross-cultural and community psychology to obtain further training in the respective field, in a country or region different from their own.
5. Co-sponsor each other's Biennial conference meetings (which meet on alternative years -i.e., IACCP meets during even numbered years and SCRA meets during odd numbered years), by submitting a slate of panels, presentations, workshops and other proposals that highlight the best knowledge and research that our respective fields have to offer each other.

During the past several years, the SCRA has pursued the development of interdisciplinary research, training and practice, for example, by sponsoring a working conference on interdisciplinary issues, publishing a special issue of the *American Journal of Community Psychology* on community-based interdisciplinary research (Maton, Perkins, Altman, Gutierrez, Kelly, Rappaport, & Saegert, 2006) and establishing a standing committee on Interdisciplinary Linkages. This chapter emerges from these efforts within SCRA and argues

for the development of a cultural and community psychology. The two psychologies have much to learn from the similarities (and differences) in how we theorize and assess culture and diversity in psychological phenomenon, in how we conduct research, and in how we express our values in research and action projects with diverse communities and groups. The study of such “applied” and complex problems by psychologists requires interdisciplinary and multi-sector collaborations (Maton et al., 2006). Although such collaboration, like any cross-cultural research endeavor, will require the translation of languages and much patience and goodwill, it was clear to the first author as a U.S.-based community psychologist participating in his first IACCP Congress in Spetses, Greece, that the outcomes of this process can be very fruitful.

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Developing Social Policy in a Multi-Cultural Setting: the Role of Applied Cross-Cultural Psychology

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How should public policies respond to the dynamics of the multicultural setting? This chapter illustrates how cross-cultural psychology was used to provide tangible intellectual support to help develop and frame a policy response in the multicultural setting. Over the past twenty years, New Zealand has changed from a bicultural to multicultural society competing in the global economy. This chapter identifies policy issues and challenges the transition to a diverse, multicultural society has created, the type of response that was developed and its outcome. These are informed by the author's personal reflections in developing and promoting *Ethnic Perspectives in Policy*, a government policy framework and resource guide for public servants. A survey of all departments after two years has indicated that *Ethnic Perspectives in Policy* affected positive institutional change and provided an impetus to develop more specific policies to address the intercultural setting. The potential for further applied research is discussed in the context of contemporary social policy issues related to settlement, social cohesion and national identity.

The aim of this chapter¹ is to help foster a conversation between researchers and policymakers on the increasingly diverse communities that feature in modern western societies. The thesis is that emerging policy questions around diverse pluralistic communities are now more likely to benefit from cross-cultural psychology research and literature. Few people today would question the far-reaching impacts of immigration on both the host and migrant communities in many countries. These population changes have created policy issues that are diverse, complex and dynamic. What should be the policy towards minority ethnic communities? Should there be special treatment?

The establishment team for the Office of Ethnic Affairs (OEA) was responsible for developing public policies within such a dynamic, complex multicultural² environment. This chapter reflects on the author's experience developing and promoting a government policy framework in the New Zealand setting. This was called *Ethnic Perspectives in Policy* (OEA, 2002). The chapter follows the critical incident case approach to encourage discussion by describing the situation, tasks, actions and the initial results achieved after two years.

Acculturation and related literature

The policy implications of diversity were based around broad social policy issues such as settlement, community cohesion³ and identity⁴. These issues center on understanding groups who can be identified on the basis of their identity or culture. Cross-cultural psychology and acculturation literature provided a way of framing the behaviours, perceptions and responses of various groups, and inter-group comparisons, by examining the ways that individuals, families, communities and societies react to inter-cultural contact (Rudmin, 2003). Several models have been developed to accommodate the research data.

Berry, Evans and Rawlinson (1972) developed a popular model for adaptation strategies of minority groups in dominant cultures based on their reaction to three questions: how important is it to me to retain my own 'minority' culture, how important is it to fit in with the dominant 'host' society culture, and how much control do I have over social institutions? From a policy perspective, the model provides a frame for issues such as integration, assimilation, segregation and marginalisation or alienation. The approach has been refined to accommodate various dimensions of both the migrant and host communities. For example, Berry (2001) included responses to societal institutions; Triandis, Kashima, Shimada and Villareal (1986)

considered the accommodation of the minority by the majority host group, including the impact of identity and stereotypes and the more complex patterns of adaptation in relation to components such as language and music, and Rudmin & Ahmadzadeh (2001) examined marginalisation and multiculturalism expressed through language and music. In addition, there was also research examining the acculturation process in more detail. For example, Ward, Bochner and Furnham (2001) developed the ABC model of affect, behaviour and cognition to better examine the interactions between sojourners, non-sojourning migrants and the host communities.

The acculturation literature provided ways to understand the interplay between individuals when exposed to different cultures. Underpinning the acculturation literature was a range of related cross-cultural research that could help officials to navigate unfamiliar intercultural contexts. Generally this literature was not familiar to policy makers. The distinction between culture specific (emic) traits and culture general (etic) traits originally developed by Pike (1967) but generally associated with Berry (1989) was critical in helping to frame a policy response; and through the application of intercultural communications and training literature, identified the critical importance of intercultural competence.

It is axiomatic that cultures are socially constructed as a group phenomenon, language is an important means of cultural transmission and each culture has its own world view or lived in reality that needs to be understood. As Berry, Poortinga, Segall, and Dasen (1992) have noted “the ethnocentrism of Western psychology makes it necessary to take other viewpoints on human behaviour into account” (p. 384). This worldview encompasses attitudes, beliefs, assumptions or attributions about the material and immaterial world, social roles and institutions. The acculturation literature was supported by an intercultural competence approach based on: developing and awareness of one's own culture, developing an understanding of other cultures and from this building a cultural bridge (e.g. Bennett, 1998).

The New Zealand Situation

Since the mid-1980's New Zealand's skill based immigration policy has been essential for its economic well-being, with the New Zealand's population growing markedly in size and complexity⁵. The 2006 Population Census recorded over 23% of the population was born overseas, and over 200 ethnic groups, with the largest being Maori, Chinese, Samoan, and Indian. At 10% the ethnic sector⁶ had doubled in size in the decade to 2001, and by 2003 almost half of the births in New Zealand were to families with at least one parent from a minority ethnic group (Boston, Callister & Wolf, 2006). These changes mean that by 2021 the ethnic sector could make up 18% of the population, alongside 17% Maori and 9% Pacific peoples (OEA, 2005).

With this population shift was evidence of policies not meeting their expected outcomes for ethnic groups, and being difficult to access, when compared with the majority of New Zealanders. For example, new skilled ethnic migrant groups, whom it was expected would be easily employed, were experiencing unemployment rates twice or more that of the New Zealand European group (OEA, 2002, p. 13). Better quality ethnicity data was needed, as minority ethnic groups tend to disappear in broad-brush measures such as national averages.

There was a growing expectation of public participation in policymaking to empower communities to address issues affecting them. Ethnic communities were also expressing concerns about government policy² being fragmented and unresponsive. They wanted greater involvement, to feel included and valued, and fair and equal access to social services. They also expressed a strong desire to fit in with other New Zealanders but to retain aspects of heritage, language and culture –which was similar to the acculturation concept of integration. This desire to retain heritage culture mirrored the resurgence of Maori and Pacific cultures.

In terms of Berry's acculturation theory (1989, 2001), this could be interpreted as a strong desire for integration, concern about alienation, and a rejection of assimilation. Ethnic

communities indicated they wanted to participate fully in all aspects of New Zealand life, and more responsive and co-ordinated public policy and services. The key areas were education, employment, housing, health, policing, settlement, welfare, better information, and language support.

Challenges for policy development

As part of the population change, the OEA was established in 2001 to provide a voice in government for ethnic communities and to promote the advantages of ethnic diversity for New Zealand. This complemented 'population-based' agencies for Maori and Pacific peoples. The OEA first policy objective was to develop a framework for government agencies to assess and respond to diverse communities. The development process involved reviewing literature, sector policy data and research, consulting with communities, other key stakeholders and officials. The literature showed that the acculturation process affects both public servants (as agents for the host community) and migrant communities.

Public policy approaches to diversity were traditionally based on economic or social justice paradigms, targeting areas such as human rights and reducing socio-economic disparities between groups with employment as a key indicator. Policies tended to take a 'one size fits all' approach, and assumed all groups behave the same. The influence of dominant policy values and predominant frameworks on the policy process had been well established (Scott, 2003). Predominantly middle class and European, policy makers' views and values tended to be quite different from those of most minority ethnic groups. While New Zealand had developed culture specific public policies to address the needs of Maori and Pacific communities, there were questions about how to respond to over 200 distinct ethnic groups.

Ethnic Perspectives in Policy

A key difference between this policy response and previous policy approaches was to place the traditional economic and social justice paradigms into the intercultural setting. The policy framework was based on assessing communities' views and needs, as noted above. It set out core values to guide the policy development process (acceptance, participation, access, responsiveness and equity) and strategic outcomes to be achieved (based on social inclusion⁷, economic development, education, settlement, health and housing). It was process oriented so it could be tailored to different ethnic groups, providing a general rather than culture specific approach. To complement the framework additional information was provided about the situation and views of ethnic communities (summarized from the work to date). Included was a set of guidelines for agencies. These provided tools to develop an understanding of communities and their worldviews⁸ by providing for cultural self-awareness, cultural literacy and cultural bridge building. For example, describing the use of people skilled in both cultures as cultural brokers, and translated materials to bridge the communications gap.

The implication for policymaking was the need for officials to develop better intercultural competence, become more aware of their own cultural views and its influence on the policy process, and to consider the different perspectives that ethnic groups⁹ may have on the policy question. Understanding such cultural differences and similarities is essential to develop effective responses to achieve policy goals and positive outcomes. The final component of the framework was to promote good quality data about diverse ethnic groups, as there was very little good quality data available. This was critical to inform policy and also to empower ethnic communities themselves. From late 2002, *Ethnic Perspectives in Policy* was widely promoted as a resource guide to all departments and made freely available. To support this work, the OEA provided additional advice, training and guidance to government agencies, targeting first the key agencies responsible for the outcomes identified in the framework.

