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## Steering the Cultural Dynamics

Yoshihisa Kashima

Emiko S. Kashima

Ruth Beatson

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# STEERING THE CULTURAL DYNAMICS

SELECTED PAPERS FROM  
THE 2010 CONGRESS OF  
THE INTERNATIONAL ASSOCIATION  
FOR CROSS-CULTURAL  
PSYCHOLOGY

YOSHIHISA KASHIMA / EMIKO S. KASHIMA / RUTH BEATSON

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No animals were harmed in the production of this book.

## TABLE OF CONTENTS

- 6 **Introduction: Steering the Cultural Dynamics**  
*Yoshihisa Kashima, Emiko S. Kashima, & Ruth Beatson (Editors)*

### **SPECIAL TOPIC: CROSS-CULTURAL PSYCHOLOGY AND DISASTER MANAGEMENT**

- 8 **A Psycho-Cultural Program of Research to Assist Children Affected by the Sichuan Earthquake, China, 12 May, 2008**  
*Daphne Keats*
- 9 **The Background to the Research: Cultural, Theoretical and Methodological Issues**  
*Daphne Keats and Shuguang Wang*
- 15 **A Qiang Perspective on Promoting the Rehabilitation of Children Affected by the Earthquake**  
*S. Chai, Xian Gui Yang, and Shuguang Wang*
- 18 **Situational Analysis from Two Studies Facilitating the Development of a Psycho-Cultural Rehabilitation Program for Children Affected by the 12 May 2008 Earthquake in Sichuan, China**  
*Shuguang Wang, Daphne Keats, Melissa Gao, S. Zhang, Xian Gui Yang, and S. Chai*
- 26 **Building a Culturally Appropriate Intervention Program to Assist Children's Rehabilitation after the Sichuan Earthquake of 12 May, 2008**  
*Melissa Gao, Daphne Keats, and Shuguang Wang*

### **METHODOLOGY OF CROSS-CULTURAL RESEARCH**

- 34 **Ensuring Rigor in Qualitative Research within the field of Cross-Cultural Psychology**  
*Carolin Demuth*
- 41 **Arts-Based Research in Cultural Mental Health**  
*Erminia Colucci*

### **CULTURE CHANGE**

- 49 **Cultural and Environmental Changes: Cognitive Adaptation to Global Warming**  
*Annamaria Lammel, Elisa Guillen Gutierrez, Emilie Dugas, and Frank Jamet*
- 59 **Is There Cultural Change In The National Cultures Of Indonesia?**  
*Wustari L. H. Mangundjaya*

## **CULTURALLY INFORMED COGNITION**

- 69 **Does Importing of Everyday Mathematics to the Classroom Guarantee better Mathematics Learning? Lessons from a Study of Ngoni/Tumbuka Learners in Zambia**  
*Zanzini B. Ndhlovu*
- 76 **Task Switching in English-Chinese Bilinguals: A Life Span Approach**  
*Li Qu, Joel J. W. Low, Pei Shan Chong, Dawn W. L. Lim, and Keren-Happuch F. F. E*
- 85 **Development of Theory of Mind in English-speaking Chinese Singaporean Preschoolers**  
*Li Qu, Pinxiu Shen, and Fan Qianqian*
- 95 **A Comparison of Chinese and Western Interpretations of Cause, Will, and Free Will**  
*Martin E. Morf*
- 102 **Social, Cultural, and Environmental Drivers of International Students' Fear of Crime: A Cognitive Behavioral Perspective**  
*Lin Xiong and Kosmas X. Smyrniotis*
- 111 **Attitudes towards Youth Suicide: A Comparison Between Italian, Indian and Australian Students**  
*Erminia Colucci and Harry Minas*

## **SELF, IDENTITY AND PERSONALITY**

- 118 **Relation between Self-Esteem Instability and Expectation and Motivation after Failure among Japanese University Students**  
*Ai Fukuzawa and Susumu Yamaguchi*
- 124 **Transmission and Regeneration of Sikh Self: Culture in the Making**  
*Preeti Kapur and Girishwar Misra*
- 131 **Does Tolerance Reflect a more Inclusive Self-Construal? A Comparison of Poland, East and West Germany**  
*Maja Schachner, Toby Robertson, Fons J. R. van de Vijver, Friedrich Funke, and Dorota Brzezinska*
- 140 **The Relationship Between Collectivism and Climate: A Review of the Literature**  
*Alfred Presbitero*
- 147 **The Impact of Social Context on Preschoolers' Flexibility**  
*Li Qu, Lin Shuhui Audrey, Low Pei Jun, and Ng Hui Qun*
- 154 **A Psycholexical Study of Personality Trait Structure of Hindi Speaking Indians**  
*Jitendra Kumar Singh and Girishwar Misra*
- 160 **The Effectiveness of Two Treatments to Enhance Academic Self-Concept among Low-Achieving Secondary School Students in China**  
*Lan Yang and David Watkins*

- 167 **Argumentation among Family Members in Italy and Switzerland: A Cross-Cultural Perspective**

*Francesco Arcidiacono and Antonio Bova*

**WORK, MANAGEMENT, AND ORGANIZATIONAL BEHAVIOR**

- 175 **Time Horizon in German Management: Goal-Orientated Helix**

*Erich Hölter*

- 182 **Worker Wellbeing in Malaysia: Prediction of Wellbeing from Psychosocial Work Environment, Organizational Justice and Work Family Conflict**

*R Zirwatul Aida R Ibrahim and Keis Ohtsuka*

- 190 **Relationship between Leader-Member Exchanges with Organizational Citizenship Behaviour**

*E. S. Jaya and W. L. Mangundjaya*

- 195 **The Explanations for Unemployment Scale: An Eight-Country Study on Factor Equivalence**

*Kostas Mylonas, Adrian Furnha, Emmanouil Konstantinidis, Sofia Papazoglou, William Divale, Cigdem Leblebici, Sonia Gondim, Angela Moniz, Hector Grad, Jose Luis Alvaro, Romeo Zeno Cretu, Anna Filus, and Pawel Boski*

- 204 **Work Motivation, Personality, and Culture: Comparing Australia and India**

*Trishita C. Mathew, Richard E. Hicks, and Mark Bahr*

- 208 **Report of the XX International Congress of the International Association for Cross-Cultural Psychology**

*Cross-Cultural Psychology Bulletin, 2011*

*Yoshi Kashima*



## Introduction: Steering the Cultural Dynamics

**Yoshihisa Kashima, Emiko S. Kashima, & Ruth Beatson (Editors)**  
University of Melbourne, Australia

Melbourne, Australia, hosted the 20<sup>th</sup> International Congress of the International Association for Cross-Cultural Psychology in 2010. Under the shadow of Icelandic volcanic activities and global financial crises, cultures were changing around the world in many ways – threats of climate change, challenges of globalization, and changing balance of political, economic, and military powers. Befittingly, the congress theme was set as *Culture Change: Meet the Challenge* to encourage ourselves to think and talk about these contemporary issues. Bringing the format of the congress proceedings into the 21<sup>st</sup> century, this e-Book is a selection of papers presented at the congress. The title of the book, *Steering the Cultural Dynamics*, was chosen with this in mind. Culture changes are historical processes that perhaps push us all forward with irresistible force; yet, humanity may be able to steer the dynamics involving culture change. It is an expression of our hope that our discipline can contribute to the collective human effort to shape our own common future.

The book is organized into six sections. Titled *Cross-Cultural Psychology and Disaster Management*, the first section collects papers presented at a symposium organized by a former president of the IACCP, Daphne Keats, on cross-cultural psychology's response to the Sichuan Earthquake of 2008. We often learn about natural and human made disasters in the current globalized information environment. In fact, the frequency of such occurrences seems increasing at an alarming rate: earthquakes, tsunamis, hurricanes, floods, and fires. Whereas some countries in which institutions and facilities with psychological knowledge and expertise exist may be able to cope with such disasters and their psychological aftermaths, cross-cultural psychology can make contributions to those cases where indigenous institutions of psychological disaster management are lacking. The papers collected in this section provide a case study of cross-cultural psychology's contributions and blaze a new trail in this area where cross-cultural research and practice is urgently needed.

The second section is on methodology of cross-cultural research. Traditionally, cross-cultural psychology has been strongly quantitative – standardized research instruments and experimental procedures have been its forte and staple food over the decades. Yet, recent developments in cross-cultural research call for the use of a variety of methods. Not only the standard methods of cross-cultural psychology, but also more qualitative or other creative methods of information gathering and knowledge justification are needed. Often qualitative research methods are met with scepticism about their rigor. Demuth's paper addresses this pressing issue with clarity. Colucci's paper introduces a new arts-based method to cross-cultural psychology, which is at once rich and evocative. Experimentation with new methods would certainly enrich the field's capacity to meet new challenges in the changing world.

So, the third section collects two papers that examine the questions of culture change. Lammel et al.'s paper examines issues surrounding culture change in the face of environmental changes due to global warming. People from different cultural backgrounds construe climate change differently and their responses will also



be fundamentally shaped by their culturally imbued construals of the climate. This paper is an examination of this fundamental question in France and New Caledonia. Mangundjaya's contribution compares the results of a recent measure of Hofstede's cultural dimensions in Indonesia to Hofstede's earlier results and discuss whether Indonesian culture has changed or not. It is an important first step to a rigorous examination of culture change, which many cross-cultural researchers will find fascinating.

The next three sections collect papers in cognition, self and personality, and social behaviour in work settings, three research areas where cross-cultural psychology has traditionally had a strong presence. Collected under the heading of *Culturally Informed Cognition* are diverse papers that examine cognitive ability (mathematics learning by Ndhlovu; task switching by Qu et al.), cultural shaping of folk psychological knowledge structures (theory of mind by Qu et al.; conceptions of freewill by Morf), cultural shaping of people's views about crimes and suicide (crime by Xiong & Smyrniotis; youth suicide by Colucci & Minas). *Self, Identity, and Personality* collects papers that delve into many aspects of self and personality processes. Under investigation are the dynamics involving self experience in Japan (Fukuzawa & Yamaguchi) and the Sikh self (Kapur & Misra); self-construals in the contexts of changing societies of Poland, East and West Germany (Schachner et al.); a critical analysis of collectivism and climate (Presbitero); preschoolers' social flexibility (Qu et al.); personality trait structure in India (Singh & Misra); and academic self-concept in China (Lan & Watkins). Finally, *Work, Management, and Organizational Behavior* collects papers on work in diverse cultural settings: management in Germany (Hölter), worker wellbeing in Malaysia (Ibrahim & Ohtsuka), organizational citizenship in Indonesia (Jaya & Mangundjaya), explanations of unemployment in eight different countries (Mylonas et al.), as well as work motivation in Australia and India (Mathew, Hicks, & Bahr).

Scanning the content, what stands out in this volume is a changing character of research in culture and psychology. Although the traditionally strong areas have attracted many papers at the conference, their contents have diversified considerably. Not just cognitive ability and standard measurement instruments, but many psychological constructs and processes that have recently emerged are under investigation. Although the research trend informed by individualism and collectivism is still discernible in the background, more diverse research questions have been raised and answered in this collection of papers. Furthermore, rather than comparisons between two or more cultures, a growing number of papers have addressed more culture specific topics or issues in one particular culture or a class of cultures. Clearly, cross-cultural comparative perspectives have informed these studies, and their orientation is distinctly cultural; yet, research questions often come from the particular socio-cultural milieu in which the researchers began their investigation. Together with the introduction of new research methods and their reflective and rigorous use, fueled by the strong concerns for human wellbeing and social justice, the present proceedings is a testimony to the vitality of cross-cultural psychology and its future.

Yoshihisa Kashima, Emiko S. Kashima, and Ruth Beatson



## Symposium Introduction

### A Psycho-Cultural Program of Research to Assist Children Affected by the Sichuan Earthquake, China, 12 May, 2008

**Convenor: Daphne Keats** (Daphne.Keats@newcastle.edu.au)  
University of Newcastle, Australia

**Participants:** **Daphne Keats**, University of Newcastle, Australia. **Shuguang Wang**, University of Newcastle, Australia; China-Australia Centre for Cross-Cultural Studies, Sichuan University, Sichuan Academy of Social Sciences. **Melissa Gao**, University of Newcastle, Australia; China-Australia Centre for Cross-Cultural Studies. **Zhang, S.** Sichuan Academy of Social Sciences, Sichuan, China. **Chai, S.** Yan Men School, Wen Chuan Qiang Autonomous Counties, Sichuan, China; **Yang, Xang Gui.** Ethnic Affairs Office, Wen Chuan and Mao Wen Qiang Autonomous Counties, Sichuan, China.



### INTRODUCTION

This symposium reports on the response of a research team from the School of Psychology, University of Newcastle and the China-Australia Centre for Cross-Cultural Studies at Sichuan University to the plea from leaders of the Qiang Ethnic Community to help the children who suffered from the severe earthquake which devastated their community on 12 May, 2008. Papers to be presented include: 1) Background to the research and discussion of theoretical, cultural and research challenges; 2) Impact of the earthquake from the Qiang perspective; 3) Data analysis from a survey of current caregivers reporting the extent of the children's experiences, and from interviews with children in four categories: children who had lost parents, children whose parents could not care for them, children hospitalised from injuries, and children who appeared to have suffered very little; 4) Development of an innovative, culturally appropriate rehabilitation program designed to foster positive growth and help children meet the challenges for the future. The program is being carried out in three sites in close cooperation with local Qiang leaders and volunteers: 1) Luo Bu village, situated in a mountainous area severely damaged by the earthquake; 2) a large school in the town of Wen Chuan attended by Qiang children from many remote villages; 3) Wen Chuan Hospital trauma clinic. A monitored program of group activities is the core of the rehabilitation strategy. Issues of cultural relevance of western individualistic methods are discussed.

## **The Background to the Research: Cultural, Theoretical and Methodological Issues**

**Daphne Keats**

University of Newcastle, Australia

**Shuguang Wang**

University of Newcastle, Australia;  
China-Australia Centre for Cross-Cultural Studies,  
Sichuan University, China;  
Sichuan Academy of Social Sciences

### **Abstract**

The disastrous earthquake of 12 May, 2008 had its greatest impact on the Qiang people, an ethnic minority living in the mountainous regions of Sichuan at the earthquake's epicentre. Over 80,000 people died, over a million were injured or missing, most buildings collapsed and most homes were demolished under the avalanches. Thousands of children were evacuated to safety, some moved to far distant locations. The research team from the University of Newcastle responded to the plea of the Qiang leaders to help the children. In cooperation with the China-Australia Centre for Cross-Cultural Studies, a three stage psycho-cultural research program was devised, comprising a survey of children's current caregivers, interviews with the children, and development of a culturally appropriate rehabilitation scheme. Shuguang Wang was appointed to coordinate the project. This paper discusses the research issues involved. Of paramount importance was the collectivist nature of the Qiang culture and the traditional ways of dealing with disasters. Theoretical issues related to the relevance of western individualistic psychological and psychiatric approaches to therapy in the Qiang collectivist environment. Methodological problems related to developing appropriate measuring instruments, and preparing guidelines and training programs for local Qiang interviewers and volunteers.

In the devastating earthquake of 12 May, 2008 in Sichuan Province, over 80,000 people lost their lives and over a million people lost their homes and members of their families. The epicentre of the earthquake was in the mountainous area home to the Qiang ethnic minority.

It was a school day in the afternoon, and many hundreds of children and their teachers were crushed in the collapsed school buildings under the huge boulders which rained down in avalanches from the mountain tops. Volunteers and the soldiers worked tirelessly to rescue as many as possible. Many temporary settlements were erected to house the survivors. Many children were removed to safe locations, some far distant from the earthquake zone. For children who were orphaned or separated from their families, temporary buildings comprising half dormitory and half schoolroom were erected. Carers were put in charge.