Results

In 2004, all 36 public service departments and 6 Crown agencies were independently surveyed using a self report questionnaire and their published documents to identify how they had adapted their policies and practices (based on the guidelines in *Ethnic Perspectives*). While the self-report method has limitations, the data was interpreted as indicative of broad patterns and trends. Agencies identified progress compared with 2001, however this varied, both between departments and within some departments. About 33% (14) agencies could identify ethnic sector data in strategic planning documents and annual reports, and a similar number identified ethnic sector groups being included in major policy consultation. Also several new strategic policies had been developed to address needs identified in *Ethnic Perspectives in Policy*. For example: the National Settlement Strategy, the National Housing Strategy, the Police Ethnic Responsiveness Plan and Refugee Health Handbook. Overall the pattern suggested that there had been an increase in service responsiveness in the key outcome areas noted in the framework. Compared with 2001, 48% (20) of agencies reported that they now had translated materials and/or regularly used interpreters. While ethnic research and monitoring information was improving, progress was slow and this was interpreted as a key gap.

The results were interpreted with cautious optimism. Ethnic communities consulted during this time still expressed concerns similar to those noted earlier, but there was also noticeable progress over the two years in agencies' responsiveness to ethnic communities. An interesting result was that 42% (18) of agencies surveyed asked for more support and advice on how to work more effectively with ethnic groups.

Discussion

Ethnic Perspectives in Policy was the start of a new set of public policies to address diversity in New Zealand. There are now several initiatives¹⁰ to support settlement, strengthen community cohesion and relations between its diverse communities. The rich tapestry of cultures is celebrated, with the Government hosting receptions for Chinese Lunar New Year, Eide and Diwali. New Zealanders value this diversity as a strength, with 88% agreeing it is a good thing for society to be made up of diverse races religions and cultures (Ward & Masgoret, 2004). But this diversity is not without its tensions. Ward and Lin (2005) have found integration is conducive to well being, but the recent experiences in London, Paris and Sydney suggest traditional assumptions about integration and settlement may not hold when community boundaries are defined by ethnicity, culture or faith.

As Prime Minister Clark stated "The New Zealand way must be to build unity in diversity, to avoid marginalisation, to practise inclusion in the national interest, and to encourage all those who want to be part of the building of New Zealand" (Clark, 2005, p. 5). This raises policy questions about the relationship between host and migrant communities. For example: How to foster inclusion and trust? What indicators of social cohesion are valid? What factors influence marginalisation and alienation? What is the impact across generations, identities and values? Is acculturation reversible, as the cultural renaissance of Maori and other ethnic groups in New Zealand suggests? How will these factors affect the evolution of inter- and intra- group values, community well-being and national identity? These questions and issues require new, innovative policy paradigms supported by quality research.

Conclusion

Cross-cultural psychology and acculturation literature can be a valuable resource to policy advisors, to alert and inform the policy context, and to help understand and resolve policy issues. In New Zealand it has helped to frame and develop a policy response to diversity, and develop tools for government agencies to use in the multicultural setting. The resulting policy resource '*Ethnic Perspectives in Policy*' (OEA, 2002) has enabled departments to identify and respond to the needs of ethnic communities, and provided tools to help the host

community. A review of Ethnic Perspectives in Policy has shown positive changes in the performance of institutions following its implementation. Yet many questions remain.

As societies become more culturally diverse, the field of acculturation, and cross-cultural psychology of which it is part, has a valuable role to inform on future policy considerations. Future dialogue between academics, researchers and policy makers is encouraged to address these complex and emerging policy issues that experience suggests are not likely to be resolved by more traditional policy approaches alone.

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Endnotes

- ¹ The views expressed in this chapter are those of the author and not necessarily those of the Office of Ethnic Affairs or the New Zealand Government.
- ² Multicultural refers to the demographic trait of several distinct population groups who can be defined by characteristics such as race, ethnicity, culture or religion. Multiculturalism refers to policies that promote the value of multiple cultures.
- ³ Commonly a cohesive society is one with a climate of collaboration where all groups have a sense of 'belonging, inclusion, recognition and, legitimacy' (adapted from Jenson, 1998). Other definitions extend this to include a sense of shared values and opportunities and appreciation of other cultures e.g. British Home Office (Home Office, 2005).
- ⁴ The identity landscape and ethnic contours in New Zealand are dynamic and changing (Liu, McCreanor, McIntosh, and Teawia, 2005) (Spoonley, MacPherson, and Pearson, 2004).
- ⁵ New Zealand is one of the highest migrant receiving countries in the OECD, at over 1% of the total population. Combined with temporary residents including those on work visas and students, there was an influx of new or temporary migrants equivalent to about 5% of the population.
- ⁶ The ethnic sector is a term used to identify the minority ethnic groups that the OEA primarily focuses on. Ethnicity in New Zealand is self-determined. It is a broad concept of group affiliation based on elements of race, language, religion, customs, heritage and tradition as well as geographic, tribal or national identity. For administrative reasons, the OEA primarily focuses on people who identify with ethnic groups originating from Asia, Africa, Continental Europe, the Middle East and Central and South America; and includes refugees and migrants as well as people born in New Zealand who identify with these ethnic groups (Department of Internal Affairs, 2005 "*Briefing For Incoming Minister – Ethnic Affairs*", page 7).
- ⁷ For example, Ethnic Perspectives in Policy defines the policy outcome of an inclusive society as 'the value of ethnic diversity is affirmed, and ethnicity is not a barrier that divides society, in opportunities, access, or participation. The cultural richness of New Zealand society is enhanced through the free expression of heritage and traditions of diverse cultures, languages and religious beliefs. Human rights education helps to overcome any discriminatory attitudes'. It also provides a list of indicators to monitor this. A similar approach was provided to the other identified outcomes (OEA, 2002, pp. 15-18).
- ⁸ For example, the policy act of defining a problem or evaluating options is largely dependant on participants point of view. It follows that understanding the views of other people affected will help to better define or reframe the issue and better assess options and their impacts.
- ⁹ A better understanding of potential different views would be useful in formulating an effective response. For example, the problem for an agency may be seen as one of resource allocation, with too many different groups to respond to individually, whereas a community's point of view may be that the government services are fragmented, unresponsive or exclusionary. Further discussion about communities' views and issues can be found in Ethnic Perspectives in Policy (OEA, 2002).
- ¹⁰ OEA activities now include: intercultural competence training for public servants, publications to raise awareness, a telephone interpreting service (Language Line), targeted community development, promoting quality research and 'strength in diversity', to celebrate the value of ethnic communities' contributions.

Dimensions of Well-Being: A Cross-Cultural Study in European Neighborhoods

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People build their sense of well-being by responding to their objectively defined environment. The community environment and more specifically the neighborhood affects the subjective and psychological well being of the individuals. Neighboring refers to the residents' social interaction and mutual material and non material support. This chapter attempts to examine how the social, political, and economic aspect of community life is related to community well-being focusing on community satisfaction, informal social interaction, feeling safe, the residents' involvement in the community decision making process, the economic life, and the job opportunities and training of 705 participants in six European cultural settings: Dingle Partnership Area (DPA), Liverpool, *United Kingdom*; Bournazi, Athens, *Greece*; Westside, Galway, *Ireland*; Plateia Eleftherias, Patras, *Greece*; Knocknaheeny, Cork, *Ireland*; and Kontopefko, Athens, *Greece*. The overall picture as emerged by one-way analyses of variance and a posteriori *Scheffé* comparisons employed is defined by the clear statistical differences regarding the informal social interaction, community services satisfaction and income sufficiency and the more homogeneous conditions regarding the residents' feeling of safety, their involvement in the community decision making process and their job/training opportunities in the community. The neighborhood contextual effects on individuals' behavior and affect are complicated and ask for an integrated approach, as population stability and coherence as well as opportunities for interaction need to be addressed too.

The social change as related to social policy making has drawn gradually higher levels of attention over the past few decades. Researchers have found that social change and the individuals' quality of life are closely related (Land, 1975). Specifically, what they have come down to is that people do not build their sense of quality of life by responding to their objectively defined environment (Keyes, Shmotkin, & Ryff, 2002). They interpret the material and non material environment they live in. Based on these cognitions and premises they build their own world and obtain their sense of well-being which is a major parameter for people's quality of life (Campbell, Converse, & Rodgers, 1976).

Well-being comprises subjective well-being and psychological well-being. Subjective well-being is defined by one's assessment of his/her quality of life, life satisfaction, and by one's positive and negative affect of his/her experience (Diener, 1984). Psychological well-being refers to one's sense of fulfillment in facing life challenges (Keyes, Shmotkin, & Ryff, 2002). Apart from heredity and personality, two more indicators of subjective well-being that have shown are mutable living conditions (Veenhoven, 1991) and currently accessible information (Schwarz & Strack, 1999). The Social Production Function theory (Ormel Lindenberg, Steverink, & Verbrugge, 1999) describes how environmental and personality factors affect well-being. It is apparent that the environment of the community that people live in is embedded in the factors affecting subjective well-being.

Community is defined as the geographical area, locality or neighborhood that includes a network of social interaction and support (McMillan & Chavis, 1986). Community is not only a physical setting but also a social, economic, political, psychological and a cultural one (Prohansky, 1978). Community well-being refers to the satisfaction that the inhabitants draw

from their neighborhood, their perceived quality of life in it, the sense of community they maintain and the sense of effectiveness they perform in it (Farrel, Aubry, & Coulombe 2004). Sense of community and neighboring serve as mediators between neighborhood characteristics and the residents' well-being. Glynn (1986) states that "Neighborhood remains a significant contributor to the development and maintenance of sense of community" (p. 350). Sense of community is a psychological variable referring to beliefs and attitudes about neighbors and neighborhood. On the other hand, "neighboring" is a behavioral variable involving social interaction and the exchange of support between neighbors (Farrell et al., 2004). The need for a comprehensive profile of community well-being arises from the multiple nature of the problems themselves that many urban neighborhoods face. It has been shown that many factors can directly or indirectly affect community well-being and equally one aspect of community well-being can impact on another (Christakopoulou, Dawson & Gari, 2001).

Different aspects of community well-being serve as specific life domains offering satisfaction to the individuals (Diener, Suh, Lucas, & Smith, 1999) in defining their subjective well-being in view of the bottom-up theories which assume that satisfaction in specific life domains constructs the overall subjective well-being (Schimmack, Diener, & Oishi, 2002). Human needs that fall in the field of social well-being and that demand satisfaction are the needs for safety/security, for material resources, for social integration, for social support, for affection, for belongingness (Ormel et al., 1999). The social integration into the local area is closely associated with the notion of the community attachment which is conceptualized through various dimensions of individuals' emotional ties and "community satisfaction" (Hummon, 1992).

These needs are met through the degree to which residents work together on common public problems and their participation in the political process (Cantillon, Davidson, & Schweitzer, 2003). Residents' involvement in the social life of the community is significant not only for their well-being but also for the quality of life and the preservation of the community itself (Ahlbrandt & Cunningham cf. in Christakopoulou, Dawson, & Gari, 2001). Informal and formal social networks within local areas provide access to resources, to social and emotional support and to practical help for coping with personal, economic and social problems (Warren cf. in Christakopoulou, Dawson, & Gari, 2001). The research of Martinez, Black & Starr (2002) has also found significant negative associations between perceived crime and sense of community & between perceived crime and satisfaction with neighborhood. Taylor (1995) states that actual perceived measures of crime do not necessarily reduce social involvement in the neighborhood and in some cases may actually drive some residents to invest more in their neighborhood organizations. Woldoff (2002) stresses that informal social interactions may be independent of participation in neighborhood organizations. In other words, problem-solving may occur informally as when residents help each other or work together to deal with absentee landlords or vandalism. Alternatively, problem-solving may occur through a formal organization, as when residents attend block watch meetings. Participation in a variety of community organizations has also been shown to be related to sense of community (Farrell et al., 2004). The degree of residents' involvement in the decision making process ranges from receiving information about future developments in the area through being consulted on proposed changes to participating in decision making throughout the entire development process. Residents' involvement in planning and decision making is more likely to ensure project quality and sustainability and enhance the local quality of life (Helgeson, 2003; Helgeson & Gottlieb, 2000).

This chapter focuses mainly on the social, political, and economic aspect of community life, in an effort to explore how community well-being is differentiated as related with: (1) community satisfaction in the six cultural settings; (2) informal social interaction in the six cultural settings (3) feeling safe in each cultural setting; (4) the residents' involvement in the community decision making process in each cultural setting; (5) the economic life in the six cultural settings; (6) job opportunities and training in each cultural setting; thus, an overall

profile of the six cultural communities regarding the *social aspect* –community satisfaction, safety and informal social interaction, and the *economic aspect* –decision making participation, income sufficiency and job opportunities, in association with the *emotional aspect* –attachment, was drawn.

Method

Instrumentation

The instrument used for this study was a questionnaire on community well-being (Christakopoulou, Dawson & Gari, 2001). Specifically, this questionnaire examines the local community as a “place to live”, as a “social community”, as an “economic community”, as a “political community”, as a “personal space” and as a “part of its city”. In particular, this chapter is based on the analysis of the data concerning the “social”, the “political-economic” aspect of the community. The social aspect explores the extent to which the residents (a) interact informally within the community, (b) are satisfied with the community services, and (c) feel safe within the community. The political-economic aspect explores the residents’ (a) views about the decision making that affects their area, (b) sense of income sufficiency, and (c) sense of job and job training opportunities availability. Test-retest correlations were high for all the scales and internal reliability was greater than .70 for each neighborhood separately regarding almost all the scales we employed except for the feeling of safety scale (Cronbach’s $\alpha = .68$). (Christakopoulou, Dawson & Gari, 2001).

In particular, the informal social interaction scale comprised four items and examined the frequency of residents’ talking outdoors, going out together socially, speaking on the phone, and visiting each other’s homes. The item responses were: 1 = never, 2 = once or twice a year, 3 = once a month, 4 = every 15 days, 5 = once or twice a week, 6 = 3-4 times a week and 7 = every day. Cronbach’s α coefficients for all cultural settings ranged from .74 to .85.

The residents’ satisfaction with the quality of services and local facilities, was assessed with a scale (from 1 = “very dissatisfied” to 7 = “very satisfied”) of satisfaction with the public transportation of the area, the access to cultural facilities, the access to sports and leisure facilities, the access to shopping areas, the quality of schools, the quality of shopping, the places of worship, the child care facilities and the services for the elderly. Cronbach’s α coefficients for all cultural settings ranged from .75 to .90.

The residents’ feeling of safety was assessed with a scale of which the item responses ranged from 1 = “strongly disagree” to 7 = “strongly agree”, with “don’t know” as an additional option which was not selected according to the collected data. The items of the scale included were: walk alone in the street at night, walk alone in the street at daytime, be home alone at night, be home alone at daytime, leave the car in the street at night. Cronbach’s α coefficients for all cultural settings ranged from .81 to .88.

The political aspect was represented by the decision making process scale which comprised four items. It assessed the respondents’ perceptions about the process of the decision making in their neighborhood: council takes notice of residents’ requests, local council informs residents, residents are able to be involved in decisions and residents can affect decisions. The item responses ranged from 1 = “strongly disagree” to 7 = “strongly agree”, with “don’t know” as an additional option. This “additional option” was regarded as missing value in the data analysis. Cronbach’s α coefficients for all cultural settings ranged from .81 to .84.

Income sufficiency scale comprised three items which were: household income is enough to cover household expenses, it is difficult with household income to afford unexpectedly large bills, household income is enough for the lifestyle one enjoys. The item responses ranged from 1 = “strongly disagree” to 7 = “strongly agree”. Cronbach’s α coefficients ranged from .80 to .82. Regarding job opportunities and job training availability the item responses were 1 = “very poor” to 5 = “very good”.

Finally, the residents' subjective feelings about their locality and also the personal and symbolic meaning that it has for them were measured by the attachment scale. Specifically, the incorporated place attachment scale comprised five items that assessed respondents' feelings about the area and specifically their emotional attachment, pride, sense of belonging, pleasure to be back in the area and desire to continue living there. The item responses ranged from 1 = "strongly disagree" to 7 = "strongly agree". Cronbach's α coefficients for all cultural settings ranged from .80 to .96.

Sample

The questionnaire was administered in six cultural settings covering a range of environmental and socio-economic characteristics in terms of housing type & tenure, appearance of the area, availability of different services & facilities, household composition, employment status & average income in Greece, Ireland and the UK: (1) Bournazi, Athens, *Greece*, (2) Kontopefko, Athens, *Greece*, (3) Plateia Eleftherias, Patras, *Greece*, (4) Westside, Galway, *Ireland*, (5) Knocknaheeny, Cork, *Ireland* and (6) Dingle Partnership Area (DPA), Liverpool, *United Kingdom*.

The original English version of the questionnaire resulted through back translation procedures for the Greek version, which was administered in the neighborhoods in Greece. Trained interviewers collected the data by face to face interviews in the respondents' homes with the available adult of the household at the time of call (as many as four calls sometimes), preceded by a letter describing the purpose of the survey.

Overall, 705 interviews were conducted. 160 interviews were completed in Dingle Partnership Area (DPA), 133 in Westside, 109 in Knocknaheeny, 102 in Plateia Eleftherias, 115 in Bournazi and 86 in Kontopefko. The sample consisted of 39% men and 61% women. Their age ranged from 18 to 80 years (*Mean age*=43 years). 17% of the respondents were aged between 18 and 29 years old, 42% were aged between 30 and 44 years old, 26% were aged between 45 and 59 years old and 15% were 60 years old or more.

Results

In order to identify the exact differences of informal social interaction among the different cultural settings an one-way analysis of variance design was employed. For this analysis, $F_{5, 698}=26.52$, $p<.001$, $\eta^2=.16$. Most of the 16% of the variance explained is mainly due to the Plateia Eleftherias statistically significant differences with approximately all other neighborhoods (Figure 1). A posteriori *Scheffé* multiple comparisons between neighborhood pairs showed that Plateia Eleftherias had the lowest score ($Mn=2.56$) in comparison with DPA ($Mn=4.52$) at the statistical level of 5%.

Another one-way analysis of variance design was employed to explore for differences in services satisfaction for the six different neighborhoods. For this analysis, $F_{5, 699}=37.62$, $p<.001$, $\eta^2=.21$. Most of the 21% of the variance explained was mainly due to the Bournazi ($Mn=4.05$ $p<.05$) and Kontopefko ($Mn=4.02$, $p<.05$) area differences (lower means) with all other neighborhoods ranging from $Mn=4.77$ ($p<.05$) to $Mn=5.34$ ($p<.05$), that express satisfaction at quite high levels (in a scale from 1 to 7).

For the exploration of possible differences of feeling safe in the six different cultural settings we employed the same ANOVA design. For this analysis, $F_{5, 698}=4.28$, $p<.001$, $\eta^2=.03$, explaining only 3% of the variance and mainly due to the statistical difference between Plateia Eleftherias ($Mn=4.91$, $p<.05$) and Westside ($Mn=4.35$, $p<.05$) which represented the two ends of the means range of the six cultural settings, showing that the residents of almost all the six neighborhoods feel safe without significant differences among them (Figure 1). In order to identify the exact differences of the decision making process among the different cultural settings an one-way analysis of variance design was employed. For this analysis, $F_{5, 657}=3.90$, $p<.05$, $\eta^2=.029$, explaining only 3% of the variance with no major differences between the six neighborhoods. A posteriori *Scheffé* comparisons showed no statistical differences with

neighborhoods means ranging from $Mn=3.28$ for Bournazi and $Mn=3.87$ for Knocknaheeny indicating medium level of agreement as for the residents' participation in the decision making process at their local community (Figure 2).