Shuguang Wang and Melissa Gao were in Sichuan at the time and were active in the rescue work. Following on from their PhD research at the University of Newcastle, they had been carrying out cross-cultural research on HIV/AIDS prevention, Shuguang Wang in the ethnic minorities (Wang & Keats, 2005) and Melissa Gao (Gao, 2004; 2007) with the Gay, MSM and Lesbian communities in Sichuan. This research had culminated in the setting up of the China-Australia Centre for Cross-Cultural Studies at Sichuan University, led by Professor Deng Shengqing as Director and Dr. Wang as Deputy Director. We had just begun the latest project with the Qiang ethnic community when the earthquake struck.

As soon after communication became possible, a meeting was convened at the Centre to draw up a plan to help. Participants included Professor Deng Shengqing, Dr. Shuguang Wang, Dr. Melissa Gao, UNESCO delegates, and representatives of the Qiang Ethnic Minority led by the Director of Ethnic Affairs for the Qiang Community, Mr. Yang Xian Gui. The Qiang representatives said that it was the children who were in the greatest need of help. Three categories of children were identified as most in need: children who had lost parents; children who had not lost parents but whose parents could not cope; children who were seriously injured. The University of Newcastle was asked if we could help, and responded quickly with special grants from the University and from the Faculty of Science and Information Technology and the School of Psychology to fund a .4 staff appointment of Dr. Wang as Associate Professor (previously Conjoint Associate Professor). Research

funds were provided in a special grant from the John and Daphne Keats Research Endowment Fund, and Shu-guang Wang was appointed to coordinate the project.

### **Developing the Research Strategy**

Two major aims guided the planning of the research strategy.

- 1) Work towards a culturally appropriate program of rehabilitation for the children;
- 2) Design a research plan in which the effectiveness of the data gathering and the rehabilitation program could be evaluated.

Evaluation had not been part of any other volunteer interventions. Also we were aware that any effective intervention would have to carry the children through into their changed circumstances over a longer term. Moreover, it was essential that the Qiang people's cultural traditions should be considered, and respected, in our response to their pleas for help.

Our immediate need was for some basic information about the numbers and whereabouts of the children. The government policy was to bring them back to their home environment as soon as temporary housing could be provided. However, this was proving to be a slow and difficult process. Our first task therefore was to locate the children. We knew that the numbers would be large, certainly in the thousands, but exact numbers could not be known.

It was important to find out the nature of the children's experiences and the extent of their losses before any effective rehabilitation program could be introduced. A three-stage psycho-cultural research program was therefore devised, comprising

- 1) A survey of children's current caregivers providing basic information about the children's experiences;
- 2) Interviews with the children;
- 3) Development of a culturally appropriate rehabilitation program.

This three-stage program is now being carried out with the support of the Qiang community leaders, the China-Australia Centre for Cross-Cultural Studies, the Sichuan Academy of Social Sciences and the University of Newcastle. The cultural, theoretical and methodological issues which had to be considered are discussed in this paper.

### **Cultural Issues**

The Qiang people have a continuing cultural history going back over two thousand years. Theirs is a collectivist culture, with their own language, well-developed traditional leadership structures, and traditional belief systems, including beliefs about dealing with natural disasters, illness and grief. More about their culture will be described in the next paper in this symposium.

Experiences with western counsellors, psychiatrists, and other international volunteers in the aftermath of the earthquake did not leave a good impression on the Qiang people. The outsiders' emphasis on individuals rather than the community was treated with suspicion: children who were taken away from their group for individual counselling were often isolated afterwards and treated by their peer group members as having something wrong with them or having done something wrong. There were no ways of checking all the credentials of the many volunteers who came from overseas and other parts of China.

The Qiang people were also experiencing many problems with the Chinese Aid programs, made difficult to express because their need was so great. For instance, Han building workers who came from Chengdu could not communicate in the local language, and the major reconstruction programs carried out under the Sister Cities Aid Scheme were delivered as a total package without consulting the local community.

A further cultural issue which we needed to take into account in planning the rehabilitation program was that of the cultural change which is now going on in China and which will continue to affect the children and their communities. The new media, TV, telephone and computer access now beginning to reach into the remote rural areas will increasingly influence the children's lifestyles. There were already many threats to the traditional housing style, work opportunities were becoming fewer in the local areas, and many young adults

were leaving their families to find work elsewhere.

To be culturally appropriate the rehabilitation program had to meet the following demands: it should be acceptable to the Qiang cultural leaders and to the children's families; it should lead the children into the future; it should work with the whole community; and it should avoid alienating children from their peer groups.

### **Theoretical Issues**

In this cultural environment how did we come to the three-stage program which is the topic of this symposium? What theoretical constructs, models and methods could be drawn upon to achieve the aim of helping the children in a systematic, sustainable and measurable research program, one which would be acceptable to the Qiang people but which would also satisfy the University's research methodology standards?

Western approaches to dealing with grief and disasters (for example Raphael, 1986; Waring, 1992) place much stress upon the effects on the individual, and this is reflected in the individual counselling which is the most common therapeutic intervention style. The Qiang experience made it clear that we could not rely on this approach. Moreover, there were almost no trained counsellors whom we could engage in the task. Nor could we fund the training of the many counsellors who would be needed were we to advocate an individual counselling-based approach.

To lead the children into a future in which they not only will have to cope with their present situation but also have to expect further changes to threaten the traditional Qiang lifestyle, the concept of self efficacy (Bandura, 1986) provided a useful theoretical construct which could be used as a goal for individually based behavioural change. The question then was whether, or how, this notion could be incorporated into the goals of a rehabilitation program in the Qiang cultural context.

We found that the model which best met our theoretical and practical demands was the Multilevel Participatory Communication Model which had been developed by Melissa Gao (Gao, 2004) in her work with the gay young men and MSM (men who have sex with men) in China. The participatory approach has also been combined with the diffusion model (Kelly, 1995) and the edutainment model which (Tufté, 2000) used effectively in HIV/AIDS research in Africa. The diffusion model approach is one of the most common, often using mass media and top-down methods of spreading the messages, while the edutainment model uses exposure to mass media performances in TV and drama combining education and entertainment, and is particularly relevant in communities where literacy is not high. All these approaches involve active involvement by the researchers with the community and are adaptable for groups as well as individuals. The multi-level treatment allows for the inclusion of participatory communication at both interpersonal and societal levels.

Gao and Wang (2007) set out the main elements of the multi-level model in the summary of the method used in Gao's research with gay men and MSM in the following table.

**Table 1**

*Multi-level model for strategic development in combining participatory and diffusion communication model by three steps in the study* <sup>[1-2]</sup>

<b>Theoretical perspectives in behavior change</b>	<b>Theoretical models</b>	<b>Elements devised in study</b>	<b>Three steps in using participatory approach to develop culturally appropriate diffusion communication model</b>
Focus on individual socio-psychological perspective	HBM <sup>[3]</sup> SCT <sup>[4]</sup> TRA <sup>[5]</sup>	Increasing awareness to promote attitudes and behavioural change	Sites based series melodrama and small media to increase awareness
Focus on social groups and networks	Diffusion model Sub-cultural model Leadership-focused model Communication model	People-centered participatory and diffusion communication approach	Outdoor edutainment diffusion activities
Focus on social environmental change and culturally appropriate approach	Empowerment model Socio-political model Social structural model Social action model Culturally appropriate model	Community support and improving culturally appropriate contexts	Extend peer-led participatory and diffusion education into broad networks supported by various local community organizations

[1] Gao, M. (2005) *Participatory Communication Research and HIV/AIDS Control: A Study Among Gay Men and MSM in Chengdu, China*. PhD thesis, University of Newcastle.

[2] Gao, M. & Wang, S. (2007) *Participatory Communication and HIV/Aids Prevention in Chinese Marginalised (MSM) Population*. *AIDS Care*, 19(6): 799-810

[3] Health Belief Model (HBM) (Janz & Becker, 1984; Sarankakos, 1993)

[4] Social Cognitive Theory (SCT) (Bandura, 1995)

[5] The Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1994; Fishbein, 1995)

Relating these ideas to the Qiang children's cultural context, and adapting some of the well-established techniques used in therapy with individual children to applications in group situations, we developed a Rehabilitation Program in which the local community members and the research team worked together in planning and conducting the program.

### **Methodological Issues**

Methodological issues related to developing appropriate measuring instruments for the three stages of the research, preparation of all the questionnaires and interview schedule in English and Chinese, devising culturally appropriate methods for the children's rehabilitation, and evaluating progress and outcomes for each stage.

In keeping with the participatory communication approach, we needed to ensure that the Qiang people were fully involved and aware of what was being done and why. Cultural leaders were consulted, and village and Qiang local administrators took an active role in the planning, facilitating access to villages, schools and hospitals and supporting the project throughout.

Particular attention was paid to language issues. All the instruments were prepared in English and Chinese and translations verified by outside consultants, and the Chinese versions were translated into the local language by the interviewers. Because oral was the preferred traditional style of communication, we needed to depend on spoken rather than written responses to questions. The survey was therefore administered in a combination of oral and written forms. All the survey data collectors and all the child interviewers were speakers of both Qiang and Chinese. The surveys were conducted orally in the language of choice but the responses were all recorded in Chinese. The interviews with the children were all conducted in their own language in familiar locations and the responses recorded in Chinese.

Guidelines were prepared and training programs were conducted for the local Qiang interviewers and volunteers. The interviewers were encouraged to work actively with the researchers to develop their interviewing



skills and improve on all aspects of the survey questionnaire or interview schedule. We were fortunate in that Shuguang spoke the Qiang language, having been brought up in this region when his father had been stationed there in the army. He had been to school in Wen Chuan, the main township, and still knew childhood friends who were now in senior administrative positions.

The Qiang people had impressed upon us that no short term “quick fix” could be expected. Their experiences with visiting counselling volunteers, television stars and famous sportsmen who came to address the children showed that the good effects did not last long. Although the three-stage program would have to take a much longer time to implement, it would provide much more information to all involved.

It was impossible to design the survey methodology on the basis of a predetermined sample size. We knew that we would have to plan the survey with the expectation of very large numbers, but the number and location of surviving children only came in slowly. The government policy of bringing them home, although excellent as a policy goal, was very difficult in practice because all the home communities had been so badly damaged. Everything to construct the temporary accommodation had to be brought in. Added to the problem of finding the children was the difficulty of access everywhere in the region as the roads were completely blocked by the avalanches, especially in the steep mountain villages and in the townships along the riverside. Eventually the number of respondents obtained for the survey was around three thousand.

For the interviews the three categories of greatest need could be met with a sample of equal numbers in each of the three categories, namely children who had lost parents, children who had parents but whose parents could not cope, and children who were injured and in hospital. We added a fourth group who appeared to have few problems, bearing in mind that all children had been affected to some extent and no assumptions could be made about their situation. The total sample of 1200 included boys and girls in three age groups, from under six to fourteen years.

The methodology for the rehabilitation program was built around a program of therapeutic activities in which all children could participate. These activities will be described more fully in a later paper in the symposium. Well-known therapies used frequently in clinical work with individual children (Anastasi & Urbana, 1997) were adapted for group participation and relevance to the Qiang cultural environment. Although a choice from a wide range of activities was available, age differences and the children’s circumstances in practice limited their options, so three were selected as core activities in which all children could participate: story telling and writing; choral singing; and dramatic performances in traditional Qiang style. Each of these activities has a strong Qiang cultural tradition.

Key Qiang volunteers were trained to oversee the conduct of the program, to organise the time table and arrange for any visiting specialists. Observation checklists were prepared for the people conducting an activity session to record children’s level of participation. Progress is being monitored over a period of five months.

To begin the rehabilitation program we selected three sites: Luo Bu Village in the mountains, Yan Men School, a large school in Wen Chuan township which draws on children from the town and many Qiang villages, and the Wen Chuan Hospital Trauma Clinic in which many children are still suffering from the earthquake. Other villages were added later as the work progressed. As to numbers, no final sample sizes can be determined at this time.

## Conclusion

In this paper I have been able only to introduce the main features of this program of research. In the following papers we present results from the survey and the interviews, and a progress report from the rehabilitation program. The next paper will present the Qiang cultural perspective on the research.

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## **A Qiang Perspective on Promoting the Rehabilitation of Children Affected by the Earthquake**

**S. Chai**

Yan Men School, Wen Chuan Autonomous Counties  
Sichuan, China

**Xian Gui Yang**

Ethnic Affairs Office, Wen Chuan & Mao Wen Qiang Autonomous Counties  
Sichuan, China

**Shuguang Wang**

University of Newcastle, Australia  
China-Australia Centre for Cross-Cultural Studies, Sichuan University  
Sichuan, China

### **Abstract**

The Qiang ethnic minority had a population of around 300,000 at the time of the earthquake. The Qiang mostly inhabit the poorest and most socially disadvantaged remote rural mountainous areas of the Wen Chuan and Mao Wen Qiang Autonomous Counties of Sichuan. The Qiang have a continuous cultural history dating from the Diqiang groups of the Xia Dynasty (16<sup>th</sup> to 11<sup>th</sup> century BC). They have their own language and animistic belief system, and have developed their own traditional ways of dealing with disasters. The Qiang's myth of "Bubita" (God) and the legend of "Mutazhu and Douanzhu" (a heroic story) are key messages in understanding disasters; the village "Duyaomao" (poisonous cat, meaning witch) is important for explaining children's illness and health. The rites conducted by the Shibi (cultural leader) are the core activity in advocating collective action for responding to disaster. To reach out quickly to children who have been affected by their traumatic experiences, many volunteers have given their assistance, including doctors, psychologists, counselling staff and social workers. In particular, a large-scale program of psychiatric counselling/therapies administered by the government is being carried out. However, employing psychological counselling and psychiatric therapies from the western individualistic perspective has led to a dilemma for public health based on medical/psychological agendas. Widespread evidence has also shown that there is a very limited effect from outside community visitors, whose one-off, inconsistent, non-indigenous messages do not carry over into the children's everyday lives. The need for an indigenous approach is stressed.

Before we could plan an appropriate rehabilitation program to help the children affected by the earthquake, it was important to learn what features of the Qiang culture would be supportive and what methods would not be acceptable. This paper describes some of those aspects which were important from the Qiang perspective.

The Qiang ethnic minority is one of the many ethnic minorities of Sichuan Province, the largest Province which covers a widespread area of China's South West. The Qiang ethnic minority had a population of around 300,000 at the time of the earthquake. The Qiang inhabit the poorest and most socially disadvantaged remote rural mountainous areas of the Wen Chuan, Mao Xian, Li Xian and Bei Chuan Autonomous Prefecture (CDO, 2008).

Our work was concentrated on Wen Chuan and Mao Xian and surrounding villages. Li Xian was totally demolished in the earthquake. In this harsh environment the villagers grow fruit and vegetables and keep pigs and goats which scavenge for grass under the eye of a villager. The diet is mainly vegetarian, supplemented by dried pork with much fat. The traditional clothing is still worn, especially by the women.

Traditional housing was built around the forts which were built to repel attack and was built into the side of the mountain. A clever water reticulation system was a feature. Many young people who lived in these traditional group homes have left for better employment in the towns and cities. These old style villages were badly hit in the earthquake. A "fort" tower is now being built in the new villages but has little of its old significance.

The Qiang people call themselves Erma, meaning Aborigines. They have a long cultural history, with origins in the early Shu Period supported by archaeological evidence discovered at Sanxingdui (China Travel and Tourism Press, 2009) and more recently in and around Chengdu. They have a well documented continuous

cultural history dating from the Diqiang and Danxian groups of the Xia Dynasty (16<sup>th</sup> to 11<sup>th</sup> century B.C.). The Qiang also appear in the historical novel “The Three Kingdoms” (Attributed to Luo Guanzhong, trans. by Roberts, M., 1944), set in the period of the early third century, A.D.

In the history of the Qiang, over two thousand years the Qiang have had much experience of suffering various natural disasters related to their lives in the disadvantaged geological region and the mountainous environment. The cultural response to various disasters is therefore a core theme in their oral narrative history. That history is not written down but embedded in Qiang myth stories, presented by the Shi Bi, the cultural leaders, in classic historical narratives, in the form of social representations and cultural metaphors (Chai, 2009; Chai & Yang, 2010).