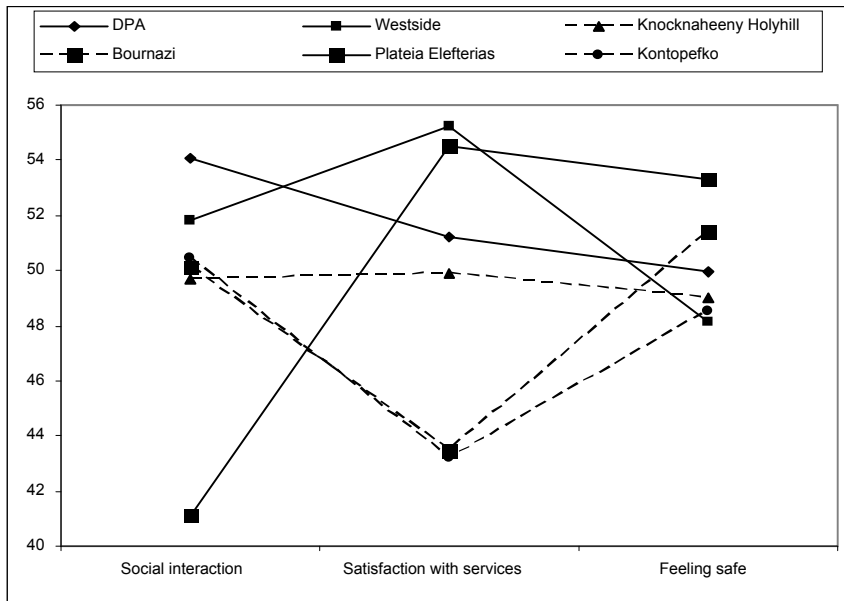


Figure 1. Mean T-scores for “social interaction”, “community services satisfaction” and “feeling of safety” by neighborhood.

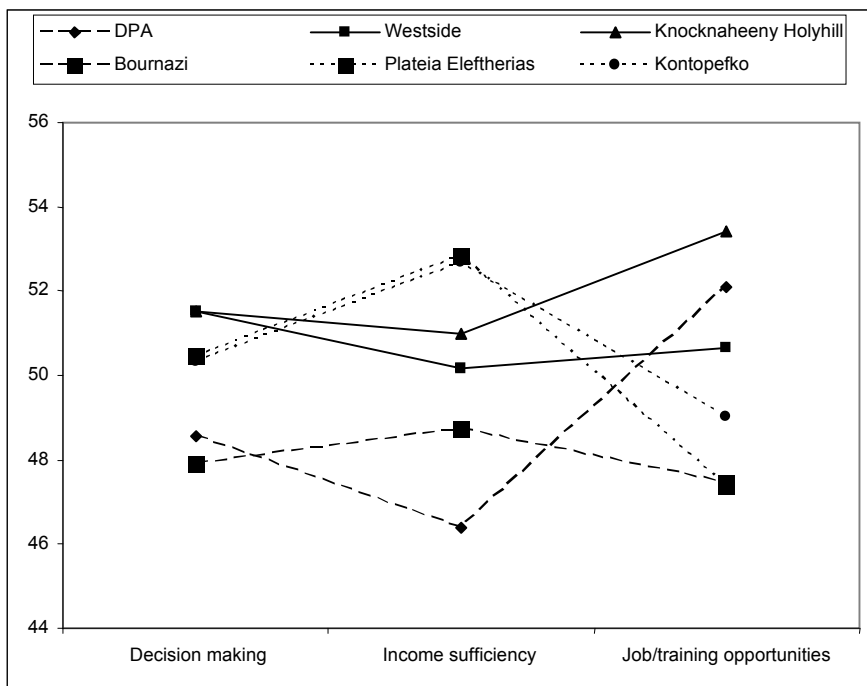


Figure 2. Mean T-scores for “decision making”, “income sufficiency” and “job/training opportunities” by neighborhood.

For the exploration of how the income sufficiency covering the residents' financial needs was differentiated across the six areas, a one-way analysis of variance design was once again employed: $F_{5, 694}=11.24$, $p<.001$, $\eta^2=.08$. Most of the variance explained was due to the differences between DPA ($Mn=2.68$, $p<.05$) and Bournazi ($Mn=3.12$, $p<.05$) on the one hand, and Plateia Eleftherias ($Mn=3.83$, $p<.05$) and Kontopefko ($Mn=3.89$, $p<.05$) on the other as shown by the a posteriori *Scheffé* comparisons employed with the former feeling that their income sufficiency is rather not adequate for their needs whereas the latter feel that their income sufficiency is rather adequate for their needs (Figure 2).

The mean differences of job opportunities and training in the six different cultural settings were compared through the same analysis of variance design: $F_{5, 650}= 6.18$, $p<.001$, $\eta^2=.045$. Most of the variance explained was due to the differences between Knocknaheeny ($Mn=2.64$, $p<.05$) and the Greek neighborhoods (of which the means ranged from 2.09 to 2.21, $p<.05$) with no major differences between the six neighborhoods (Figure 2) as shown by the a posteriori *Scheffé* comparisons.

Having already mentioned the results of the one-way ANOVAs regarding decision making and services satisfaction, another one-way analysis of variance design was employed in order to identify any differences of attachment among the six cultural settings. For this analysis, $F_{5, 693}=4.41$, $p<.05$, $\eta^2 = .031$, explaining only 3% of the variance with no major differences between the six neighborhoods (Figure 3). A posteriori *Scheffé* comparisons employed shown that the greatest difference was identified between Plateia Eleftherias ($Mn=4.64$, $p<.05$) on the one hand and DPA ($Mn=5.33$, $p<.05$) and Kontopefko ($Mn=5.49$, $p<.05$) on the other. Plateia Eleftherias residents feel somewhat attached to their neighborhood while the residents of DPA and Kontopefko feel a bit more attached to their place of living.

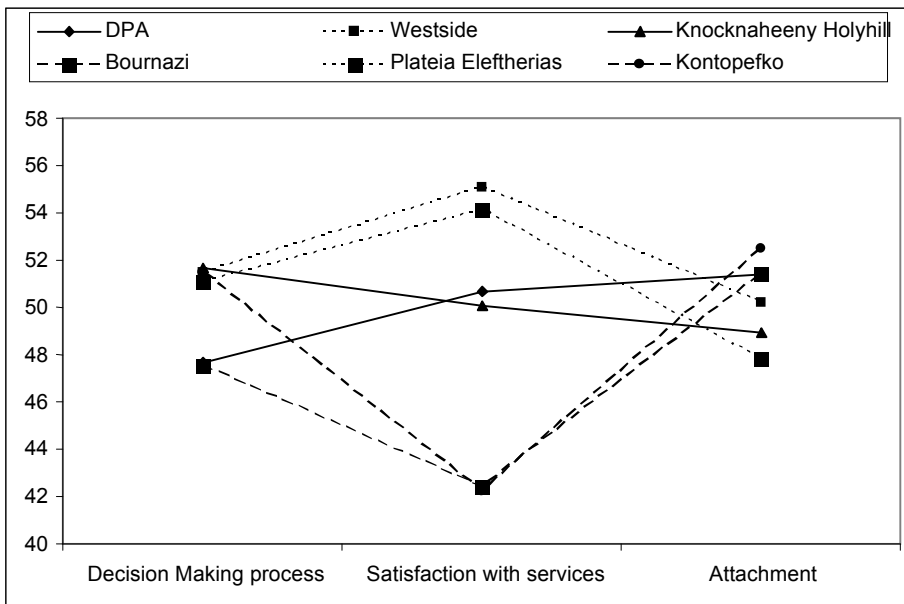


Figure 3. Mean T-scores for “decision making”, “community services satisfaction” and “attachment” by neighborhood.

Discussion

Two main aspects of the community well-being were explored: the social aspect by assessing the residents' social interaction, community services satisfaction and feeling of safety,

and the political-economic aspect by assessing the residents' involvement in the community decision making process, income sufficiency and job/training opportunities in their community, and both aspects in close relation with emotional ties with local area expressed through the notion of attachment. The overall picture is defined by the clear statistical differences regarding the informal social interaction, community services satisfaction and income sufficiency and the more homogeneous conditions regarding the residents' feeling of safety, their involvement in the community decision making process and their job/training opportunities in the community.

As for the social interaction Dingle Partnership Area, UK and Plateia Eleftherias, Greece showed the highest mean differences. This is explained by the fact that the British neighborhood has a much more homogeneous and stable population (89% live in the area for more than 10 years and 11% less than 10 years) than the Greek one (60% lives in the area for more than 10 years and 40% less than 10 years). This finding was expected since heterogeneous neighborhoods may inhibit interaction and the opportunities to establish linkages, while in areas with permanent residents for a great number of years informal social networks are flourished (Froland et al. 1981).

As for the community services satisfaction, Bournazi and Kontopefko residents, in comparison with residents of all the rest neighborhoods, seem to be less satisfied with the local services and facilities, such as public transportation, access to cultural and leisure facilities, shopping areas, etc. This finding may be related to a variety of difficulties that these two Greek local areas have to confront with: the Kontopefko area, although is a quiet, almost rich area, its residents confront with a number of problems, since it is a relatively new inhabited, off center located area with lack of a network in public transportation, sports and shopping. On the other hand, the Bournazi residents confront with different categories of difficulties since their neighborhood has become a rapidly developing area but with insufficiency in the local sewage system and limited access to child care services and services for the elderly.

As for the income sufficiency, the residents of Bournazi and Dingle feel that they earn a household income that just covers the household expenses and the lifestyle they enjoy, but the difference with the rest of the neighborhoods was not monumental. Another important finding is that the six cultural settings residents do not differ substantially in regard to their feeling of safety in their community during day and night, feeling rather safe in their community. Moreover, they do not seem to differ as far as the offered job and training opportunities are concerned, thinking that they are rather poor. This is a "warning" for policy makers since well being is influenced by the materialistic expectations –which are formed due to low socio-economic level and which lead to low level of subjective and psychological well-being (Helgesson, 2003), as well as to the individuals' involvement in any decision process that concerns them (Street & Quadagno, 2004).