Because of the severe devastation, the initial response to reconstruction has been urgent building construction to provide some temporary shelter for those who lost their homes. Temporary accommodation in group halls and canvas tents has been provided for the many children who have no parents or families or whose families could not be found. Of necessity, this work has been carried out by construction workers from cities such as Chengdu by Han people, who have little knowledge of the Han people’s culture.

To reach out quickly to children who have been affected by their traumatic experiences, many volunteers have given their assistance, including medical doctors, psychologists, counselling staff and social workers. As with the building reconstruction workers, these helpers are mostly Han people who have little knowledge of the Qiang people’s culture and are therefore unable to provide a culturally appropriate sustainable program of assistance. The kind of professional support which has been identified (CACCCS, 2008) as the most needed is one which will continue into the mid to longer term and will address the children’s psychological and social needs in a coordinated program. Most of the volunteers’ activities have been hastily put together, with short visits, drawing on many disciplines, with little coordination, resulting in much overlapping among the volunteers’ activities. The children did not have any continuity with their therapists or advisers because they were being moved from one temporary placement to another. Most temporary accommodation was away from their home districts.

The official plan was to bring the children back to their home environment after a short transitional term of about six months in outside communities, while schools and other accommodation were built. There were between 30,000 to 40,000 such children (Yang Xian Gui, Director of Qiang Ethnic Affairs). Most would come back to the major centres of Wen Chuan, Mao Xian and Bei Chuan.

Although schooling is universal for Qiang children and children are taught in the Chinese language, the Qiang retain the use of their own Qiang language in family and village situations. They have their own traditional belief system, and have developed their own traditional ways of dealing with disasters and illness.

*Traditional response to disasters.* The rites conducted by the Shi Bi (the cultural leader) are the core activity in advocating collective action for responding to disasters. In the case of a disaster, such as the recent earthquake, the Shi Bi passes on the message using the traditional interpretation of the cause of the disaster through the vehicle of the legendary story. Chai explains (Chai, 2009, personal communication) that the cultural leader leads by calling together community representatives, and advocates the right interpretation of the cause. The Qiang’s myth of “Bubita” and the legend of “Mutazhu and Douanzhu”, is a key message in understanding the cause of the earthquake. The legend of “Mutazhu and Douanzhu” describes the heroic story of the daughter of a God, who came to earth and met an earthly hero, thus displeasing her father, and causing the God to show his displeasure by causing disaster. According to the legend, the God punishes the people by bringing down three kinds of disasters upon them: forest fires, flooding from melting snows leading to epidemics of illness, and earthquakes. The village “Duyaomao” (meaning witch) is important for explaining children’s illness and health.

The cultural leader passes on “advice” from the daughter on how to handle the disaster. The rituals include prayers, traditional dances, and medications for the epidemics. The two principal cultural leaders from a group of villages bring other group leaders together to receive the advice, then young community members are given the task of conveying the messages to the others. In a group discussion with Shuguang Wang and

Daphne Keats, Chai and Yang (2010) pointed out that the cultural leader also passed on messages about rules of moral and filial behaviour in children. Qiang Leaders have expressed concerns that the children of to-day are more often influenced by the media, TV and computer games. The parents are worried about this but have to accept it.

When asked about the possible conflict between traditional and scientific interpretations of the earthquake, both Chai and Wang agreed that there was no attempt to deal with this question in the schools. It was evident that in the collectivist, oral culture of the Qiang communities it was essential that the context of the children's culture must be taken into account in any program aiming to facilitate the children's rehabilitation in their own Qiang environment.

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# **Situational Analysis from Two Studies Facilitating the Development of a Psycho-Cultural Rehabilitation Program for Children Affected by the 12 May 2008 Earthquake in Sichuan, China**

**Shuguang Wang**

**University of Newcastle, Australia**

China-Australia Centre for Cross-Cultural Studies, Sichuan University, China  
Institute of Sociology, Sichuan Academy of Social Sciences, China

**Daphne Keats**

University of Newcastle, Australia

**Melissa Gao**

University of Newcastle, Australia

China-Australia Centre for Cross-Cultural Studies, Sichuan University,  
Sichuan Academy of Social Sciences, China

**Zhang, S**

Sichuan Academy of Social Sciences, China

**Yang, Xian Gui**

Ethnic Affairs Office,

Wen Chuan & Mao Wen Qiang Autonomous Counties

Sichuan, China

**Chai, S**

Yian Men School, Wen Chuan Qiang Autonomous Counties

Sichuan, China

## **Abstract**

The data presented are from two field studies: (1) a survey of 2234 current children's caregivers; and (2) interviews with 1200 children, evaluating the children's social, psychological and behavioural situation after the devastating Sichuan earthquake in the hard-hit Qiang ethnic community. Insights from the findings will be used to develop an evidence-based, culturally appropriate approach on the best use of cultural resources to facilitate the children's post-disaster rehabilitation. Evidence from the first study indicated that the disaster had a significant impact on the ethnic Qiang children and their families in regard to personal loss, physical injury, social relationships and psychological well-being. Evidence from the second study further indicated: (1) the need for a sustained response to the increasing vulnerability of these children; (2) a very limited effect from outside community visitors, whose one-off inconsistent, non-indigenous approaches and psychological counselling, drawing on the western, individualistic, approach to counseling and psychological/psychiatric therapies and non-Qiang approaches do not carry over into the children's everyday life in their own contexts; (3) that little is known about psycho-cultural factors as key resources for supporting an effective response to disaster for ethnic Qiang children; (4) the greatest need for a sustainable effect is therefore to build a culturally appropriate approach through making best use of cultural resources drawing on contributions of both volunteers and official workers from various disciplines and using the Qiang traditional ways to promote the children's psycho-cultural rehabilitation.

## **Stage 1. The Survey**

### **Objectives**

The objectives in Stage 1 were to collect baseline data to locate and identify the children, especially those in the three most difficult situations identified by the government, and to assess the extent of the impact of the earthquake on the children living with their families and in other current accommodation using a Survey

responded to by parents or other responsible adults.

### **Method**

The sample for the survey was drawn from the Register of Children Returning to their home communities kept in the Administration Office of the Education Department and Ethnic Affairs at Wen Chuan and Mao Xian. The majority were found in the townships and surrounding districts of Wen Chuan and Mao Xian. The total number obtained depended on the resources available to locate the children. A target of 3,000 children aged from 3 to 14 years was the aim. The sample could not be randomly selected as the distribution of the children in terms of category of problems could not be established until the data came in. The total sample obtained for this analysis was 2,234.

### **Main Findings from the Survey**

#### **(1) The Children's Situation After the Earthquake.**

As shown in Table 1, over 80% of the children in the study were taken to the temporary village homes arranged by the government or NGOs during the first one month after the earthquake. Following this first move, 50.49% of them were transferred to local tent/ temporary shelters, 34.10% were transferred to another province or other places, 27.53% were transferred to an outside community in Sichuan, and 20.19% remained in hospital. Only 2.19% stayed in their original home. Later on, most of these children (81.14%) were settled in temporary timber houses by the local government, some of them (13.79%) had moved back to their traditional village Qiang houses, but a few were still living in temporary group shelters (2.86%), tents (1.80%), and other places (0.50%). After 5 months, close to 80% of the children in this study have started to return to their original villages, 10.78% are back to a current residential area, but not to their original villages. Some children still stayed in townships (9.93%).

#### **(2) Children's Attendance at School or Child Care Centre.**

Before the earthquake over 84% of these children were attending school or a child care centre. Teachers or year/class supervisors mostly came from a majority Han background (77.35%), but there were also some ethnic Qiang teachers (21.57%) as shown in Table 2. However, since the earthquake, more than 91% have not attended any school or child care centre. Amongst the teachers almost all are Han (91.94%) and there are far fewer Qiang (5.81%) teachers who have started to become involved in the care of children who are attending school or child care centres.



**Table 1** Children's situation after the earthquake in disaster areas of Wen Chuan and Mao Xian, China (Oct.08 – Jun 09)

Children' situation reported by current caregivers in the study	Wen Chuan <i>n</i> = 1276 (%)	Mao Xian <i>n</i> = 958 (%)	Total Sample <i>n</i> = 2234 (%)
<b>Q17: How many places did the child go to after the earthquake</b>			
Stayed in original home	21 (1.64)	28 (2.92)	49 (2.19)
Hospital	291 (22.80)	160 (16.70)	451 (20.19)
Local tent/ temporary shelter	811 (63.36)	317 (33.08)	1128 (50.49)
Temporary village home arranged by government or NGOs	1008 (79.00)	798 (83.33)	1806 (80.84)
Transferred to outside community in Sichuan	465 (36.29)	150 (15.65)	615 (27.53)
Transferred to another province	219 (17.16)	154 (16.07)	373 (16.70)
Other places	142 (11.12)	250 (26.09)	396 (17.73)
$X^2 = 21.41$ $df = 6$ $p = 0.27$			
<b>Q18: Type of child's current accommodation</b>			
	1276	958	2234
Traditional village Qiang house	152 (11.91)	156 (16.28)	308 (13.79)
Tent	27 (2.11)	13 (1.36)	40 (1.80)
Temporary group shelter	42 (3.30)	22 (2.30)	64 (2.86)
Temporary timber house	1049 (82.21)	762 (79.54)	1811 (81.14)
Other	6 (0.47)	5 (0.52)	11 (0.50)
$X^2 = 19.45$ $df = 4$ $p = 0.09$			
<b>Q19: Current residential area</b>			
Original village	995 (77.98)	776 (81.00)	1771 (79.27)
Village but not original village	145 (11.36)	96 (10.02)	241 (10.78)
Small town	69 (5.40)	65 (6.78)	134 (6.00)
Large town	67 (5.25)	21 (2.19)	88 (3.94)
$X^2 = 7.22$ $df = 3$ $p = 1.043$			

**(3) Level of How the Child was Affected by the Earthquake**

As is shown in Table 3, more than 42% of caregivers in this sample reported that their children were strongly affected by the earthquake, with the rest being those children who were affected generally (29.32%), slightly (14.06%), and not significantly (9.89%). Comparatively, children in the Qiang villages of Wen Chuan were reported as more strongly affected compared with the children from Mao Xian ( $p = 0.004$ ).

**(4) Situations of Children Affected by the Earthquake.**

*4.1 Physical injury.* Table 4 presents data on the situation of children affected by the earthquake. More than half of the caregivers (1157) indicated that their children fortunately have received no injuries in the disaster. However, over 48% of the caregivers described their children as being physically affected by the earthquake, including 23.99% of children having experienced minor physical injury, general physical injury (15.80%), and severe disablement (8.41%). Comparatively, the situation was much worse for the children coming from near the epicenter of the earthquake in the Wen Chuan district than for the children in Mao Xian ( $p = .024$ ).

**Table 2** *Children's attendance at a school or child care centre in disaster areas of Wen Chuan and Mao Xian, China (Oct.08 – Jun 09)*

Messages reported by current caregiver	Wen Chuan <i>n</i> = 1276 (%)	Mao Xian <i>n</i> = 958 (%)	Total Sample <i>n</i> = 2234 (%)
<b>Q20: Was the child attending a school or child care centre before the earthquake?</b>			
No	181 (14.18)	168 (17.53)	349 (15.62)
Yes	1095 (85.82)	789 (82.36)	1884 (84.33)
Teacher (year/class supervisor):			
Han	1035 (81.11)	693 (72.33)	1728 (77.35)
Qiang	233 (18.26)	249 (26.00)	482 (21.57)
Other	8 (0.62)	16 (1.67)	24 (1.07)
$\chi^2 = 6.874$ $df = 2$ $p = 0.633$			
<b>Q21: Has the child attended school or child care centre since the earthquake? (Nov.-Dec. 08)</b>			
No	1149 (90.04)	894 (93.33)	2043 (91.45)
Yes	127 (9.95)	64 (6.68)	191 (8.55)
Teacher (year/class supervisor):			
Han	1179 (90.05)	875 (91.33)	2054 (91.94)
Qiang	83 (6.50)	47 (4.91)	130 (5.81)
Other	14 (1.09)	36 (3.76)	50 (2.23)
$\chi^2 = 4.092$ $df = 2$ $p = 0.420$			

**Table 3** *Level of how the child was affected by the earthquake in Wen Chuan and Mao Xian*

Messages reported by current caregiver	Wen Chuan <i>n</i> = 1276 (%)	Mao Xian <i>n</i> = 958 (%)	Total Sample <i>n</i> = 2234 (%)
<b>Q22: In general, how much was the child affected by the earthquake?</b>			
Not significantly affected	96 (7.52)	125 (13.04)	221 (9.89)
Slightly	163 (12.77)	151 (15.76)	314 (14.06)
Generally	350 (27.43)	305 (31.84)	655 (29.32)
Strongly	639 (50.07)	307 (32.05)	946 (42.35)
Not sure/ Don't know	28 (2.19)	70 (7.31)	98 (4.38)
$\chi^2 = 27.07$ $df = 4$ $p = 0.004$			

*4.2 Family and Social Relationships Affected.* As shown in Table 4, the children suffered from the devastating breakdown of many social relationships. Many had lost their home (78.55%), their school (75.47%), their friend/s (42.97%), had been moved to unfamiliar areas (42.61%), had lost relatives (37.51%), had lost their mother (14.86%), father (8.37%), brother/s (10.03%) or sister/s (7.47%). No significant difference was observed between the two counties. Additionally, data indicated that about 41% of the sample had family members who did not survive the earthquake. Over 30% of the respondents indicated that the child under discussion had one or two family members who did not survive, but there were 17.02% who had lost three, 10% who had lost four, 5.8% who had lost five, and 5.04% who had lost six or more family members.

**Table 4** *Children affected by the earthquake in Wen Chuan and Mao Xian*

<b>Messages reported by current caregiver</b>	<b>Wen Chuan</b> <i>n</i> = 1276 (%)	<b>Mao Xian</b> <i>n</i> = 958 (%)	<b>Total Sample</b> <i>n</i> = 2234 (%)
Did any of the following things happen with your child?			
<b>1) Physical injury</b>			
Minor physical injury	298 (23.35)	238 (24.84)	536 (23.99)
General physical injury	245 (19.20)	108 (11.27)	353 (15.80)
Severely disabled by the earthquake	122 (9.61)	66 (6.89)	188 (8.41)
No physical injury	611 (47.88)	546 (56.99)	1157 (51.79)
$X^2 = 12.433$ $df = 3$ $p = 0.021$			
<b>2) Family and social relationship affected</b> <sup>[a]</sup>			
Lost father	116 (9.10)	71 (7.41)	187 (8.37)
Lost mother	214 (16.77)	118 (12.32)	332 (14.86)
Lost adoptive father	3 (0.23)		3 (0.13)
Lost adoptive mother	6 (0.47)	3 (0.31)	9 (0.40)
Lost step father	1 (0.07)		1 (0.04)
Lost step mother	4 (0.31)	1 (0.10)	5 (0.22)
Lost foster father – related	1 (0.07)		1 (0.04)
Lost foster mother – related	3 (0.23)		3 (0.13)
Lost sister/s	110 (8.62)	57 (5.95)	167 (7.47)
Lost brother/s	148 (11.59)	76 (7.93)	224 (10.03)
Lost grandfather	76 (5.96)	29 (3.03)	105 (4.70)
Lost grandmother	79 (6.19)	33 (3.44)	112 (5.01)
Lost relatives	504 (39.49)	334 (34.86)	838 (37.51)
Lost friend/s <sup>[b]</sup>	618 (48.43)	342 (35.99)	960 (42.97)
Lost home	1171 (91.77)	584 (60.96)	1755 (78.55)
Lost school	1139 (89.26)	547 (57.98)	1686 (75.47)
Moved to unfamiliar areas	664 (52.04)	288 (30.06)	952 (42.61)
<b>3) Psychological impact</b>			
Still frightened	1136 (89.02)	795 (82.99)	1931 (86.44)
Still sad	893 (70.01)	632 (65.97)	1525 (68.26)
Is down in spirits	1060 (83.07)	747 (77.98)	1807 (80.88)
Doesn't talk about it	512 (40.12)	356 (37.16)	868 (38.85)
Has dreams about the earthquake	433 (33.93)	277 (28.91)	710 (30.29)
Won't eat	310 (24.29)	170 (17.74)	480 (21.48)
Won't go into big buildings	102 (7.99)	57 (5.95)	159 (7.12)
Other <sup>[c]</sup>	81 (6.35)	38 (3.96)	119 (5.32)
$X^2 = 23.27$ $df = 7$ $p = .958$			

[a] Most cases in the data were from some major Qiang villages around Wei Zhou township without covering more villages in Ying Xiu which was a core area of the massive earthquake on 12 May 2008 of Sichuan, China.

[b] Including did not survive the earthquake, still missing, and transferred to other places.

[c] Including unhappy, lost interest with school, out-door activities, etc.

*4.3 Psychological Impact.* Data in the survey further shows in Table 4 that children were still frightened (86.44%) since the earthquake. These children continued to be down in spirits (80.88%), were still sad (68.26%), did not talk about it (38.85%), won't eat (21.48%), won't go into a big building (7.12%) and other (5.32%) included being unhappy, loss of interest in school work and outdoor activities. No significant difference was found between the two counties.

## 5) Child Care Effects on these Caregivers

As shown in the data in Table 5, 17.50% of these caregivers reported that their child care was not significantly affected. However, over 77% of them child care was affected by the disaster: slightly (30.79%), generally (28.47%), and strongly (18.04%).

**Table 5** *Effects on child care for caregivers in Wen Chuan and Mao Xian*

Messages reported by current caregiver	Wen Chuan <i>n</i> = 1276 (%)	Mao Xian <i>n</i> = 958 (%)	Total sample <i>n</i> = 2234 (%)
Q24: For child care, how were you affected?			
Not significantly affected	209 (16.37)	182 (18.99)	391 (17.50)
Slightly	389 (30.49)	299 (31.21)	688 (30.79)
Generally	392 (30.72)	244 (25.47)	636 (28.47)
Strongly	246 (19.27)	157 (16.39)	403 (18.04)
Not sure/ Don't know	40 (3.13)	76 (7.09)	116 (5.19)
$\chi^2 = 7.49$ <i>df</i> = 4 <i>p</i> = .446			

## Stage 2. The Interviews with the Children

### Objectives

The objectives in Stage 2 were to develop and implement an individual interviewing program to explore (a) the psychological, social and behavioural impact of the earthquake upon the children, and (b) the traditional Qiang response to dealing with disaster, using interviews with individual children to provide insights from which to develop and carry out a culturally appropriate rehabilitation program.

### Method

The interview sample was drawn from the responses to the survey, and comprised 1200 children in three age groups of 3-5 years, 6-12 years and 13-14 years, with 100 in each age group in each of 4 categories: (a) children with no parents; (b) children who have a family member but one who cannot give support to the child; (c) children who have been physically disabled by the earthquake; (d) children who are apparently not seriously affected and are in the care of parents or close relatives. To allow for possible attrition, 110 children were selected for each age group in each category.

An interview schedule was prepared based on the content of the survey with additional items to explore how the child felt about what had occurred, knowledge of the Qiang culture and cultural identity, and explanation of the cause of the earthquake. These items were accompanied by space for children to provide drawings as they gave the response. The schedule was prepared in both English and Chinese. A pilot study was conducted to check these items in the interview schedule.

A training program was developed to train the interviewers. Selection was made on the criteria of having at least middle school education and fluency in both standard Chinese and the Qiang language. A set of Guidelines for Interviewers was prepared and practice sessions were used to improve techniques of asking the questions and recording the responses. All the interviewers are young men and women with a Qiang ethnic background. Techniques were provided according the age group, for example using puppets for younger groups. The interviews were conducted in the preferred language Qiang or Chinese with local style. All responses were

coded in Chinese for the analysis.

## Selected Findings from the Interviews

### (1) Understanding Reasons for the Cause of the Earthquake

The analysis of the interview responses is ongoing. Two items of interest have been selected to illustrate children's thinking and emotional response.

**Table 7** Causal explanations for the earthquake in different age groups

Age Groups	4 category groups n (%)				Total
	A (CLP) <sup>a</sup>	B (CFDS) <sup>b</sup>	C (CPDE) <sup>c</sup>	D (CNSA) <sup>d</sup>	
(Q26, N=1200)					
<b>1. Scientific message</b>	(n=47)	(n=54)	(n=82)	(n=117)	300
3-5 years	6 (12.76)	8 (14.81)	13 (15.85)	19 (16.24)	46
6-12 years	11 (23.40)	14 (25.92)	21 (25.61)	28 (23.93)	74
13-14 years	30 (63.83)	32 (59.26)	48 (58.54)	70 (59.83)	180
$X^2 = 16.233$ $df = 6$ $p = 0.012$					
<b>2. Mainly scientific + some respect for traditional interpretation</b>	(n=59)	(n=70)	(n=71)	(n=100)	300
3-5 years	11 (18.64)	11 (15.71)	17 (23.94)	37 (37.00)	76
6-12 years	15 (25.42)	20 (28.57)	25 (35.21)	42 (42.00)	102
13-14 years	33 (55.93)	39 (55.71)	29 (40.84)	21 (21.00)	122
$X^2 = 14.920$ $df = 6$ $p = 0.006$					
<b>3. Mainly traditional interpretation + some doubt</b>	(n=93)	(n=83)	(n=72)	(n=52)	300
3-5 years	39 (41.94)	36 (43.37)	33 (45.83)	24 (46.15)	132
6-12 years	33 (35.84)	28 (33.73)	23 (31.94)	20 (38.45)	104
13-14 years	21 (22.56)	19 (22.89)	16 (22.22)	8 (15.38)	64
$X^2 = 16.036$ $df = 6$ $p = 0.003$					
<b>4. Traditional interpretation unquestioned, no other interpretation</b>	(n=101)	(n=93)	(n=75)	(n=31)	300
3-5 years	44 (43.56)	45 (48.38)	37 (49.33)	20 (48.78)	146
6-12 years	41 (40.59)	38 (40.86)	31 (41.33)	10 (36.59)	120
13-14 years	16 (15.84)	10 (10.75)	7 (9.33)	1 (14.63)	34
$X^2 = 19.730$ $df = 6$ $p = 0.000$					

a Responses were collected from Q26 on what do you think caused the earthquake?

[1] CLP: Children who lost father or mother, or parents

[2] CFDS: Children who have a family member but one who cannot or has difficulty in giving support to the child

[3] CPDE: Children who have been physically disabled by the earthquake

[4] CNSA : Children who are apparently not seriously affected and are in the care of parents or close relatives

As data in Table 7 show, older children were more likely than younger children to give the scientific explanations for the earthquake. Age, together with different education levels is a key determinant of children's understanding of the cause of the earthquake as "scientific message", "mainly scientific + some respect for traditional", "mainly traditional + some doubt"; and "traditional unquestioned no other interpretation". However, data in table 7 also show that children in the groups which suffered seriously from the earthquake were more likely to give traditional reasons. Information from children's drawings further showed that location of their villages is also an important variable for children's interpretation. Children living in remote mountainous areas

were more likely to make the traditional interpretation than children living in the townships.

## (2) Drawing Pictures to Express Children's Understanding of the Earthquake

The children were asked what happened to them when the earthquake struck. The children were provided with paper and coloured textas to draw a picture whilst telling what happened. Data from the interviews further shows, in Table 8, that over 84% of these children in their drawing pictures with different themes show their appeal to pay attention their emotional support, with the rest being cultural representation (71.10%); help & rescue (59.31%); interpersonal relationship (55.05%); and events (22.29%). Data in Table 8 are drawn from children in Wen Chaun and Mao Xian ages from 9-13 years.

**Table 8** Drawings from children to describe their experience of the earthquake

Themes on children's ex- pression to disaster in their drawing (n=376) n (%)	Focus topics <sup>a</sup>				
	Emotion & Trauma	Cultural representation	Events	Interpersonal Relationships	Help & rescue
Emotional expression frigh- tened and sad for disaster n =127 (33.77)	127	96	22	106	82
Natural description n = 69 (18.35)	44	31	68	21	47
Scientific explanation n = 43 (11.43)	12	5	30		4
Help & rescue n = 38 (10.11)	47	36	17	26	38
Cultural interpretation: legend, metaphor, represen- tation, symbol etc. n = 99 (26.33)	86	99	22	54	52
Total:	316 (84.04)	267(71.10)	159(22.29)	207(55.05)	223(59.31)
Rank:	1	2	5	4	3

<sup>a</sup>The numbers could overlap in all categories as more than one topic could be presented in a theme.

## Summary

Data in the Survey was first researched to assess the extent of the impact of the earthquake on the children in the families and other current accommodation, and the general situation of children's physical injury, social relationships, and psychological impact of the earthquake. Data in this study alone can be used to provide valuable information for local community and government services. Analysis of the interview data is continuing with further work on interpretation of the children's drawings also relating these findings to the role of village versus urban environment in attributions of casualty. It should be noted that it was in the remote mountain villages that the worst damage occurred.



## **Building a Culturally Appropriate Intervention Program to Assist Children's Rehabilitation after the Sichuan Earthquake of 12 May, 2008**

**Melissa Gao**

University of Newcastle, Australia  
China-Australia Centre for Cross-Cultural Studies, Sichuan University,  
Sichuan Academy of Social Sciences, China

**Daphne Keats**

University of Newcastle, Australia

**Shuguang Wang**

University of Newcastle, Australia  
China-Australia Centre for Cross-Cultural Studies, Sichuan University, China  
Institute of Sociology, Sichuan Academy of Social Sciences, China

### **Abstract**

Based on the findings of the survey and the interviews, the work in this stage of the research was to build a culturally acceptable program to aid the children's recovery. The study was conducted in three project sites of a village, a large school and a hospital, all in the same locations as the baseline research. A group-based participatory approach is being employed to develop a variety of activities, in progressive steps dealing with children's themes of rehabilitation in their own contexts. The total program includes a range of activities differing according to age, category, and site. To ensure comparability, a core of three activity types (drama; story-telling and writing; singing and music in Qiang style) is taken by all age and category groups. The aim is to encourage healthy personal and social development, self efficacy and cultural identity. Cultural leader-based advocacy and cultural events promoting health have been designed to support the children's activities. Volunteer Leaders and Activity Leaders conduct the activities, and monitor progress using Observation Check Lists to record children's perceived general activity and group involvement.

In this paper we show how we addressed our dual aims of building a culturally appropriate rehabilitation program to help the children and of evaluating its effectiveness.

What would be culturally appropriate? With the information gained from the Survey and interviews with the children described by Shuguang Wang in the previous paper, and the greater knowledge gained from working closely with Chai, Yang and the other Qiang leaders, as described in Chai's paper, we now had a better understanding of what would be culturally appropriate. Three key features of the situation emerged: (1) We would need to make the group the focus of the children's rehabilitation rather than work with each child on an individual basis, (2) The role of the Qiang traditional cultural leaders must be considered and respected and (3) Oral traditions, expressed in story, song and opera, were the key to cultural identity rather than written history.

Culturally appropriate also had to mean culturally acceptable. We were reminded of the villagers' sense of impotence in the face of the building projects which were carried out by outsiders without consulting the local peoples' needs or feelings. Also, their experiences with foreign and other Chinese volunteers had left unfavourable attitudes to outside interventions, especially by psychiatrists and counselling volunteers. There were no psychological tests or scales which we could apply to Qiang children, and even if we found a usable scale in the Chinese test literature, it would be rejected by the Qiang.

### **The Activities Program**

To ensure that the rehabilitation program would be both culturally appropriate and culturally acceptable, we devised a program of activities which could foster the children's social, physical and educational development, could contribute to fostering pride in their cultural identity, and could be integrated into familiar group settings such as school and village life.

We prepared a list of some suggested activities with therapeutic benefits and theoretical support, including the following examples:

*Traditional dance and songs, including original compositions.* These develop the sense of cultural identity and foster creativity and self esteem.

*Choral and group singing and music.* Singing and music enhances group support, improves participatory communication skills, and contributes to cultural renewal. Participation in these activities also improves some physical functioning such as heart and lung capacity. Moreover, they can be used in situations where physical injuries limit activity.

*Story-telling, writing and reading.* Oral story telling contributes to communication in a popular Qiang cultural tradition, encouraging the expression of emotions, and helping both tellers and listeners to express feelings which are negative and suppressed. Writing can be fictional, or autobiographical. Both are used as projective clinical techniques in work with children. Both oral and written story telling can help to promote communication skills and cognitive development. Books for children's reading can stimulate interest and enjoyment. They can be provided to a school library or in a travelling "book box" library which can be circulated around schools and villages. With local villages managing the books in their own village, adults with low levels of literacy can also benefit. Titles can be chosen to augment school lessons, for enjoyment only, to stimulate motivation, to provide role models, and as an outlet for dealing with fears and anxieties.

*Sand and doll play.* This is a well-used projective method in clinical work with young children. Doll figures can represent various persons through which children can play out their experiences, emotions and relationships. The method can be adapted for small groups as well as used individually. Plane surfaces can be used as well as sand boxes. An advantage of using sand is that the child can easily make changes in the arrangement of the sand to express different emotions and ideas.

*Drawings, painting and modelling with clay or plasticine.* These are standard techniques in clinical work with children and adolescents. They are adaptable for all ages and for groups as well as individuals.

*School projects.* The school classroom project can be a vehicle for assisting children to work through their experiences, to develop cognitive skills and focus on growth and renewal in positive ways. A project can be carried out individually or as a group. The work involved can encourage creativity and critical thinking and enhance self efficacy. Topics can be linked to topics in the usual classroom syllabus or, in this case, to the earthquake, but to be effective the topic must be attractive to the child.

*Photography.* This can be a very effective, and attractive, activity for many older children. As they record their own experiences and show the changes to their environment, they can increase their knowledge and improve their own coping skills. Photographs can be used to illustrate school projects.

*Dramatic performances.* These can include many kinds of activities, such as mime, puppetry, making up stories to perform, and making scenery and costumes, opera style. Children with different skills and abilities can all be involved. Psychodrama is a well-established form of projective clinical intervention. Participatory communication fosters creativity and self efficacy and helps to alleviate depression.

*Group discussions.* Group discussions can be used to contribute to planning an activity, working through its conduct and discussing the outcome. Focus groups are frequently used to stimulate discussion of personal problems, but for this rehabilitation program it is suggested that they focus on positive goals rather on eliciting expression of stressful emotional states.

*Helping another person.* There are many benefits for both the helper and the one who is helped. The process of learning to understand the point of view of another person, namely social perspective taking, fosters empathy and understanding of the child's own situation as well as that of the other. In the interdependent Qiang culture, helping behaviour can work across age levels as well as among the child's peers. Even modest acts of helping can have mutually beneficial effects.

*Sport, games and gymnastics.* These activities promote physical well-being, and the group involvement promotes social interaction. Providing a variety of activities should enable a wide range of children of differing abilities to participate.

*Computer skills.* If the equipment is available, helping them to develop these skills will be likely to attract many of the older children. Mastery of computer skills will also help them to look to the future rather than dwell on present and past losses.

*The Activities Diary.* In addition, a book was provided for children to write in their own entries about their activities. The purpose of the book is to record their own feelings and ideas, and entries are not counted in any evaluation. The books are only given to children in the groups who can write. If children want to share some of their entries with their teacher or friends, they can do so.

It can be seen that these activities cross many disciplinary boundaries: they draw upon social, clinical and developmental psychology, the creative arts, music, singing and drama, writing and oral communication skills, physical and motor skills and health psychology. They all have the common characteristic of being attractive to children, to be enjoyed, while promoting healthy personal development.