Regarding the social aspect of the community well-being of the neighborhoods, two different patterns of community areas well-being aspects seemed to be revealed by means comparisons: the first pattern includes Bournazi, Kontopefko and Knocknaheeny Holyhill and the second one incorporates Plateia Eleftherias, DPA, and Westside. It was not a clear cut distinction and further exploration of the data is necessary. However, it seems that the Greek cultural settings form practically the first pattern whereas the British and the Irish neighborhoods form the second one. Given that no statistically significant differences were found as for the safety feeling of the residents, the first pattern is indicated by lower scores in social interaction and community satisfaction, while the second is indicated by the higher scores in social interaction and community services satisfaction. As supported by the relative international literature, in the more individualistic countries more social interactions take place compared to the more collectivistic ones (Kafetsios, 2006; Wheeler et al., 1989). Consequently, DPA performs the highest scores in social interaction followed by the two Irish and the two Greek neighborhoods, while Plateia Eleftherias showed the lowest scores. It is the only neighborhood where the majority of residents (Nomikou & Zafiropoulou, 1988) not only have

moved as refugees from Asia seashores in Aegean Sea and Black Sea areas, since 1922-1926, but also a large percentage have moved to the area during the last few years (40%).

Regarding the political-economic community well-being aspect of the neighborhoods three patterns were formed according to the differences across means. The first included Bournazi and DPA, the second included Plateia Eleftherias and Kontopefko, and the third Westside and Knocknaheeny Holyhill. This was also a not clear cut distinction. However, the first pattern was indicated by the lowest scores in decision making, lowest scores in income sufficiency and low in job/training opportunities. The second one was indicated by moderate scores in decision making, highest scores in income sufficiency and lowest in job/training opportunities. Finally, the third one was indicated by highest scores in decision making, moderate scores in income sufficiency and high in job/training opportunities. However, we need to bear in mind that the findings after the one-way analyses of variance for the three variables did not actually show tremendous statistical differences among the six cultural settings with the mean scores hosted at the negative end of the scales. This "social looseness", the inability of local communities to realize the common values of their residents or solve commonly experienced problems (Kornhauser, 1978) is evident in all six cultural settings. This finding is in line with the findings of other researchers (Cantillon et al., 2003; Shinn & Toohey, 2003) that it is the density, quantity and quality of relations among local neighborhood residents, and organizations and institutions existed in the community that create and maintain safe and supportive neighborhood environments (Cantillon, 2006). Further, as suggested by Farrel et al. (2004), the distinction of urban and suburban communities is no longer related to the residents' experiencing quality of life and self efficacy in their neighborhoods. It is the residents' perceptions and assumptions of their community conditions that give them evidence of the disinvestment both by the city government and the local residents (Haney, 2006; Rohe & Basolo, 1997).

In regard to the residents' involvement in their community decision making process, their community services satisfaction and their attachment to their place of living, three clear patterns were revealed. The first included Bournazi and Kontopefko, the second DPA and Knocknaheeny, and the third Westside and Plateia Eleftherias, and this was a clear cut distinction. Given that no major statistical differences in decision making process were found, the first pattern was indicated by the lowest scores in community services satisfaction and the highest scores in place attachment. Some specific objective positive characteristics of the local surrounding of Kontopefko as a social context (Cuba & Hummon, 1993) may offer an explanation for the high level of attachment, e.g., it is an area with mostly owner occupied housing tenure and low rates of unemployment, local features that may raise residents' attachment with the area close to their home, despite the already mentioned low satisfaction with the local services and facilities. Also Bournazi is a traditional area where longer term residents experience greater sense of community and therefore attachment to the place they have been living in (Farrel et al., 2004). The second pattern of well-being was indicated by moderate scores in community services satisfaction and moderate scores in place attachment. This may be associated with high residents' investment in their community that may be a specific cultural feature of the specific areas of the UK and Ireland. They are both communities of small size, of 5,000 residents for Knocknaheeny and 13,777 residents for Dingle. Finally, the third pattern was indicated by highest scores in community services satisfaction and low in place attachment. Both Plateia Eleftherias in Greece and Westside in Ireland are provided with high density housing in blocks of flats. Plateia Eleftherias additionally is a community of large size –of 25,000 residents– and mainly provided with old buildings and bad quality of housing, features that correlate negatively with community attachment and positively with individual distrust and social isolation (Wasserman, 1982). They are both areas also with large rates of unemployment, especially for Westside (75%), low educational achievement and rising levels of crime.

Conclusion

Brown's (1995) statement "little is understood about the neighborhood contextual effects on human behavior and affective states" is still valid. An integrated approach on the matter is expected to give substantial information on how residents experience their place of living-environment and people. Matters such as stability of population, opportunities for residents' interaction, feeling of safety and involvement in the decision making process of the local community and more importantly individual level variables as well as the internalized community effects by the local residents, constitute a solid base for the right and fruitful political decisions to be made.

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Education in Cross-Cultural Settings: Psychological Underpinnings of Achievement in Papua New Guinea

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Education and achievement in Papua New Guinea has received minimal attention in the psychological and educational literature. Although student motivation and achievement have been investigated in a large variety of cultures throughout the world, this has not been substantially extended to the developing world. The current study investigated a selection of psychological processes that contribute to student achievement in the context of a majority, indigenous and developing culture. Motivational goal orientations, learning and self-regulatory processes of 359 students from Papua New Guinea (PNG) were investigated. Structural equation modeling investigated the relations between the psychological variables. Results are discussed in the context of McInerney's (2007) model of student achievement in cross-cultural settings.

Education in Papua New Guinea has experienced a tumultuous and uneven history. The education system has had to battle the elements of reformation and restructure in the midst of widespread social and political instability hand in hand with the turmoil of health, employment and welfare crises. PNG education has had to battle with limited and poorly handled funding opportunities, an extreme lack of resources and supplies, and a limited number of qualified and appropriately paid and trained educators. Only 1.5% of students who begin elementary school in PNG will go on to complete Grade 12 in high school (Avalos, 1993) and approximately 80% of all Papua New Guineans continue to make their living in their home villages (Browne & Scott, 1989). Furthermore, the PNG education system has had to combat an ever-increasing attitude of ambivalence towards the utility of education in student and family lives, as well as an overwhelming number of the 'educated unemployed'. However despite the fluctuating and inconsistent attitudes towards the value of schooling and despite the societal hardships Papua New Guineans have had to deal with, some research has highlighted some promising findings concerning students' commitment to studies, goals they hold for their futures and motivation to achieve academically.

If, however, education is to play the effective and important role in Papua New Guineans lives that it has so often shown to in numerous other cultures, it is necessary for researchers, educators and policy designers alike, to gain a full understanding and appreciation of those factors which contribute to student achievement and engagement. The current study aimed to highlight the relations between two important psychological influences of student engagement and achievement—motivation and self-regulation. Furthermore, it aimed to investigate these relations of psychological processes in a unique cross-cultural setting—one characterized by being indigenous, majority and developing.

Model of Student Achievement

A large amount of research has looked into the characteristics and traits of students and how they relate to school achievement. Dennis McNerney (manuscript in preparation) has developed a model investigating the relations between students' future-oriented and immediate achievement goals and their relation to student self-regulation, self-concept and performance. The model emphasizes the importance of examining the validity of such a model within the cultural, familial, social and educational context of the student. The current study examined three of these psychological processes, motivation, self-regulation and future goal orientation, and a discussion of the research on this to date follows.

Motivation

One psychological underpinning of student achievement is motivation and the goal orientations that students hold in the classroom environment. Motivational goal orientation has been shown to influence the learning strategies that students employ in the classroom, the metacognitive strategies that students adopt, engagement and academic achievement in addition to being related to the goals and aspirations that students hold for their future. Goal orientations are generally defined as integrated patterns of motivational beliefs that represent different ways of approaching, engaging in, and responding to achievement-related activities (Ames, 1992). Stemming from Achievement Goal Theory (Ames, 1992) and Maehr's Personal Investment Model (1984), McNerney, D., Yeung, and McNerney, V. (2001) proposed a hierarchical, multidimensional model of motivation goal orientations that incorporates a wide range of goals assumed to be relevant in both Western and non-Western cultures. This model outlines the relation between eight specific first-order goals –task, effort, praise, competition, social power, token, social concern and affiliation– at the base of the hierarchy, which can be grouped into three higher order factors –mastery, performance and social.

Mastery, performance and social goal orientations have been shown to influence achievement in a number of different ways. The majority of research that has been conducted has focused on mastery and performance orientations, synonymously called learning and ego goal orientations. Students who adopt a mastery goal orientation focus on learning, understanding and mastering a task, and tend to have an intrinsic motivation for learning (Pintrich, Marx, & Boyle, 1993). Such students believe that hard work and effort leads to success and base their achievement on self-referenced standards (Ames, 1992). Alternatively, students who adopt a performance goal orientation focus on their sense of self-worth and their ability to do better than others, surpass norms and achieve public recognition (Ames, 1992).

Research has linked mastery and performance goal orientations to individuals' learning strategies and differing ways of thinking (Dweck, 1986; Nolen, 1988; Pintrich & Schrauben, 1992; Graham & Golan, 1991; Covington, 2000). Biggs (1987) demonstrated that students who adopt deep learning strategies such as obtaining a broad sophisticated understanding, reading widely and relating new material into an existing context, are motivated by mastery oriented goals. He also proposed that students who adopt surface level learning strategies are motivated by pass-only aspirations and hence develop minimum effort learning strategies, often dictated by rote learning only what is necessary (Biggs, 1987; Tickle, 2001). Covington (2000) reinforced the notion that mastery goals tend to be associated with deep level strategies for learning, whilst performance goals were associated with surface level learning strategies. Support however for the relations between performance goal orientations and surface level learning processes has not been as conclusive as it has for the relation between mastery goal orientations and deep learning processes (Covington, 2000; Nolen, 1988).

Past research however has not exclusively focused on mastery and performance goals alone and recently the importance of social goal orientation has been investigated and research has been extended to a number of non-Western and minority cultures as well as mainstream Western culture. It is important to note that research has shown that students may hold all three goal orientations simultaneously, depending on the nature of the task, school environment, and the broader social and educational context of the institution (Blumenfeld, 1992; Pintrich & Garcia, 1991; Meece, 1991). The importance of including social goal orientations stemmed from the realization that the original

achievement goal theory gave little attention to goals and values that preserve group integrity, interdependence, relationships and affiliation, and wanting to succeed for the sake of family, friends or other group members (Watkins, McInerney, D., & Lee, 2002). These collectivist, rather than individualist, values are often salient in non-Western cultures, emphasizing the importance of including a third type of goal -social orientation (McInerney, D., Roche, McInerney, V., & Marsh, 1997).