Although many of the suggested activities have links to clinical and other psychological fields, it was important not to treat the children's performance on any of these activities as comparable to performance on a psychological test. The limitations of the projective test are well documented (See, for example, Anastasia & Urbana, 1997, *Psychological Testing*, Seventh Edition), especially the problems of meeting the measurement criteria of validity and reliability, compounded in a non-western cultural environment. For the informal situations in these classroom and peer group activity sessions we adopted a different approach, based on the systematic observation of a child's change in behaviour rather than on psychological interpretations of mental state.

## **Administering the Program**

### **Selection and training of Volunteer Leaders and Activity Leaders**

To administer the activities program we selected local Qiang speaking volunteers who had had experience working with children in school or kindergarten. Guidelines were prepared and training workshops were conducted before commencing the program. Using the participatory communication approach, all volunteers took an active part in preparing the program, giving suggestions for improving their roles and ideas for other activities.

The Volunteer Leaders were made responsible for the overall conduct of the activities program in their classroom or village group and for carrying out the observations on each child's behaviour over a period of five months. The Activity Leaders were responsible only for the conduct of a particular activity and worked closely with the Volunteer Leader for the group.

To ensure comparability between groups in different situations and age ranges, three common activities were conducted in all groups. These were: story-telling and writing; singing, and drama. Each of these has a strong tradition in Qiang culture and was regarded as important to the aim of developing a sense of pride in their cultural heritage. The research team worked closely with the Qiang people, using the three level participatory communication approach.

### **Evaluating the Children's Progress**

*Ineffectiveness of counselling.* We could not use test data as bench marks of children's progress since no psychological tests were available from either western or Chinese psychological literature. In any case, it was unlikely that such testing would be acceptable to the Qiang people. However, the Government has been persuaded that counsellors should be provided for all children and appointed village doctors to the task. After a very brief few weeks training they were given a modified version of the Mini Mental State scale, as used by psychiatrists, to use with the children. This was quite inappropriate for the Qiang children's situation and there was no expectation of evaluating its effectiveness.

Data obtained by Shuguang Wang show that the counselling experience did not differentiate between those who had received the counselling and those who had not, as is shown in Tables 1 and 2, below. After a slight change in the early days among the least affected children, the effect soon dissipated over a longer term. In the children most affected by the earthquake, there was no difference in either the short or long term.

**Table 1** Parents' descriptions of effects of access to counselling on children slightly affected by earthquake

Affected slightly within 6 months after earthquake_(n = 314)	Counselling and non-counselling groups (%)		
	Access to counselling	No access to counselling	p
Third month (Base line )	14.33	15.67	
Fourth month	12.14	14.70	
Observed Change	2.17	0.97	**
$\chi^2 = 18.792$ $df = 3$ $p = 0.026$			
Fifth month	11.61	13.63	
Observed Change	2.70	2.04	n.s
$\chi^2 = 0.334$ $df = 3$ $p = .718$			
Sixth month	7.65	9.14	
Observed Change	6.66	6.53	n.s
$\chi^2 = 0.912$ $df = 3$ $p = .978$			

Note. n.s: no significance; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Table 2**

*Parents' descriptions of effects of access to counselling on children strongly affected by earthquake*

Affected strongly within 6 months after earthquake <i>n</i> = 1601	Access (%)	
	Access to counselling	Not access to counselling
Third month (Base line )	35.32	35.46
Fourth month	34.44	34.90
Observed Change	0.88	0.56
$X^2 = 0.426$ <i>df</i> = 3 <i>p</i> = .560		
Fifth month	33.71	33.93
Observed Change	1.60	1.53
$X^2 = 0.904$ <i>df</i> = 3 <i>p</i> = .229		
Sixth month	33.15	33.34
Observed Change	2.17	2.12
$X^2 = 1.747$ <i>df</i> = 3 <i>p</i> = .124		

*The Observation Check Lists.* We did not try to turn our Volunteer Leaders into amateur psychologists. They were not counsellors but supporters. Rather than attempt to introduce psychological interpretations of behaviour, we devised a set of Observation Check Lists which could be completed by the Volunteer Leader or Activity Leader. Items for the Observation Check Lists were derived from the findings reported in the Survey and interview studies presented in the previous paper by Shuguang Wang.

As shown in Figure 1, below, the items in the Observation Check Lists focussed on observable behaviour. It was important that the volunteers became familiar with the meaning of each of the items in the training workshop before commencing the observations. It was also important that the task should be easy to complete so that local volunteers in all centres would have no difficulty in understanding their task. The Volunteer Leaders were also responsible for referring any child with serious problems to the researchers, who would refer the child on to the medical consultant if needed.


## Results

Because of the large number of children involved (see data from Wang's paper), we decided to begin with a small number of locations where there had been high losses, representing the major locations of large schools, villages and hospitals.

Yen Men School is the largest school in the Wen Chuan town area with a large majority of Qiang students from Years 1 to 12. The present enrolment is around 780 children. Since the earthquake, when the old school was severely damaged, new buildings have been erected and a new hostel now caters for many Qiang village children who stay on during the school week.

Lou Bu Village is situated high in the mountains; it suffered severe losses of family members and extreme building damage. Most of the older children were taken to safety and have been brought back home slowly. The older children attend schools in Wen Chuan, most to Yen Men School. The younger children attend the village school. The village has a strong Qiang leadership and Qiang cultural heritage.

An example of a Volunteer Leader's check list is shown in Figure 1.

<p>四川大学 中-澳跨文化研究中心          Chinese-Australian Centre for Cross-Cultural Studies (CACCCS),          Sichuan University of China          in cooperation with the School of Psychology, the University of Newcastle, Australia</p>						
<p><b>The Behaviour Check List for Volunteer Leaders</b>          The research program of psycho-cultural rehabilitation for Ethnic Qiang children affected</p>						
Child Code No:		Date:		Name of the activity:		
Session:		Site		Category of the activity:		
Name of Volunteer:						
<b>Background for observed child</b>						
1. Name:		2. Sex:		1) Male	2) Female	
3. Age:		4. Involved in survey		1) Yes	2) No	
5. Home location:		6. Involved in interview		1) Yes	2) No	
<p><i>For each of the following behaviour situations there are four possible answers. Please tick the one which best matches your observation of this child in your Activity session to-day.</i></p>						
<b>Tick for your observation</b>						
<b>Behavior situations</b>	Always	Sometimes	Seldom	Hardly ever		
1. Participation						
2. Enjoyment						
3. Eye Contact						
4. Alertness						
5. Communication						
6. Cooperation						
7. Achievement						
8. Concentration						
9. Language usage						
10. Attempting new tasks						
11. Attention to activity leader						

**Figure 1.** Volunteer Leaders Check List

Yu Li and Shuo Qiao villages are both small villages high in the mountains and here we worked with the kindergarten level children.

The Wen Chuan Hospital Trauma Clinic was to have been the hospital setting, but the hospital is now being repaired and the children have been removed to another location, so we have had no access at this time.

Results so far have been received for five months from two groups in Yan Men School and from Yu Li and Shuo Qiao Kindergartens and are shown in the following prepared by Shuguang Wang.



**Table 4***Changes from baseline to post test recorded twice per month (Jan. – Jun 2010)*

<b>Behavior situations</b> ( <i>n</i> = 350)	<b>Jan. 2010</b> (baseline)	<b>Jun 2010<sup>a</sup></b> (Post-activity,%)	<b>Observed Change</b> % (95% CI) <sup>a, b</sup>	<b><i>p</i></b>
1. Participation	1.32	3.77	2.45 (0.7, 4.2)	***
2. Enjoyment	1.12	3.79	2.75 (0.9, 4.6)	***
3. Eye Contact	1.04	2.85	1.95 (0.5, 3.4)	*
4. Alertness	3.02	3.82	0.80 (-0.4, 1.2)	ns
5. Communication	0.78	3.04	2.25 (0.5, 4.0)	***
6. Cooperation	2.12	3.97	1.85 (0.4, 3.3)	**
7. Achievement	0.78	3.68	2.90 (1.1, 4.7)	***
8. Concentration	0.60	3.36	2.70 (0.8, 4.6)	***
9. Language usage	1.21	3.62	2.41 (0.6, 4.2)	***
10. Attempting new tasks	0.60	3.15	2.55 (0.7, 4.4)	***
11. Attention to activity leader	3.37	3.88	0.51 (-0.3, 0.8)	ns
Total:	21.19	42.53	21.34 (11.47, 31.21)	***

ns: not statistically significant; \* =  $p < .05$ ; \*\* =  $p < .001$ ; \*\*\* =  $p < .000$

<sup>a</sup>Observation was conducted twice per month. Data was summarized from records of ten times of observations.

<sup>b</sup>The level toward situational change was scored using a Likert-type scale with four levels of response - "Always", "Sometimes", "Seldom", "Hardly ever", scored four, two, one and zero respectively. High scores on the scale indicate a high level of positive comments to children's progress of psychological facilitate. Scores on this scale range from 0 to 44. The reliability of this scale as measured by Cronbach's alpha was 0.68 at baseline.

The results so far show positive changes over the five months period in all the behaviour situations, except alertness and attention to activity leader. The children did not change because they already were alert and paid attention (as do all Chinese children).

The observed activities at Yu Li and Shuo Qiao kindergartens included traditional games, singing and drawings of their village and family.

The observed activities in the school groups included traditional Qiang cultural history, traditional story-telling and dramatic performance. These activities were brought together in a dramatic presentation to the school on Children's Day on 1 June, 2010. While some children read the story, others enacted life in the early period of Qiang culture, and the legend of the daughter of the God who came down to earth and met up with the Qiang young man, thus bringing down the ire of the God, resulting in the earthquake. The role of the Shi Bi, the cultural leader, was shown as mediating in resolving their problems. The performance was thoroughly enjoyed by the rest of the school and was the first time many had learned so much of their own cultural history.

### Summary and Conclusions

We had two major aims in planning the rehabilitation program: first, to develop a culturally appropriate program to help the children and second, to evaluate the effectiveness of that program. With the information gained from the first two stages of the research, presented by Shuguang Wang in the previous paper, and greater knowledge of the Qiang culture, as shown in the paper by Chai and Wang, it became clear that western-style individualist rehabilitation methods would not work in the Qiang collectivist cultural context. To be effective, the rehabilitation program had to help the children restore pride in their heritage, and we the researchers had to devise a program which respected the views of the Qiang traditional leaders while helping the children to go forward. We would also have to devise a method which did not isolate individual children from their peer groups and their communities. Moreover, we had to include all the children in the groups: in these collectivist

communities there was no possibility of having control groups in which some children could not participate while others, their peers, could.

The method we came up with, the Activities Program, adapted some well-known psychological techniques to the group setting, offering a variety of appealing activities which are known to have beneficial effects, some with a strong basis in the rich Qiang cultural heritage.

The participatory communication approach of working with Qiang people at all levels allowed the community to be aware of what the children were doing, and many offered help. It was local Qiang people who were trained as Volunteer Leaders, who administered the program and collected the data for evaluating the children's progress. The Observation check lists were effective because the Volunteer Leaders were involved in their preparation, and were acceptable because they could be completed easily and were focused on behaviour rather than psychological states.

Teachers and Volunteer Leaders all had intimate knowledge of the children in their groups, so any child causing concern could be referred to the research team and to the medical consultant if needed. Evidence from the survey and the interviews showed that these cases were not great in number. The children who had suffered severe family losses were now being returned to their home environments and were watched over with loving care by extended families or other villagers.

The work is ongoing, and data from other sites are still coming in. The data presented in this symposium is the first available, but thus far the results are supportive. Certainly the Qiang local government authorities are anxious for the work to be extended into other locations, possibly also introducing a training program for local Qiang workers to continue themselves. Such a development would be in keeping with our own aims.

The three stage program has taken longer than attempting to introduce a rehabilitation program from the outset, but has provided a surer foundation, with large samples and strong empirical evidence from which we can now progress to further rehabilitation sites. The evaluation aspect of the program must be continued to ensure that the methods are working.

In this symposium we have presented only part of what has been a challenging undertaking. I hope that in these papers you will have seen the program as a whole, not as separate studies.

Finally may I, on behalf of Shuguang Wang and Melissa Gao, acknowledge the support of all the research colleagues, Volunteer Leaders and Activity Leaders, the Qiang local Government and former Director of Qiang Ethnic Affairs, Mr Yang Xian Gui, the Qiang village and cultural leaders, the China-Australia Centre for Cross-Cultural Studies and the University of Newcastle for its continuing support for this project.

## Ensuring Rigor in Qualitative Research Within the Field of Cross-Cultural Psychology

**Carolyn Demuth** (cdemuth@uni-osnabrueck.de)

University of Osnabrueck, Faculty of Human Sciences, Institute for Psychology  
Culture & Development, Artilleriestrasse 34, D- 49076 Osnabrueck, Germany

### Abstract

Within recent years, there has been an increasing call for qualitative research in cross-cultural psychology. Despite this general openness, there seems to be some confusion about how to evaluate the quality of such research. This has been partly due to the heterogeneity of the field and the epistemological underpinnings of qualitative research that do not allow for standard criteria of rigor as in the traditional psychological research. Nevertheless, there is an emerging canon of recognized standards of good practice in qualitative research which the present paper will briefly discuss. The paper aims at motivating cross-cultural psychologists to produce high quality qualitative research that will contribute to the further advancement of the field.

Cross-cultural psychology has long been associated with a nomothetic approach that attempts to identify general laws and causal explanations following the model of natural science and using standard quantitative research methods (Boesch & Straub, 2006; Kim, Park, & Park, 2000; Ratner & Hui, 2003). This picture has been challenged in recent years as there has been an increasing call for qualitative research in cross-cultural psychology that goes hand in hand with a theoretical rapprochement towards various branches of cultural psychology. This trend has also been visible for instance in the title of the XIX International Congress of IACCP in 2008 in Bremen (*“Crossing Borders – (Cross-)cultural psychology as an interdisciplinary multi-method endeavor”*), in an increasing number of qualitative research papers presented over the last IACCP congresses, the two ARTS workshops on qualitative (and mixed) methods, and finally in the publication of a JCCP special issue on qualitative and mixed methods in 2009 (Karasz & Singelis, 2009).

Despite the effort of a number of scholars to integrate qualitative methods into the field of cross-cultural psychology, there seem to exist some misconceptions about how to conduct qualitative research properly in order to meet empirical standards of rigor. Actually, very few studies in the field go beyond explorative procedures and use established methods that have been developed within the qualitative paradigm. Some use ‘open procedures’ such as open-ended questions in questionnaires, (semi-)structured interviews, or video recordings but in principle remain within the quantitative paradigm as far as the logic of analysis (and of the assessment) of the data are concerned. While this misconception of qualitative research is certainly partly due to the lack of training at universities where qualitative methods are still not taught as part of the regular curriculum in psychology, it is still surprising since there are sufficient handbooks available on the market and an increasing number of trainings and workshops are offered throughout the US and many parts of Europe.

### Different Methodologies Require Different Criteria for Evaluation

Have qualitative methods finally arrived in cross-cultural psychology? I think not yet fully. Without going into a debate on the different epistemological underpinnings of quantitative and qualitative methods, I think it is essential to understand that qualitative procedures (I prefer to speak of ‘procedures’ rather than of ‘methods’ since qualitative research generally does not draw on standardized techniques) follow a different logic than quantitative methods. We are not simply talking about different methods in the sense of different techniques but of different *methodologies*. This is important to understand if we want to evaluate the quality of empirical research. It is surprising that still sometimes erroneously traditional criteria of rigor developed within the quantitative paradigmatic framework are applied to evaluate qualitative research (e.g., representative sample, sample size) without realizing the inappropriateness of these criteria for these procedures. This is even more surprising as specific criteria for the evaluation of qualitative research have been developed and published within the past

two decades (e.g., Drisko, 1997; Elliot, Fischer, & Rennie, 1999; Flick, 2009; Gaskell & Bauer, 2000; Guba & Lincoln, 1982; Lamnek, 2006; Lincoln & Guba, 1985; Patton, 2002; Richardson, 1996; Seale & Silverman, 1997; Silverman, 2001, 2005; Steinke, 2004; Stiles, 1993).

While some criteria of good practice of scientific research apply to both quantitative and qualitative research, others apply specifically to qualitative approaches (Elliot et al., 1999; Silverman, 2001). General criteria are: relationship of the study to relevant literature, clarity of research questions, methodological appropriateness (choice of method, choice of sampling strategy), informed consent and ethical research conduct, specification of methods, appropriately tentative discussion of implications of research data and understandings, clarity of writing and contribution to knowledge (Elliot et al., 1999).

Qualitative research is of course in itself a very heterogeneous field that embraces a great variety of approaches that have been developed within very diverse theoretical and philosophical frameworks. This diversity, together with the fact that qualitative research does not follow standardized procedures, makes it difficult to define a common set of criteria that ensure rigor and quality of good practice. In the past, different research traditions have developed a variety of rules based on the logic of the relevant approach. Specific criteria for particular qualitative procedures have for instance been developed for the evaluation of Grounded Theory studies (Corbin & Strauss, 1990; Strauss & Corbin, 1990) and for the evaluation of discourse analysis studies (Potter, 1996, 2007; Coyle, 2000; Taylor, 2001a; Phillips & Jorgensen, 2001).

While there is no consensus about the best criteria for evaluating qualitative research, there has been an emerging canon of a potential set of broadly defined criteria that generally apply to qualitative research (and that need to be further specified for the concrete research project; Elliot, Fischer, & Rennie, 1999). These criteria are meanwhile commonly discussed in text books on qualitative research (Camic, Rhodes, Yardley, Rhodes, & Yardley, 2003; Y. S. Lincoln, 1995; Y. S. Lincoln & Guba, 1985; Lyons & Coyle, 2007; Mey & Mruck, 2010; Smith, 2008; Steinke, 2004; Willig, 2008).

## **Principles of Qualitative Research**

In what follows, I would like to give an overview of the canon of good practice in qualitative research. In so doing, I hope to contribute to a state-of-the-art quality in qualitative cross-cultural research. In order to understand the logic that these criteria are based on, I consider it very helpful to keep in mind the basic principles that qualitative research – despite its diversity - is based on (e.g., Mey, 2010):

### **The Principle of Openness**

The research design needs to be arranged in a way that allows the participants to lay open their personal subjective views and to behave as in every-day life. This principle applies to the formulation of a research question, to the sampling procedure, as well as to the actual analysis: no ex-ante hypotheses or pre-defined answers (as in a questionnaire) are to be formulated because the researcher then runs the risk of staying within his or her own perspective and expected categories. Theoretical knowledge is used as ‘theoretical sensitivity’ (Glaser, 1978) which helps the researcher to be aware of the subtleties of meaning of data. Sampling should be based on theoretical considerations (“theoretical sampling”; Glaser & Strauss, 1967; Strauss, 1987) rather than on the representativeness of a sample. This implies that the beginning of research is based on an initial sampling that comprises a small number of cases and allows to get first insights into the phenomenon under study. As the analysis proceeds, further cases are systematically added to include variation into the sample and to further develop the rudimentary theory/theoretical sketch. This is done by selecting new cases that allow for a minimum and maximum comparison with previous cases. Sampling thus follows an iterative rather than a linear process and continuously switches between data assessment and data analysis. Similarly, analysis follows inductive procedures deriving concepts and categories from the data in a recursive process rather than having a pre-defined set of categories that are applied to the material.

### **The Principle of Foreignness**

This principle claims that the researcher is to refrain from pre-mature interpretations of the participant's utterances/behavior. The world-view of the participant is to be considered 'foreign' to the researcher and as something that still needs to be explored and discovered (this applies of course particularly to cross-cultural research, but also to any other research). The aim is to re-construct the subjective view or the meaning of the part of the participant in the sense of *Verstehen* as outlined by Weber (1968).

### **The Principle of Communication**

This principle acknowledges that all data assessment involves a process of communicative interaction between the researcher and the participant which contributes to the understanding of the situation. This implies that the researcher is inevitably part of the co-construction of the data. The researcher therefore needs to critically reflect his role in the research process and interpret the participant's utterances and behavior as co-constructed.

## **Recognized Standards of Good Practice in Qualitative Research**

Criteria for evaluating qualitative research need to be understood against the backdrop of these basic principles. The following criteria of evaluation can be considered as recognized standards of good practice in qualitative research:

### **Credibility**

Credibility refers to the degree to which the findings reflect the actual *Lebenswelt* ("lived experience") of the participants. High credibility is therefore achieved by designing the study as non-intrusive as possible and by building a trustworthy atmosphere to assure that participants act in a way that they usually would.

### **Transparency (Intersubjective Traceability)**

Transparency refers to the degree to which the way the researcher comes to his or her conclusions is made transparent to others and hence open for evaluation. Transparency is achieved by providing a clear documentation of the sampling strategy, data collection, transcription conventions, the individual steps of analysis, as well as the documentation of changes made to the research design. Moreover, auditability (i.e., ability to be audited) must be ensured through the availability of raw data (e.g., transcripts, video recordings, field notes), as well as the clear documentation of the process of analysis (individual steps of analysis as well as memos on preliminary ideas and hypotheses) and of the transcription notations that were used. For discourse analytical studies, sufficiently detailed transcription of talk in interaction according to conventional transcription rules in conversation analysis and discourse analysis (Heritage, 1984; Jefferson, 1984) must be provided that allows detection of how speakers orient to each other, and to reconstruct latent structures of meaning (Flick, 2009; Seale & Silverman, 1997, for demonstration of enhanced reliability and validity through detailed transcripts). Transparency also includes that the investigator discloses his or her expectations and preconceptions, and assumptions for the study (based on the researchers' knowledge and personal experience), before starting the analysis.

High transparency is, for instance, achieved when a detailed account of how the data were initially coded is provided, along with a report on how codes were modified through comparison of all instances and discussions between the researchers. An example of low transparency would be if there is little description is provided of how themes were identified and no checks on their consistency are reported (Smith, 2009).

### **Grounding of the Interpretation**

This criterion refers to the degree to which interpretations are sufficiently grounded in the data. This can be achieved by

- (1) intensive engagement with the material and iterative cycling between observation (i.e. reading and re-reading transcripts, replaying audio and video material) and interpretation
- (2) providing sufficient text sequences as well as "thick descriptions" (Geerts, 1973) to support the interpretation. For codifying procedures, for instance, it must be demonstrated, how categories and concepts are generated and grounded in the data. Moreover, for Grounded Theory studies, it must be demonstrated that



concepts are systematically related and that a dense network of conceptual linkages has been developed. For conversation analytical and discourse analytical studies, this means that transcripts are presented along side its analytic interpretation to allow the reader to act as an auditor and to provide evidence for and against the researcher's arguments (Potter, 1996, 2004, 2007). Justification of claims is not primarily achieved by frequency of occurrence but by providing evidence for a *lawful pattern* in the way a certain structure is achieved (Bohnsack, 2001). Relevance of a phenomenon is therefore established by building aggregates of single instances and finding typical patterns of interaction, showing the *how* and the *what* rather than the *how often*. Some authors suggest, however, that frequencies of occurrences of these lawful patterns can be helpful and serve as indicator of how "typical" a pattern is compared to other patterns (Alasuutari, 1995; Silverman, 2005). Reporting of findings is based on the presentation of a large amount of data extracts on which the researcher has based his or her claims and which allows the reader to critically assess the analysis.

### **Analytical Induction**

Identifying typical patterns requires that sufficient attention is also given to deviant or "negative" cases, i.e., occurrences which do not appear to fit the prototypical pattern and which contradict initial hypotheses. Grounding of the data also requires a recursive procedure, i.e. the researcher begins with formulating a tentative hypothesis about a pattern found in relation to the research question, and then proceeds by testing this framework through successive passes through the data and revises it where necessary (e.g.; Lincoln & Guba, 1985; Strauss, 1987). Analytic induction thus forces revisions of initial hypotheses that will make the analysis valid when applied to an increasingly diverse range of cases. Deviant or negative cases may, however, not necessarily show that a pattern is not normative, but may be the exception that proves the rule (Potter, 1996, 2007). Since analysis follows an inductive strategy and aims at developing an argument that accounts for all data, deviant case analysis does not serve to explain for the variance but are analyzed to see if the overall argument needs to be modified (Alasuutari, 1995).

An example for coherence between qualitative design and data presentation with respect to the last two criteria would for example be the followin: based on systematic comparison of all instances of the codes/categories, a reoccurring pattern is described. Deviant cases are discussed as revealing further insights to research question. An example of low coherence between a qualitative design and data presentation would be if findings are reported based on a frequency count of occurrence of codes (Smith, 2009).

### **Intersubjective Consensus**

Intersubjective consensus refers to the degree to which the data and interpretations have been validated by others. Two forms of intersubjective consensus are discussed in the literature: 'Consensus validity' refers to the degree to which the data and interpretations have been presented to a research group in order to disclose one's own blind spots and to discuss working hypotheses and results with them. 'Communicative validation' refers to the communicative validation with members of the fields (either the participants themselves or members of a given socio-cultural group), and is therefore also referred to as 'member checks'. Member checks with the actual participants of the study, while considered to be very fruitful, for instance, in interview studies that aim at learning about people's subjective theories, are not considered useful or appropriate, however, in discourse analysis (DA) since it presumes that many repertoires and discursive strategies are not in the informants' awareness (Elliot et al., 1999; Silverman, 2001; Taylor, 2001a). DA, in contrast, offers the possibility of the *reader's evaluation*: materials are presented in a form that allows readers to make their own checks and judgments (e.g., Potter, 1996; Potter, 2007). Moreover, in CA and DA, *participants' orientation* is a common means to evaluate a possible interpretation of an utterance: for instance, when someone provides an 'acceptance' as response to another person's utterance it provides evidence that what came before was an 'invitation'.

### **Coherence**

This criterion refers to the degree to which the interpretation is internally consistent, comprehensive, and persuasive, and the degree to which findings are coherent with previous studies. Inferences must be logical, plausible, and sufficiently grounded in the data.



### **Systematic Proceeding**

This criterion refers to the degree to which analysis has been conducted in a systematic way and is based on accepted procedures for analysis and has correctly applied the relevant analytical steps of a specific procedure.

### **Reflection of a Researcher's Subjectivity**

This criterion refers to the degree to which the researcher's subjectivity has been reflected in the analysis. For one, this includes the researcher's identity and his role as part of the social setting, as well as his or her influence during data assessment. It also includes whether the researcher's reflections, irritations, feelings etc. during analysis were documented (e.g. how the researcher's way of thinking and hence the interpretation changed in traversing the 'hermeneutic circle') which is considered to be an important source of information as they document how earlier inaccuracies in the interpretation were corrected (e.g., Mruck & Breuer, 2003, May; Stiles, 1993) and may be treated as data in their own right (e.g., Flick, 2009; Hammersley & Atkinson, 1995; Taylor, 2001a; Taylor, 2001b).

### **Conclusion and Outlook**

Qualitative methods have gained increasing importance in the field of cross-cultural psychology. In order to ensure high standards of empirical research it is essential to be aware of how to ensure validity and to meet criteria of rigor. In this paper, I have tried to summarize what appears to be an emerging consensus of broad criteria suitable to evaluate qualitative research. Due to the heterogeneity of the field, it is very difficult to define criteria that will apply to all qualitative procedures. I have pointed out that the above criteria do not constitute a fixed set of standard criteria but need to be understood as broad criteria and that the researcher needs to further specify how these criteria apply to a particular research project and may need to adapt them accordingly. As a word of caution against a mechanistic understanding of these criteria I want to echo Willig (2008) by pointing out that "research methods are not recipes but ways of approaching questions, and the value of our research depends on the skill with which we manage to match our methods to our questions in the pursuit of knowledge and understanding" (Willig, 2008).

Criteria for evaluating qualitative research are meanwhile not only common part of many text books but also are increasingly integrated in the policies for reviewers, for instance within the the British Sociological Association – Medical Sociology (Seale, 1999), the National Institutes of Health, Office of Behavioral and Social Sciences – Public Health (Nih, 2001), in Clinical Psychology (Elliot, Fischer & Rennie, 1999) and are also presently discussed within the German Research Foundation (DFG). The British Journal of Occupational and Organizational Psychology even lays open its criteria for evaluating papers using qualitative research methods on its website: <http://www.bpsjournals.co.uk/journals/joop/qualitative-guidelines.cfm>.

These developments should encourage us to produce high quality qualitative cross-cultural research that will contribute to the further advancement of the field of cross-cultural psychology.

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## Arts-Based Research in Cultural Mental Health

Erminia Colucci (ecolucci@unimelb.edu.au)

*CIMH (Centre for International Mental Health), School of Population Health  
The University of Melbourne, Australia.*

### Abstract

Arts can be employed as a powerful tool to elicit thinking and discussion (thus generating and gathering data), as well as a means to report and disseminate findings. The arts have been used for decades in research and practice and they are increasingly being used, also because of a counter-movement to the dominance of positivist epistemologies. However, health sciences continue to be reticent toward embracing the application of art in research. This has resulted in limited art use even in disciplines such as Psychiatry and Psychology, which could arguably benefit most from such practices.

During her presentation, Colucci illustrated the way in which arts, and photography and film in particular, can be implemented to (re)present a research experience by showing a short-documentary from her latest fieldwork in India. The short-documentary provided an insight into her journey through the spiritual life of an ashram and University in Haridwar (North India) where Colucci conducted research on spiritual well-being and suicide. Colucci argued in favour of a greater use of arts-based and creative tools in Cultural Mental Health research.

### Arts-Based Research

The use of arts in therapy is something that we, as mental health scholars and practitioners, are more or less familiar with. Such use derived from the recognition - as argued, for instance, by Estrella and Forinash (2007) - that we have in the arts a tool that can break through, uncover, penetrate, and reveal, while at the same time support, sustain, and nourish.

While creative methods in therapy are now rather accepted, the same cannot be said for the use of arts in our research activities. However, “as we hold art forms at the center of our clinical practice, it follows that the arts can also be the foundation of our research method and lead us to new insights and understandings” (Austin & Forinash, 2005, p. 460). These authors have defined arts-based inquiry as a research method in which the arts play a primary role in any or all of the steps of the research process. Art forms such as poetry, music, visual art, drama and dance, they argued, are essential to the research process itself and central in formulating the research question, generating data, analysing data, and presenting the research results.

“Art is a mode of knowledge”, stated Seeley and Reason (2009). In fact, arts have been used for decades in research and practice partially, as Daykin (2009) underlined, out of a counter-movement to the dominance of positivist epistemologies. The story of arts-based research practices, wrote Leavy (2009), is one about:

(...) holistic approaches to research from the point of view of the knowledge-building process and the researcher who is able to merge an artist-scientist identity. The story began at the intersection of social justice movements, theoretical advances and paradigm expansion. But now is unfolding in new and exciting directions as the qualitative paradigm shifts and the formerly segregated roles of self, artist, researcher, and teacher are allowed to fuse. As borderlines and borderlands change and ever rupture, new spaces for arts-based inquiry emerge. (...) The merging of the world of the science with the world of art has caused a renegotiation of the scientific standards that traditionally guided social scientific research practice while also highlighting the points of convergence between these two formerly disparate worlds (p. 253).

In some ways arts-based research might have found its origin in, and still today is “fueled” by, an act of rebelling against structured, rigid, “objective”, deductive and nomothetic measurements of people’s feelings, behaviours, values and beliefs. This is a different way of doing research, of inquiring, of accessing the knowing,

where “different” means stepping out of the conventional approach to knowledge or, using Heron’s and Reason’s terminology, *conceptual knowing* (Colucci, 2009).