Social orientation is characterized by social concern for others as well as social affiliation and acceptance (Anderman, L. & Anderman, E., 1999). Whilst many studies have found strong relations between mastery goal orientations, deep learning processes and high academic achievement, some studies have found a similar relation for social goal orientation; paradoxical results are also apparent in the literature (Wentzel, 1996), giving rise to the suggestion that it is the interaction between mastery and social goals that positively affects achievement (Covington, 2000; McInerney, D., Marsh, & Yeung, 2003).

Self-Regulated Learning

Another set of psychological factors that have been shown to influence student engagement and achievement are learning strategies and self regulation. The combined use of these has been shown to enhance learning which is defined as the “complex process of assimilating, structuring, and applying new knowledge and skills” (Phalet, Andriessen, & Lens, 2004, p. 76). Learning strategies are the cognitive strategies or ways of processing information, students’ use when studying (Pintrich, 1989). These cognitive strategies include techniques such as cognitive rehearsal, elaboration, organization and critical thinking.

In addition to these, students employ self-regulatory and resource management strategies to their learning. Self-regulation has been defined as “self-generated thoughts, feelings, and actions for attaining educational goals (Zimmerman, 2002, p. 139). It involves processes such as planning and managing time, attention and concentration, the organization, rehearsal and coding of information, establishing productive work environments, and the effective use of social resources. Self-regulatory processes have been positively linked with academic achievement when students capitalize on the following procedures: (a) task analysis and goal setting; (b) holding positive self-motivational beliefs; (c) employing self-control and self-observation strategies; and (d) monitoring their performance via self-judgment and self-reaction. Many studies have reported the greater use by high achievers of both personal and social self-regulatory strategies (Zimmerman & Martinez-Pons, 1990; Zimmerman, 2002; Purdie, Hattie, & Douglas, 1996).

Marsh, Hau, Artelt, and Baumert (2006) in their review of the literature on self-regulation highlighted three main cognitive strategies and three main metacognitive strategies available for learners. The cognitive learning strategies include memorization strategies (e.g., reading material aloud and repeating vital facts and terms), elaboration strategies (e.g., construction and integration of ideas), and transformation strategies (e.g., transferring information from one form to another). In addition to these, the metacognitive strategies generally cover techniques involved in examining and controlling one’s learning patterns. The three main metacognitive strategies are planning strategies (e.g., outlining goals and learning targets), monitoring strategies (e.g., ensuring material is understood) and regulation strategies (e.g., adapting learning activity to given tasks and seeking appropriate support). Motivational goal orientation and self-regulation have rarely been studied in indigenous, majority and developing cultures such as PNG.

Instruments measuring students’ motivation goal orientation and self-regulation have been developed and used across a wide variety of cross-cultural settings. Two such instruments have been adopted for use in Papua New Guinea and their psychometric properties (validity and reliability) have been confirmed for use with Papua New Guinean students. The current study investigated the relations between the components of motivational goal orientation and self-regulation as measured by these two instruments, namely the Inventory of School Motivation and the Goal Orientation and Learning Strategies Survey.

Method

Participants

Three-hundred and fifty-nine students from Papua New Guinea participated in the current study. Students came from a K-12 co-educational school in Port Moresby and were invited to participate after informed consent was received. There were 205 males and 151 females (3 cases missing) participating in the study and the age range was from 10 to 23 years of age. The average age was 15 years and the average Grade was Grade 9. Due to outliers and listwise deletion of cases with missing data not missing at random, 21 cases were deleted resulting in a sample size of 338.

Materials

Three instruments were administered and analyzed to measure students' motivational goal orientations, future goal orientations and use of self-regulatory learning strategies. The first of these, the Inventory of School Motivation (ISM), was initially developed to reflect the dimensions of Maehr's (1984) Personal Investment Model and in particular to investigate the nature of student motivation in cross-cultural settings (McInerney, D. & Sinclair, 1992; McInerney, D. et al., 1997). This model proposes that several goals serve as a cause of motivated action and provides a useful framework in which achievement goals are conceptualized as being multidimensional and hierarchical. The ISM defines eight first-order factors, three second-order factors and one higher-order factor. The higher-order factor is a general motivation factor and the three second-order factors consist of mastery, performance and social motivational orientations. Mastery orientation is defined by two first-order factors, task and effort. Performance orientation is defined by four first-order factors, praise, extrinsic/token, competition, and social power. Social orientation is defined by the two first-order factors, affiliation and social concern. All 34 items of the ISM are scored on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Hence responses are coded so that higher scores reflect stronger endorsement of high levels of motivation.

The Goal Orientation and Learning Strategies Survey (GOALS-S) was designed to measure the cognitive and metacognitive learning strategies that students employ to learn (Dowson & McInerney, D., 2004). Cognitive strategies are measured by three subscales: elaboration, organization and rehearsal. The elaboration subscale is measured by 6 items which measure the extent to which students make connections between present and previously learned information. An example elaboration is "I try to understand how what I learn in school is related to other things I know". The organization subscale is measured by 6 items which refer to the selection, sequencing and summarizing of important information, for example, "I reorganize my schoolwork so that I can understand it better". The rehearsal subscale was also measured by 6 items and targets behaviors such as listing, memorizing and reciting information to aid learning. An example item is "I repeat things to myself when learning things for school."

Metacognitive strategies are also measured by three subscales: monitoring, planning and regulating. Monitoring involves self-checking for understanding, self-testing, and organizing reviews of learned material, and is measured by 6 items such as "I often ask myself questions to see if I understand what I am learning". Planning was measured by 6 items which measure prioritizing, time-management, scheduling and goal-setting. An example item is "I often try to decide first what are the most important parts of what I have to learn for school". The final subscale, regulating, is measured by 6 items such as "If I don't understand something in school, I go back and try to learn it again." Such items target the strategies that someone adopts to rectify any deficits they identify. Such strategies include seeking different ways to learn material, seeking explanations from teachers, and identifying mistakes in reasoning. All 36 items of the GOALS-S are scored on a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree'.

Procedures

In the PNG schools, a mediator and a translator participated in the administration of the questionnaire. The mediator was a village elder, who was briefed on the intentions and purposes of the research and ensured that participants understood that their participation was not compulsory.

Although English is taught primarily in PNG schools, students were also well educated in or exposed to their village (native) language and perhaps other local dialects. Therefore, a translator was present at all times to assist with any language barriers.

With the exception of some cases (which were excluded using listwise deletion), missing data appeared to be non-systematic and was dealt with using the EM-algorithm. The analyses performed employed structural equation modeling (SEM) and confirmatory factor analyses (CFAs) which compare the goodness of fit between a sample covariance matrix and an a priori hypothesized model. CFAs were conducted on the ISM and GOALS-S which confirmed the factor structure and validity of the instruments for use in PNG.

Structural Equation Modeling (SEM) was also employed to determine how motivation, self-regulation and future-goal orientation were related to each other according to McInerney's model of student achievement. SEM examines the causal relationships between the latent factors that are generated through CFAs. These relations are tested through multiple regression analyses and incorporate the structural relationships between latent variables as well as observed variables (Byrne, 1998). These processes allow for the detection of associations between these variables by obtaining parameter estimates close to their population values and by isolating the variables via their uniqueness and unreliability of their indicators (Hoyle, 1995).

In accordance with recommendations from Holmes-Smith (in press), the following goodness-of-fit indices were emphasized in the current study: the Root Mean-Square Error of Approximation (RMSEA), the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI). According to Holmes-Smith an acceptable fit is indicated by an RMSEA lower than .08 and a TLI and CFI greater than .90 whilst a good fit is indicated by the RMSEA, TLI and CFI values of .05, .95 and .95. In addition to these, the chi-square test statistic and degrees of freedom were calculated and reported.

Results

A structural equation model was performed on the motivation and self-regulation items with mastery, performance and social factors predicting self-regulation. Cognitive and metacognitive learning strategies were combined into a single factor called self-regulation. Previous analyses showed that PNG students were not distinguishing between the cognitive and metacognitive factors and that they instead perceived of a general higher-order self-regulation factor being comprised of the five first-order learning strategy subscales. The hypothesized and tested model is depicted in Figure 1.

The individual item factor loadings of the first order factors were all positive and significant predictors of the first order motivation (task, effort, competition, praise, social power, token, affiliation and concern) and self-regulation (rehearsal, elaboration, organization, preparation and regulation) subscales. These factor loadings ranged from .35 to .81. The factor loadings of the first order factors on the second order motivation and self-regulation factors were also all positive and significant and ranged from .45 to .98. These factor loadings are displayed in Table 1.

The correlations between the first order factors were all positive and are displayed in Table 2. These correlations ranged from .12 to .98. The correlations between the three second order motivation scales, mastery, performance and social, and the higher order self-regulation scale were .87, .56 and .53.

However, although these correlations were positive and significant, when the combined variance was accounted for in the structural equation model, only one of the motivation factors was positively and significantly related to self-regulation. Mastery orientation was the only goal orientation that positively predicted self-regulation with a standardized beta (path) coefficient of .91 ($p < .001$). Whilst performance orientation positively predicted self-regulation, its standardized beta coefficient of .15 was not significant. Similarly, although social orientation negatively predicted self-regulation, its standardized beta coefficient of $-.17$ was also not significant. Thus 82.8% of the variance in self-regulation was explained by mastery orientation.

Finally the goodness-of-fit indices indicated that the hypothesized model (in contrast to the null model) provided a good fit to the data. This was indicated by an RMSEA of .05, a CFI of .93 and a TLI of .93.

Table 1. First-Order Factor Loadings on Mastery, Performance, Social and Self-regulation Scales

First-Order Factor	Mastery	Performance	Social	Self-Regulation
Task	.84			
Effort	.84			
Competition		.71		
Praise		.71		
Social Power		.70		
Token		.84		
Affiliation			.51	
Social Concern			.91	
Rehearsal				.93
Elaboration				.83
Organisation				.96
Preparation				.98
Regulation				.45

Table 2. Correlations between First Order Motivation and Self-Regulation Factors

	T	E	C	P	SP	T	A	SC	R	E	O	P	R
T	1												
E	.71	1											
C	.31	.31	1										
P	.31	.31	.51	1									
SP	.30	.30	.50	.49	1								
T	.37	.37	.60	.59	.59	1							
A	.31	.31	.13	.13	.13	.15	1						
SC	.55	.55	.23	.23	.22	.27	.47	1					
R	.67	.67	.37	.37	.36	.43	.25	.45	1				
E	.61	.61	.33	.33	.33	.39	.23	.40	.77	1			
O	.70	.70	.38	.38	.37	.45	.26	.46	.89	.80	1		
P	.71	.71	.39	.39	.38	.46	.26	.47	.90	.82	.94	1	
R	.32	.32	.18	.18	.17	.21	.12	.22	.41	.37	.43	.44	1

Discussion

The current study examined the relations between motivational goal orientations and self-regulation for students in Papua New Guinea. The study found that there were relations between mastery, performance and social goal orientations and self-regulation but that it was only mastery orientation that positively and significantly predicted self-regulation, accounting for most of the variance in self-regulation. Neither performance nor social orientation significantly predicted student's use of self-regulatory learning strategies.

These findings share both similarities and differences from those of past studies. A large amount of research and literature has found a positive link between mastery goal orientation and

use of self-regulatory strategies, including deep learning processes and metacognition. This is supported by the results of the current study whereby mastery orientation was not only positive and significant but an extremely strong predictor of self-regulation. Furthermore, studies in Papua New Guinea also exhibited a relation between mastery orientation and deep learning strategies (Nelson, McInerney, D., & Craven, 2004). The current study, the first to use structural equation modeling in Papua New Guinea also supported this relationship.

However, these studies in Papua New Guinea and other non-Western settings also found that social goal orientations are linked to positive use of self-regulatory strategies and deep learning processes. This was not supported by the current study, and although non-significant, in fact a negative relation was found between social orientation and self-regulation. Despite Papua New Guinea's emphases on collectivism, group learning and social interaction, students' endorsement of social goals did not impact upon the techniques they use to learn in and out of the classroom.

These findings have implications for teaching practice in Papua New Guinean classrooms as well as potential motivational interventions. In order to increase students' adoption of positive self-regulatory processes, such as rehearsal, elaboration, organization, preparation and regulation, teachers and educators need to focus on increasing their mastery orientation. Techniques and interventions aimed at increasing mastery orientation must focus on increasing student's interest in subject matter, increasing their focus on effort, increasing their skills development and focusing on understanding and mastering content rather than achieving norms and standards.

The relations between social orientations and learning outcomes should also be investigated further. The correlation between social and mastery goal orientations ($r = .71$) was the strongest correlation. Given the emphasis that past research has found students placing on social and community goals, the links between mastery goals and social goals needs to be investigated further.

In addition to this future research should investigate the links between motivational goal orientations, self-regulatory learning strategies and other psychological predictors of student engagement and achievement. Future goal orientation, perceived instrumental value of schooling, self-concept and deep and surface learning strategies have also been shown to be linked to motivation, self-regulation and student outcome measures. These relations need to be investigated in Papua New Guinea and other Indigenous, majority and developing countries.

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Innovative Disaster Counseling Approaches with Children and Youth

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Children and youth from all cultures are at high risk following a disaster because of their dependency on caregivers and their stage of cognitive and emotional development. Without an available caregiver to help interpret the traumatic event, most children internalize their experiences making them more vulnerable to future stressors. Traumatic events also can lead to psychological and environment dislocation of children from ethno-cultural support structures and systems of meaning. Engagement of families is often a significant barrier that prevents the utilization of existing services. An innovative counseling approach is presented that was utilized following the World Trade Center terrorist attacks. This program successfully provided counseling to over 600 bereaved children.

Significant factors influencing the impact of traumatic exposure include; attribution made about the cause of the event, amount of personal loss, scope of community damage, visibility/durability of the devastation and the possibility of re-occurrence. These variable aspects create the conditions for prolonged and intensive immediate and longer-term stages of psychological reactions (Davidson & Baum, 1994; DeWolfe, 2001; Solomon & Green, 1992). In addition, the more vulnerable an individual was before the traumatic event and the fewer social supports after the crisis period will extend lower probability that the individual will return to pre-disaster levels of functioning.

Research has found that spouses with children who have lost partners to violent traumatic events required 3 to 5 years to return to prior levels of functioning (Sergeant, 2001). This sustained period of recovery has also been found in parents whose children died violently (Murphy et. al., 2003). Children who are directly impacted by disasters show Post Traumatic Stress symptoms and related behavioral difficulties over eighteen months following the traumatic events (LaGreca, Silverman, Vernberg, & Prinstein, 1996; LaGreca, Silverman, & Wasserstein, 1998). Children who have lost a parent to murder (and terrorism) have been shown to be at long-term risk for a variety of mental health impacts including depression, conduct disorders, anxiety and poor school performance (Sergeant, 2001). Reaching children impacted by trauma can be challenging since their caretakers are also deeply impacted. Parents must manage their own recovery or they can unknowingly neglect their children's needs. Vulnerable groups following disasters include widowed parents, their children and First Responders and their families (Gurwitch, Kees, & Becker, 2002; Murphy, 2003; Sergeant, 2001; Tassej, 1997). The request for more counseling services from those who lost loved ones in violent deaths is supported in the literature (Smith, Kilpatrick, Falsetti, & Best, 2002). In addition, children with parental loss will need continual clinical support consistent with the other risk factors in their lives (i.e., future family loss, life cycle events, physical illness or subsequent traumatic events) and as children reach particular developmental stages.

Case Study: World Trade Center Family Center

The impact of the September 11th disaster was devastating to most people in the United States. However, to New York and its surrounding communities, the impact was horrific. The suburban community of Long Island suffered extensive losses. It was estimated that more than 4,500 Long Islanders worked in the World Trade Center Towers but fortunately only 466 (about 10 percent) were at work the morning of 9/11/01. Tens of thousands of Long Islanders worked in or near the financial district around Ground Zero. The Village of Rockville Centre, where the World Trade Center Family Center would later be located, lost thirteen people who left behind thirty-three children. In all, over 495 “civilian” citizens and 105 New York City Fire Fighters of Nassau County were killed. Of the 343 members of the New York City Fire Department who lost their lives, 215 were residents of Nassau and Suffolk Counties on Long Island.

The establishment of a counseling center for bereaved 9/11 families presented some unique challenges for program leadership. Following the World Trade Center attacks, nearly all residents of New York reported increased levels of distress due to fears of ongoing terrorism including acts of bioterrorism (e.g. anthrax). Ongoing traumatic exposure was prevalent because of the intense saturation of 9/11 related images that were continually presented by all media outlets in New York. This intense fixation on the horrific images related to the terrorist attacks persisted in the print and visual media for several years. The bereaved 9/11 families also were exposed to the same flooding of distressing images. Recruiting trained mental health professionals who were successfully managing their own anxiety became an initial priority. Staff turnover became a primary concern because of the potential harmful effect of staff departure on bereaved children who had already lost a significant attachment figure in their lives.

The 9/11 families soon became a focus of intense media scrutiny and soon achieved an unwanted “celebrity status”. This attention was fueled by an intense public interest about the private lives of the 9/11 families. The 9/11 family members reported that their privacy was continually violated by both well-meaning community members and outside opportunists. One widow expressed concern when she noticed that the discarded garbage from her home appeared to be searched for revealing personal information. Children expressed concern that they sometimes were singled out in schools and provided unwanted “special attention”. Some children, however, became corrupted by the generosity and the special privileges they enjoyed. This included meetings with celebrities, free tickets to sold-out events, toys, lavish vacations, etc. Parents expressed concern that their children began to develop entitlement beliefs because of their 9/11 status and were learning that they did not have to work hard for rewards. Families soon began to isolate themselves because their ventures into the community became too overwhelming. A widow explained that her greatest wish during the recovery period was “to anonymously shop in a supermarket and plan meals for my family once again”. Members of the media became greatly interested in whether widows/widowers were dating and starting new relationships. Bereaved families soon became quite circumspect about who they associated with in the public, which increased their isolation. Families also became another target for exploitation when the public learned of the large amounts of financial compensation that became available through the United States government. Offers of financial management assistance, investment stewardship and proposals of marriage soon overwhelmed the families. Families soon became reluctant to share their “9/11 status” with new contacts and were hesitant to identify themselves in any public forum.

Families faced other profound challenges related to the nature of the 9/11 tragedy. For many months, a majority of families did not receive formal notification that their loved ones had died due to challenges with body recovery and identification. One young boy expressed his desire to visit Ground Zero and search for his father’s “pieces” so he could fit them together like a puzzle. The little boy was convinced that his father’s “pieces” might have been mistakenly discarded. In the years following 9/11/01, advances in DNA testing increased the

amount of body parts that were identified. At the time of the sixth anniversary of the 9/11 attacks, however, nearly forty percent of families did not receive formal notification of body identification. When notification was received, families often only received a small fragment of their family member's remains. The medical examiners' office often delivered multiple body parts at different time intervals based on when the parts were identified. Confusion about when to perform funeral/memorial rituals was prevalent.

Normal childhood development was affected by the intense stress experienced by children's primary caretaker. Family systems were often fractured by the loss. This resulted in the deterioration of supportive extended care networks in the family. Indeed, relationships with family members of their deceased spouse frequently became adversarial because of visitation and financial compensation decisions of the custodial parent. Children soon began to suffer from the absence of consistent and available male role models normally available in the family system. Parents felt considerable pressure to maintain normal appearances and minimize the presence of internalizing disorders and sub-clinical pathology because of a fear of losing control of their family. Engagement in external support systems (e.g. traditional mental health services) was perceived as an admission of vulnerability.

The World Trade Center Family Center (WTC FC) opened its doors in September, 2001, to serve the needs of adults and children affected by the events of September 11th. The WTC FC first served as a "safe harbor" and respite site for beleaguered 9/11 families. Operating as a community center, the WTC FC provided a safe space where families could escape from the outside world and find a wide range of support. Children appreciated finding other children who were "just like me" and understood their frame of reference. Group and communal activities were encouraged to develop mutual support and family empowerment. Families soon began spending more time at the WTC FC where there were no restrictions placed on the duration of service or formal appointments scheduled. Families reported that the WTC FC became a "safety net" for them since families knew they could "drop-in" to the WTC FC at any time and receive support for their evolving concerns. Professionals were readily available and the bereaved also "helped" each other. An open building floor plan and a large program space allowed parents the opportunity to watch their children in group or play therapy while at the same time permitting auditory privacy. Children felt reassured that they were able to view their parents while they engaged in services, which minimized the impact of separation anxiety and fears.