Art forms that have been used in research spread from drawing, painting and sculpture (e.g. Guillemin, 2004, Guillemin & Westall, 2009; Thorburn & Hibbard, 2009), poetry, narrative and ethnographic fiction (e.g. Davis and Ellis, 2009; Diversi, 2009; Furman, 2007), photography and film (e.g., Frith & Harcourt, 2007; Parr, 2007) to dance/movement and theatre (e.g. Bagley, 2008; Cancienne & Bagley, 2009) and music (Aldridge, 2009; Daykin, 2009). It is not unusual that more than one art form is used in the same project (see, for instance, drawing and narrative in Keeling & Nielson, 2005 and the “multimodal conversations” by Thorburn & Hibbard, 2009). In Foster (2007), the arts were employed throughout the research process: visual art, poetry and short-film making offered innovative and emotive methods of collecting data and of encouraging self-reflection in research participants while drama was used as a means of disseminating the results of the research to a wide and varied audience.

Some arts-based research methods have been associated with a distinctive discipline (for instance, visual methods in Anthropology), or have been integrated in well-established research methods, generating a new method of inquiry (see *Photovoice* in participatory research, e.g. Wang & Pies, 2004).

### **Arts in Mental Health Research**

Although arts-based/visual methods have been widely used in Anthropology, their use has had very limited applications so far in disciplines related to Cultural Mental Health. More in general, health sciences are reticent towards embracing the arts in research, which as a result has seen limited use even in disciplines that deal with people’s mental and existential problems (and that perhaps most could benefit from them), such as Psychiatry and Psychology.

This is made evident by searching for peer-reviewed articles in Psychiatry or Psychology that applied arts-based inquiry as the main means of research. Only a handful of articles can, in fact, be found. If we look at photography (a means I am particularly interested in, as I will discuss later), for instance, Eedner and Andersson, Magnusson, and Lutzen (2009), recently carried out a study with the purpose to explore views of life among people with long-term mental illnesses. The study, based on an ethnographic framework, involved photographs and interviews. The idea underlying this approach was that the photographs would encourage the participants’ narrative reflexivity and narrative dialogue. The following is an extract from the authors’ recount of the methodology they opted for:

The participants’ possible cognitive inability to express such views dictated a research design that was both fit for purpose and respectful of their integrity.

The participants were the photographers, as well as the authors of their own narratives, and the photographs served as a starting point for the interviews (...). At their first meeting with the researcher, all the participants were given disposable cameras and asked if they would be interested in photographing objects, situations or people that were important, or meant something, to them. Each camera contained a film with 10 exposures. The participants were also guaranteed that the pictures would be kept confidential and not shown without their permission. By each participant’s second meeting with the researcher, the film had been developed. The pictures were the point of departure for a dialogue between the researcher and the participant. The participants were asked to describe what they thought about these pictures (p. 54-56).

As commented by the authors, this method provided a material expression of the individual’s unique perspective in the photograph. The combined data collection method, using photos as a starting point for the interview, was thought to enhance the potential for finding out the informants’ views of life.

Another recent study, again using photography, was carried out by Syson-Nibbs, Robinson, Cook and King (2009). This project aimed to improve the self-esteem and self-efficacy of participants. Photography and interviews were used by participants to record their feelings and experiences of farming and convey them to a wider audience. In the authors’ words:



Participants (n=100) acquired new skills and demonstrated increased self-confidence. (...) A photographic collection was produced and exhibited across the UK including the House of Commons. (...) Photography was successfully used to engage young people and enabled them to take their views to the heart of the government. Empowering young farmers may mitigate against future mental health problems in this vulnerable occupational group (p. 151-164).

A method based on photography that has received some degree of attention is *Photovoice*. This is a qualitative method of inquiry (community-based participatory research) that provides a forum for the presentation of participants' experiences through images, language, and contexts defined by the participants themselves (Streng et al., 2004).

In its most basic form, *Photovoice* refers to a research tool in which photographs, taken either by participants or researchers, are used as a means of understanding human experiences. As an ethnographic method of inquiry, *Photovoice* is a fairly recent technique that has been used successfully in a wide variety of research settings and populations (Fleming, Mahoney, Carlson & Engebretson, 2009). A great deal of work incorporating *Photovoice* has been done in the public health arena and collectively referred to as a participatory health promotion strategy (Wang & Redwood-Jones, 2001). Although a relatively new research method, *Photovoice* has already been proven to be a valuable asset for participatory inquiry (Wang, Morrel-Samuels, Hutchinson, Bell & Pestronk, 2004).

As argued by some scholars (e.g., Collier & Collier, 1999; Prosser, 1998; Rose, 2001), because a photograph exists as a universally understood visual medium, *Photovoice* as a participatory co-learning process is especially suited for culturally diverse populations, or those who are traditionally overlooked, such as individuals with mental illness (Fleming, 2009). Thus, it might be expected that at least this well-established method has found its application in disciplines related to Cultural Mental Health, such as (Trans/Cross) Cultural Psychiatry and Psychology. On the contrary, only a few exceptions can be found, such as the study by Fleming and collaborators (2009). The aim of this study was to explore the use of *Photovoice* as an innovative methodology for understanding aspects of the mental illness experience. An iconographic approach from Visual Anthropology was used to analyze the photographs. This approach systematically focuses the analysis from lower to higher levels of abstraction. The findings suggested that a *Photovoice* project offers a useful lens from which to examine experiences associated with living with mental illness (Fleming et al., 2009).

Although the presence of scientific literature on arts-based/visual inquiry in disciplines related to Cultural Mental Health is scarce, in the last few years I decided to investigate if this meant that scholars in these fields were not interested in such methods or, as I believed, if even those few scholars who did use arts in their work were not disclosing or publishing about it. Thus, in 2009, I organized a photo exhibition for the World Association of Cultural Psychiatry congress, which was held in Italy. I was aware of the passion for photography that two of my colleagues/friends shared with me, and we exposed three series' of photographs (a selection of these photos were shown during the presentation). One series of photos was from research on spiritual health by Dr Ikali Karvinen (Post-Doc researcher at the School of Public Health, University of Kuopio, Finland). Karvinen's doctoral research (2010) was carried out as focused ethnographic research in Kenya. The research data was collected with the methods of observing, interviewing and photographing. The data included over 800 photographs, taken by the researcher with the consent of the participants, and a small part of them was used in the data analysis and reporting of the findings. The basis of the photograph analysis was Suojanen's (2000) criteria of what a researcher should consider when collecting data of religious language and communication.

A second series of photos was from Dr. Hans Rohlof's (Psychiatrist, Centrum ,45, Oegstgeest, Netherlands) fieldwork in Morocco on traditional healing. A group of 20 psychologists and psychiatrists travelled to Morocco to study psychiatric symptomatology and mental health care. Hans used photography to document/report what he and his colleagues saw during this trip.

The third series of photographs were taken over the last few years during my research carried out in India on the cultural meanings of youth suicide and on spiritual well-being and suicide. A selection of these photos (which may be viewed at the web address <http://ermiphotoniac.weebly.com/>) were recently exposed in the solo



exhibition *Atman: The Soul of India* organized in a mainstream art gallery in Melbourne.

During the IACCP presentation, together with a few of these photos, I also showed extracts of a short-documentary that was recently projected in a public space. The synopsis of this short-documentary can be found in the box below.

### **Haridwar: A spiritual journey**

#### **Short-documentary**

**Length: 6' 16"    Country: India    Year: 2009**

**Filmed and co-edited by Erminia Colucci**

**Supported by Manjula O'Connor**

In Hindi, Haridwar stands for Gateway to God. Situated at the foothills of the Himalayas, Haridwar is regarded as one of the seven holiest places in Hinduism. Every year millions of pilgrims and devotees make their way here and perform ritualistic bathing on the banks of the river Ganga. This is in fact the opening scene, which shows the essential elements of the Ganga Aarti in Haridwar's Har-ki-Pauri: the diya pack (composed of flowers, lamp and incense), the fire, the sacred waters of the river Ganga and the sound of bells. From here the scene moves to the ashram Shantikunj and the DSVV University, both inspirations of Gurudev (Pandit Shriram Sharma Acharya).

Shantikunj is the headquarters for All World Gayatri Pariwar, a spiritual organization located in Haridwar with more than twenty million devoted disciples and seventy million followers in 80 branches worldwide.

This short-documentary offers a glimpse into the life of this community and the rituals and activities that take place in this ashram: from the laboratories and Ayurvedic garden in the Brahmavarchas Research Institute to the treatments in the Psycho-spiritual clinic and the yagyopathy (sacrificial fire) offered in remote villages. This is believed to have preventive and curative properties on several ailments while resulting also in spiritual attainment.

The prime objective of the clinics and research centres is "to revive the golden era of Indian medical system, that is the Vedic medical science covering physical, mental and spiritual problems as compared to treatment of only physical body under the modern medical science" (from their flyer). Nevertheless, the approach of this organization is to offer complementary/spiritual therapy systems based on the thousands of years old Vedas in coordination with modern scientific tools and testing methods.

A selection of the images that appeared in the short-documentary and from the exhibition were also exposed as part of the Cross-cultural Psychology Photo exhibition I organized for IACCP: "(...) It is not unusual for cultural researchers to take photos of what they are seeing and experiencing. Aware of this common practice, for IACCP 2010 I would like to give conference attendees an opportunity to share with others their work (so to also increase the status of the use of visual media in research)", (from the handbook, p. 121).

I was impressed by the number of conference participants who accepted the invitation to contribute to the show and by the quality of their work: sets of photos span from an Indonesian study on children's wellbeing, to photos from a cross-cultural study on maternal socialization strategies with small infants in Cameroon and North-Germany, and from an Indian Parikrama (a circular pilgrimage around a holy and religious place). During the presentation, I showed some of the photos that were displayed as part of the IACCP Cross-cultural Psychology Photo exhibition and then moved on to the contribution made by Patricia Greenfield. This is what Greenfield (Distinguished Professor of Psychology at UCLA) wrote about the photos she submitted:

"These photographs were taken in connection with my longitudinal research project on social change and human development carried out in the Zinacantec Maya hamlet of Nabenchauk in the highlands of Chiapas, Mexico. The context in which learning and cognitive development were studied was the activity of weaving. Most of the photographs are part of the book *Weaving Generations Together: Evolving Creativity in the Maya of*

*Chiapas*. The photographs were taken for the National Geographic Society by my daughter, Lauren Greenfield, who has since become a highly acclaimed documentary photographer.”

I then introduced Lauren Greenfield’s work (named by American Photo as one of the 25 most influential photographers working today) on eating disorders. Descriptions of the project (e.g. the extracts below) and a number of educational resources, including an open-forum, can be found in her website (<http://www.lauren-greenfield.com/index.php?p=Y6QZZ990>):

“Her first feature-length documentary film, THIN, is accompanied by a photography book of the same name. In this unflinching and incisive study, Greenfield embarks on an emotional journey through a residential facility in Florida dedicated to the treatment of eating disorders. The feature-length documentary premiered at the Sundance Film Festival in 2006 and won several awards. THIN is also a travelling museum exhibition. (...)

The HBO documentary film focuses on four young women struggling with anorexia (...). The camera follows these women to places most have never ventured: one-on-one and group therapy sessions, emotionally wrought mealtimes, early morning weigh-ins, heated arguments with staff, and tense encounters with family members. In following their stories, we come to learn that each woman’s fight for recovery is unique. (...). What emerges is a portrait of an illness that is frustrating in its complexity and devastating in the pain it inflicts on its sufferers and those who care for them.

Unflinching and incisive, THIN offers an experiential and emotional journey through the world of eating disorders and, ultimately, provides a greater understanding of their complexity: that they are not simply about food or body image or self-esteem, but a tangle of personal, familial, cultural and mental health issues.”

Lauren and Patricia beautifully represent that collaboration and reciprocal influence between Cultural Psychologists/Psychiatrists and artists that I so strongly advocate. As a further example, I showed sections of the short-film “Understanding suicide through artists’ eyes” that come out of a collaboration between the Australian visual artist Mic Eales and myself. Mic and I have co-organized seminars and workshops to increase people’s understanding of suicide and suicidal feelings through the use of arts. Currently, we are organizing an exhibition to display his works as well as a collaboration between him and an Australian poet (Jessica) who also has struggled with suicide.

In the last part of the presentation, I indicated some of the benefits and the pitfalls of using arts-based and creative methods.

### **Pros and cons of arts-based methods**

Several scholars have highlighted the benefits of arts-based inquiry. For instance, Estrella and Forinash (2007) observed that narrative and arts-based approaches to research have allowed us to explore the marginalized, controversial, and disruptive perspectives that have often been lost in more traditional research methodologies. They offer the possibility of disruption to the dominant discourses within theory and research. “Research is meant to be at the cornerstone of meaning making, validation, and searches for knowledge” (p. 377), the authors stated. Arts-based/visual methods can be a tool to engage participants in a more empowering research process (Close, 2007).

Foster (2007) also pointed out that the arts offer a way for researchers and research participants to examine their lived experience, to reflect creatively upon this, and to know themselves more deeply. In addition to these qualities, Foster asserted that “the arts can also guide an enriched writing of research and vivify the dissemination of results, stirring the audience’s imagination with the outcome (...) of effecting change on a variety of levels” (p. 361). Austin and Forinash (2005) argued that new perspectives, insights and understandings cannot always be translated into words. Daykin (2009) presented the implications of using music as an arts-based research method, highlighting several positives of arts-based research: this may assist in eliciting rich information and generates insight and understanding of complex, multifaceted issues).

Leavy (2009) listed a number of positives of arts-based methods, including the following:

1. The appeal of the arts extends beyond academia: the turn toward artistic forms of representation brings social [and health] research to broader audiences.

2. The arts can grab hold of people's attention in powerful ways, making lasting impressions. Arts is immediate.
3. The arts have the capability to evoke emotions, promote reflection, and transform the way that people think. Many scholars using arts-based practices are doing so with the intent of increasing a critical consciousness, promoting reflection, building empathetic connections, forming coalitions, challenging stereotypes, and fostering social action. Research conducted or presented via arts-based methods retains a transformational capability.
4. In addition to accessing and (re)presenting subjugated voices, these methods are well suited to projects in which the researcher is after multiple meanings: arts-based practices lend themselves to multiplicity (in contrast to positivist research) (pp. 255-256).

Several other advantages of using arts-based/visual methods can be indicated (which partially overlap with what I previously wrote on activity-oriented focus group questions in Colucci, 2007):

1. Might provide an alternative and better way to access meanings and systems of beliefs, people's views and opinions that might be otherwise inaccessible.
2. Challenge preconceived ideas more than any other method.
3. Build high levels of intimacy, empathy and mutual understanding with other human beings.
4. Make sensitive topics less threatening. Respect and involve people who do not use writing and reading as a primary means of communication or cannot use them at all. The use of nonverbal and/or oral answers makes it an ideal method for illiterate or lowly literate populations and potentially adequate across ages and languages.
5. Make participation in research a more enjoyable experience and avoid boredom (especially important with children and youth)
6. Increase the chance of participation of less confident people who are not at ease with direct questioning and of people who prefer "doing" or using their creativity.
7. Arts can reduce the 'distance' between researcher and researched.
8. Participants may keep their artworks, exchange them or these may be used to realize a public event/project such as an exhibition, non-academic book, and video.
9. Arts can make it easier to report the findings, because an image, a drawing, and so on might be able to convey in a more direct and straightforward way meanings that would require several words (thus the saying "a picture is worth a thousand words". These can also make reports more interesting (and less boring) to read.

Too often academic writing is detached from the "real" life of people. Too often academic writing is sterile, removed from stories, experiences, feelings: arts and creative means can make our writing closer to people, to the everyday of our lives. Karvinen (2010) also noted as in cultures like Luo-culture, arts can also facilitate the contact with local people because they are interested by the "western technologies". In other words, holding a camera per se might function as a way of finding volunteer self-selected participants!