Children of different ages

Innovative, timely and evolving child programming became a priority to engage children so that they could receive preventive mental health services. Creative programming and the decor of the WTC FC also became a prime area of focus. An orienting belief for the program was that if the staff and services could not "engage" the child then the child would not benefit from support and counseling provided. One pre-teenage child stated emphatically that he did not want to keep coming to the WTC FC if it "looked like a funeral parlor". We understood that to mean that the boy did not want to attend a program that contained continued reminders of his traumatic loss and participate in services that directly asked him about his painful emotional wounding. Indeed, many children shared that they were continually asked by well-meaning community members about their "feelings about their deceased parent" and how their personal grief was progressing.

This was especially difficult for younger children who lacked the cognitive capacity due to their maturational stage to reflect on their experience. Older children expressed that they did not want to focus on this significant loss all the time and looked forward to participating in normal childhood experiences. WTC FC's child activity programming was designed to be enjoyable and exciting while at the same time including therapeutic elements which would support healing and resiliency. For example, a "Harry Potter (whose parents were violently murdered by an angry individual) Wizard's Party" featured games where the children made

personal potions which made them more powerful. Ingredients in these potions included affirmations of self-worth. Care was taken to plan activities which were appealing to the different developmental and interest groupings. Examples of diverse programming included a "Finding Nemo" (in the cartoon movie Nemo's mom was murdered by a barracuda) pool party for younger children and their parents, a "Cheetah Girls Movie Night" (the Cheetah Girls television show features segments on female empowerment) for pre-teenage girls, "Mother-Teenage Daughter Cooking Classes" (mother daughter bonding in a mastery activity), and "Windsurfing Lessons" (face fears and learn as a group) for older teenage boys.

Children's needs evolved in the months/years following 9/11 due to changes in the child's maturation, family system and community. Ongoing needs assessment was essential for effective programming. Guidance of child programming was based on a careful assessment of the current needs of the children. Assessment was facilitated through parental interviews, observations during interactions with other children and direct feedback from the children. Activities that were described as "boring" or "confusing" were eliminated. After-action reports were completed following all assigned directives. These reports consisted of participant's comments about the activity and detailed comments by the professional staff member leading the activity. The after action-reports were then analyzed by program leadership for evidence that the children learned the directive during the activity.

Family networks

Support from extended family networks often serves as a buffer for nuclear families during periods of intense stress and a source of resources when personal capacity is depleted. Restoration of fractured family systems was deemed as an essential component of child services. The WTC FC created a milieu where programming supported healthy family functions. Intergenerational events both inside and outside the center were planned in which all members of a child's family were invited. Seating arrangements were orchestrated so that disenfranchised family members had the opportunity for positive experiences with relatives who they had prior problematic relationships. For example, at one field trip to a "Circus" grandparents who had bitter visitation disputes with the custodial parent were seated on either side of the child. Staff members ensured that this grouping had multiple positive interactions during the event. A photograph of the event featured both sets of grandparents and the child smiling broadly. Copies of this picture were supplied to the family and displayed at the WTC FC. Parent report of her interactions with the grandparents following this event indicated that the level of acrimony expressed had significantly decreased. Fractured families also benefited from the positive modeling displayed by other higher functioning families. Multiple family group counseling sessions helped families develop strategies to help rebuild their extended family networks to support the bereaved child.

Method

The World Trade Center Family Center has provided counseling services for 2,200 family members including 600 children who lost family members on 9/11/01. To obtain a formal evaluation of ongoing needs, a structured survey was conducted by mail to 9/11 bereaved family members who attended the WTC FC in August 2006 and August 2007. All respondents were anonymous besides their inclusion of identifying information about the type of loss they experienced. Mailing of surveys to all participants of the WTC FC continued until there were 100 responses obtained. The survey included eight questions which all participants were asked to address. An additional two questions were asked of spouse/partners of the deceased who continued to have active parenting responsibilities with their children.

Participants

A total of 100 surveys were utilized in the 2007 analysis and 104 in 2006. Sixty percent of respondents to the 2007 survey indicated that they responded in 2006. The breakdown of bereaved who responded was similar in both time periods. A majority of respondents were spouse/partners of the deceased (43% in 2006, 46% in 2007). Parents who lost an adult child (22% in 2006, 26% in 2007) and siblings who lost brothers and sisters (22% in 2006, 23% in 2007) were the next highest responder groups. Adult children whose parents died on 9/11/01 comprised the smallest number of respondents (13% in 2006, 5% in 2007). All of the parents who responded to the survey were female. This is consistent with statistics about the types of parental loss suffered as a result of the World Trade Center attacks.

Results

Results from three of the survey questions which pertain to child and family functioning will be reported. Information presented from the 2007 survey is listed first and the 2006 survey results are listed in parenthesis. An evaluation of the family support received is listed in Table 1.

Table 1. Percentages of Family Support Received in 2007 & 2006

2007	2006	
42%	(61%)	strong family support
19%	(18%)	some support
23%	(15%)	poor/no support
16%	(6%)	undecided

Representative comments from the entire sample included: “Some family members say to get on with it now”, “The family is more involved with my children”, “Life is more precious”, “My family is closer, my husband’s is more estranged”, “My in-laws are estranged”, “We get on each other’s nerves”, “Our family relations fell apart after 9/11”, “My family won’t discuss 9/11”, “We have stronger mutual support”, “I don’t see my brother’s children”, “We were originally inseparable and now we are going our separate ways”, “It’s kind of the same” and “My family is more strained, closer with my in-laws”.

Results in Table 2 are based upon all spouses with children of any age. This includes 38 parents in Year 6 and 34 parents in Year 5.

Table 2. Percentages of parental concern about the impact of 9/11 on their children in 2007 & 2006

2007	2006	
42%	(44%)	Very Concerned
34%	(24%)	Concerned
16%	(24%)	Somewhat Concerned
0%	(6%)	Not Concerned
8%	(0%)	Undecided
0%	(2%)	Did not answer

Representative Comments: In 2007, while the proportion of parents concerned about the impact on their parentless child was significantly greater, many fewer wrote specific comments. Those who did listed: “loss of father figure”, “concern for future impacts”, and noticing that their “children have become stronger or more resilient”. In 2006 most often parents cited concerns about the impact of loss of their child’s father and unwanted public attention to their children because of their 9/11 losses. And two-thirds of those responding wrote about specific

concerns including worries about the impact of media attention and the loss of the opportunity for a “normal” childhood, behavioral and emotional problems in their children (e.g. risk-taking, depression, attention seeking, separation anxiety, fear about safety and security) and the stress of managing their own emotions so their feelings do not hinder their children

Information about family perception of services for children at the World Trade Center Family Center is presented in Table 3. These results are based on 24 parents with children 21 and under in the Year 6 survey and 22 parents with children 21 and under in the Year 5 survey.

Table 3. Percentages of parental perceived helpfulness of services offered at the World Trade Center Family Center for their children in 2007 & 2006

2007	2006	
79%	(47%)	Extremely Helpful or Helpful
0%	(10%)	Somewhat Helpful
0%	(10%)	Not Helpful
13%	(0%)	Undecided
8%	(33%)	Did not answer

Representative comments from parents included praise in both years for community support events, variety of groups offered, education and information provided and staff availability. A client with four young children noted, “Right now my boys just don’t want to talk about it the way they did a year ago, but, I am certain that difficulties about missing their dad will continue to surface. I just hope you’ll be there for me and for them when that time hits us.”

Discussion-Conclusions

Findings indicated an 18% decrease between 2006 and 2007 in strong/some family support received with an 8% increase in poor/no support endorsed. A majority of respondents in both years did indicate support from their extended families, but an increased strain in their relationships with their relatives was evident as time progressed. Parent concern for the general well-being of their children continued to be high and reflected normal parental concerns plus an ongoing vigilance about the long-term impact of 9/11/01 on their children caused by worry about the impact of parental loss. There appears to be sufficient justification for parental concerns about their bereaved children (Lutzke, Ayers, Sandler, & Barr, 1997; Tremblay & Israel, 1997). Pfeffer et al., (2007), in a study of child adjustment five years after the World Trade Center attacks, found that more than half (56.8%) of 9/11 bereaved children suffered from anxiety disorders. Rates of post traumatic stress disorder were 10 times the amount seen in non-bereaved children. There may be a reciprocal relationship between parental anxiety and child anxiety following traumatic bereavement. For example, Fairbrother et al., (2004) found that parental adjustment to the 9/11 terrorist attacks influenced the level of post traumatic stress experienced in children. Others have found a strong correlation following parent bereavement between parental depression and child depression (Cerel, Fristad, Verducci, Weller, & Weller, 2006).

Parents’ level of satisfaction with services provided for their children by the WTC FC increased by 22% in 2007. When disaster relief efforts “fit” a community need, client access to assistance and satisfaction is enhanced (DeWolfe, 2001, p. 9). This increase in satisfaction appears to be related to the reduction of the number of respondents who did not answer this question in 2006. There may also have been a growing realization by parents of the many beneficial components of the WTC FC since the services mentioned in the survey were available throughout the duration of the program. It is also possible that the positive impact of these services had not been noticed in the adjustment of their children until this time.

This survey is the only one of its kind completed by parents who lost their spouse during the World Trade Center terrorist attacks, and this element constitutes the originality of the

study. Findings of the survey should be interpreted with caution because of the methodological limitations of the sampling techniques, absence of an available comparison sample and the assessment instruments employed. The results, however, do provide some support for the services provided for children by the WTC FC as measured by parental satisfaction. There is also some evidence to support the need for continued community mental health services related to the continued level of concern expressed by parents for their children and a pattern of possible diminished support from extended family members. The need for social support systems outside of the family to facilitate adjustment following bereavement has indeed been found noted in other research (Rolls & Payne, 2007; Sandler, Cole, Kriege, & Griffin, 2003).

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