As for any research method, there are some pitfalls worthy of consideration in arts-based/visual methods. First of all, using arts might increase the time and cost of the data collection. Some participants might have more difficulties in "doing" than "saying" or less confident people might refuse participation for fear of being unable to accomplish the artistic/creative task. Furthermore, while the employment of an arts-based method makes the data analysis a more interesting process, it is also true that it might be more difficult to compare answers and interpret them. This is especially so if the researcher does not or cannot invite participants to describe their artworks, provide more details, interpret them. There is a lack of scientific literature on such methods, especially on the use of these methods in cultural studies or in disciplines related to Cultural Mental Health. Thus, there is a lack of information on how to analyse data collected with these methods. Karvinen (2010), for instance, for his PhD dissertation had to adapt the analysis procedure used in other disciplines to medical science in order to evaluate the photographs he collected. Analysing and reporting using arts-based methods (or any activity-oriented research, see Colucci, 2007) can also be very time-consuming and requires the development of new skills. In regard to this last point, however, I would like to point out that Cultural

Psychologists/Psychiatrists could be mistaken if they distanced themselves from arts-based method because of the assumption that such methods are only for artistically skilled researchers/practitioners. I would recommend to these people to read the journey of Bagley, a “non-artistic ethnographer” (as he defines himself) who learned to “dance the data” with the help of a professional dancer (Cancienne & Bagley, 2009). Also, the collaborations I described above between Patricia and Lauren or Mic, Jessica and myself can be examples of how joining forces with artists can reach amazing results.

### Conclusions

There is no doubt that arts, as a way of eliciting thinking and discussion (thus generating and gathering data) and/or to report/disseminate findings (i.e. arts as a way of knowing and showing in Foster’s, 2007, words), can be a powerful tool (Colucci, 2008). Cross/Trans-cultural research that ought to contribute to a clearer understanding of the ethnocultural dimensions of an understudied phenomenon (e.g. suicide), necessitates dissemination through a variety of formats in order to engage diverse audiences and publics. Arts and creative methods must be one of such formats.

I would like to conclude this paper with an invitation not just from me but many other scholars who -before me, in several ways and in diverse points in their careers- have decided to expose themselves, step out and start asking questions, to themselves and to others, differently. People who, embracing postmodernism, welcome the notions of ambiguity and contingency, and concepts of situated knowledge, contextualized, not-excluding/exclusive and self-indulgent “truths”. This paper is our invitation to students, researchers but also health and social sciences practitioners, to step out of the ‘comfort zone’ of tradition and convention and re-think our ways of inquiring, investigating and knowing: Re-think who is our audience and how can we reach a larger audience (i.e., greater impact of our research) and in a more powerful way!

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## Cultural and Environmental Changes: Cognitive Adaptation to Global Warming

**Annamaria Lammel** (anlammel@gmail.com)

Université Paris 8, France

**Elisa Guillen Gutierrez** (guillenchantal@hotmail.com)

Université Paris 8, France

**Emilie Dugas** (emilie.dugas1@yahoo.fr)

Université Paris 8, France

**Frank Jamet** (frank.jamet@wanadoo.fr)

Université de Cergy-Pontoise, France

### Abstract

The present paper uses a methodological and theoretical perspective on cognitive and cross-cultural psychology as its basis. Our research covers an important area: the role of cognition on the human adaptation to global warming. We draw the general hypothesis that human cognition, mediated by culture, can adapt to changes in the environment. However, we believe that accelerated global climatic changes create cognitive vulnerability because culture cannot provide proper knowledge and cognitive tools. We present some results of our fundamental research on cognitive adaptation to climate change from a cross-environmental and cross-cultural perspective. We specifically highlight some preliminary comparative analysis between adults of New Caledonia and Paris on the representation of climate and climate change followed by the human capacity to adapt to this condition. In addition, we provide an intra-cultural comparison on representation of climate, taking into consideration important geographic and climatic differences in France. Preliminary results suggest that culture and environmental experiences have focal impacts on cognitive adaptation. Our findings show that Parisian adults present greater cognitive vulnerability, thus less adaptive cognition. In the light of cross-cultural psychology, we consider that this fact is due, on one hand, to the analytic way of thinking dominated by an urban occidental population and, on the other hand, to the absence of bi-metric representations.

**Keywords:** cognitive adaptation, cognitive vulnerability, cross-cultural cognitive psychology, climatic change, global warming

The present paper attempts to contribute, within the perspective of cross-cultural psychology, to the growing concern focused on recent climate change by proposing to review human cognitive adaptation to this phenomenon. Human beings, for the first time in their history, seem to modify climatic forces and movements (Hassan, 1992, 2009; Redman, 2004). Abrupt climatic changes can be observed already in the environment and even more substantial modifications are predicted due to global warming (ICPP, 2007). However, different scenarios of climate change confirm that the manner in which these modifications will occur is unpredictable.

At the cultural level, researchers also observe the unpredictability of scientific, political, technological, economic, religious dynamics and initiatives which contribute to the unpredictability of the capacity of resilience of human beings not only at a local but also at a global level (e.g. Crate, Nuttal, 2009; Leary et al., 2008). We consider that recent changes and further provisions of modification in the environment combined with the lack of appropriate cultural responses can produce cognitive vulnerability, which in turn can accentuate the difficulties of adaptation to recent environmental changes.

Even if some theoretical studies point out the importance of research on the underlying cognitive processes in the understanding of climate changes (e.g. Levy-Leboyer et al., 1991; Pawlik, 1991), psychological literature focuses on the perception of climatic risk (Bohm & Pfister, 2000; Sundblad, Biel & Gärling, 2007), behavioral responses to climate change (Nilsson, Borgstede & Bie, 2004; Whitmarsh, 2009) and motivation to mitigate global warming (Whitmarsh & O'Neill, 2010). In didactic science, several articles analyze the individual understanding of climate change mechanisms (e.g. Anderson & Wallin, 2000; Boyes, Stranisstreet & Papantoniou, 1999; Rajeev Gowda, Jeffrey and Magelky, 1997; Rya, Rubba & Wiesenmayer, 1997). These studies argue that climate change is an extremely complex matter and produce real difficulties of comprehension for children, youth and even for adults. In addition, several studies from a sociological perspective,



an increasing number of studies in anthropology present indigenous, local knowledge on climate change in several areas throughout the world (Dube & Sekhwela, 2008; Huber & Pedersen, 1997; Krupnik & Jolly, 2002; Orlove, Chiang & Cane, 2002; Vedwan, 2006). In spite of these studies, to our knowledge, there is not substantial research on how human cognition can handle climatic change and what the role of cognition plays in the adaptation to global warming.

The present paper introduces the theoretical framework of the notion of cognitive adaptation to global warming and puts forward our underlying research model, followed by the presentation of some results from our current empirical studies.

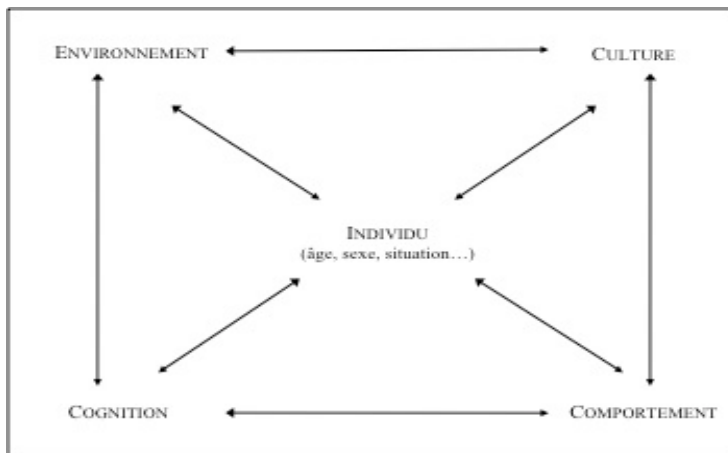
### **Cognitive Adaptation and Cognitive Vulnerability**

We consider that human cognition (understanding, mental representations, conceptualizations, predictions, elaboration of strategies, decision-making) plays an important role and constitutes an essential element in the relationship between human beings and the environment. A large number of studies in archeology, history and anthropology give evidence of the basic role of cognition in the human adaptation process. These studies have enabled us to develop the concept of cognitive adaptation interrelated with the environment and culture. We consider that to understand the capacities of cognitive adaptation of individuals and human groups to global warming, it is necessary to take as a theoretical framework, the historical-cultural approach of cognition (Vy-gotsky, 1997; Wertsch, 1985, 1991).

We define human cognitive adaptation as a procedure of change in information processing, mediated by culture, to provide better accommodation between the organism and the environment. As such, culture is an active mediator between human populations and their environments. The most adapted cognitive process to the environmental constraints will be retained by humans through a kind of progressive selection. In this way, our approach allows us to integrate the characteristics of the environment where the subject lives, the characteristics of culture, but also the transition between the individual and the group.

From a cultural-historical perspective, we can admit that, individuals and human groups are currently experiencing a situation in which radical climate change is occurring at a reduced time scale and at a global level. Nevertheless, neither the individual nor the culture/society has sufficient knowledge and modes of information processing required to adapt to rapid climate changes. One can already observe cognitive conflicts, difficulties of comprehension and failure of the strategies of problem solving, in sum, cognitive vulnerability (see for example the conflicts between climate-skeptics and the partisans of the ICCP report (2007)). Cognitive vulnerability is defined as a mental state characterized by deficient information and knowledge as well as by the lack of methods of information processing required in the understanding of climate change. Cognitive vulnerability can be a major obstacle to optimal adaptation. It is therefore necessary to identify the factors that influence cognitive vulnerability either at an individual or at a collective level.

We drew up a theoretical framework (Figure 1) based on our previous research (Katz, Lammel & Goloubinoff, 2002; Lammel, Goloubinoff & Katz, 2008) and psychological models illustrating the reciprocal relationships between organisms, behavior and environment (Bandura, 1986; Wohlwil, 1974). Our model enables one to understand interactions between elements that determine cognitive adaptation as well as to explore variables involved in cognitive vulnerability to deal with climate change.



**Figure 1.** Interactive model of cognitive adaptation

This model integrates the environment, culture, cognition, behavior and the specific characteristics of the individual. The subject is situated at the center and he/she contributes through his/her cognition and behavior to the way in which culture and environment operate. Different components are in constant interaction and constitute a process. Thus, the individual him/herself has an impact on all these elements.

### **Research Project on Cognitive Adaptation to Climate Change**

In the following section we will present some preliminary results from our research project “ACOCLI”. Financed by the National Agency of Research of France, the project ACOCLI, directed by Lammel and Jamet, examines how human cognition treats climate and especially climate change, according to individual characteristics (age, sex, education level) and based on different cultural and environmental contexts.

We believe that climatic conditions and the level of environmental climate risk influence the cognitive adaptation of individuals and groups. Moreover, by taking into account the culture, it is necessary to pay particular attention to inter-cultural differences in cultural backgrounds among the inhabitants of various regions. To address these questions, we selected different sites of study based on weather conditions and exposures to risk in France (Paris, Alpes, Ile de Re) and French overseas territories (French Guiana and New Caledonia).

Our preliminary analysis, based on nearly 600 semi-structured interviews, highlights the importance of cultural differences as well as the influence of environmental characteristics in the organization of knowledge of climate and climate change. The results of the first preliminary analysis already allow us to conduct systematic experimental studies in order to identify the elements of cognitive vulnerability that hinder optimal adaptation.

### **Cognition, Vulnerability and Cultural Contexts**

In the above presented model, the interaction between culture and cognition is an essential factor. In this section, we present some data on the effect of culturally established ways of thinking on the mental representation of climate and climate change.

Our previous research projects in the field of perception and representation of climate and pollution (Katz, Lammel & Goloubinoff, 2002; Lammel, Goloubinoff & Katz, 2008; Lammel & Kozakai, 2005; Lammel & Resche-Rigon, 2007) have demonstrated the importance of systems of thought in the relationship between humans and their environment. Psychological literature (Nisbett, Peng, Choi & Norenzayan, 2001) demonstrates that social and cultural differences between groups do not effect just their beliefs on different aspects of the world, but also their metaphysical systems, their epistemologies and at a deeper level their cognitive processes. Two principle systems of thought can be identified. The holistic way of thinking is based primarily on knowledge acquired by experience and not through abstract logic. The holistic way of thinking takes into account the context as a whole and the relationships of the object with it, explaining and anticipating events from these relationships (Nisbett, 1998; Peng & Nisbett, 1999; Kozakai & Lammel, 2005; Nisbett &

Miyamoto, 2006). On the contrary, from an analytical perspective, objects are isolated from their context, and focus is paid to understanding the characteristics of the object to determine its category membership, to explain and predict events from its own rules. Regarding the “object climate”, studies in anthropology have shown that traditional societies dominated by a holistic way of thinking consider climate as a whole, whereas in Western societies with an analytic way of thinking, climate is taken as an object isolated from the environment (Sahlins, 1964; Katz, Lammel & Goloubinoff, 2002; Strauss & Orlove, 2003). Since climate and climate change are a holistic and complex phenomenon, we consider that the analytic way of thinking can be a barrier to understanding them and can create cognitive vulnerability in individuals and in societies.

We firstly present, through the analyses of a definitional task, an example concerning the mental representation of climate and climate change. The definition is a fundamental and natural activity. It is not univocal, is not necessarily reversible, and can “take time”. There are several ways to make definitions depending on whether the referent is visible or invisible, abstract or concrete (François, 1985). In other words, definitions according to the cognitive approach, can grasp the basic frame of representations. Thus, definitions seem to be good markers to identify the mental representation of concepts, while also identifying cultural differences, particularly between holistic and analytical ways of thinking.

In an open-ended interview, we asked participants to firstly respond to the question “What is climate for you? Secondly, we asked the question “What is climate change for you?”

Example 1 – (Female 40 years old, mother tongue: Kumak, New Caledonia)

*Definition of Climate:* “Climate for me is nature, the seasons and nature, I have no other words to say. In my culture, climate works with culture (agriculture), it works with our lifestyle, our habitat. Climate is also for crops such as yams, all works together. Personally, climate makes it a lot. We have a story in our clan, I had a great grandfather who had power over the sea, on the wind, and I cannot go into details because it is something that belongs to us. So climate is all that, but now all is coded and everything is displayed. But before old persons walked a lot with the weather observing trees from flowering, compared to all that.” New Caledonia, 2010)

*Definition of Climate Change:* “It is warming, a hole in the ozone, global climate change is the change in temperature. What I can say? In our level here, there are things we live today and we did not experience 10 years ago. And climate change is also that we do a lot of prevention with children, even at the population level to try to change things in order to improve, not improve, but in order to stop what has already happened. And at our level do some things that are helpful for better living. (New Caledonia, 2010)

Example 2 – Female of 37 years, mother tongue: French - Paris, Ile de France)

*Definition of Climate:* “It’s just weather.” (Paris, 2010)

*Definition of climate change:* “It’s the weather that causes flooding.” (Paris, 2010)

These examples are representative. They present essential differences in the definitions according to contextual variables (culture, environment, exposure to risks). In the first example, the holistic aspect of climate is clearly expressed. Climate, humans and plants are interconnected, they constitute a whole where if one element changes the system will be modified. This holistic view of the climate produces the same type of vision on climate change. Although in her answer, she made a mistake concerning the cause of climate change (ozone hole); she has already experienced changes in the environment to which she belongs. In her representation, people as being part of the climate, must work actively for its protection or at least reduce the risks. The definition of climate and climate change are consistent and demonstrate the participant’s involvement in the climate system.

In the second example, we notice a typical definition in which the participant confuses climate with weather. She substitutes the word “weather” for the word “climate” in a direct way: 1 = 1. There is no relationship, but the application of a simple logic, characteristic of the analytical way of thinking. The definition of climate change is built on the initial identification between weather and climate. It is an extremely simple causal explanation devoid of real meaning. This person represents a prototypical object isolated from the context, floods, according to the method of analytical thinking. This suggests that the participant has no mental repre-

sentation of climate change.

As the demographic profile of the two participants is similar (females, close in age, equivalent educational level (University), studied in the French school system, identical social status and similar interests highlighted by a questionnaire), we can attribute the differences concerning the representation of climate and climate change to contextual variables. Without drawing any hasty conclusions, these examples suggest that the influence of cultural patterns between the relationship to the environment and of the ways of thinking participate in the construction of mental representations. We believe that between these two people the second is experiencing increased cognitive vulnerability and we can also suppose that this prevents an efficient cognitive adaptation, which may then affect behavior.

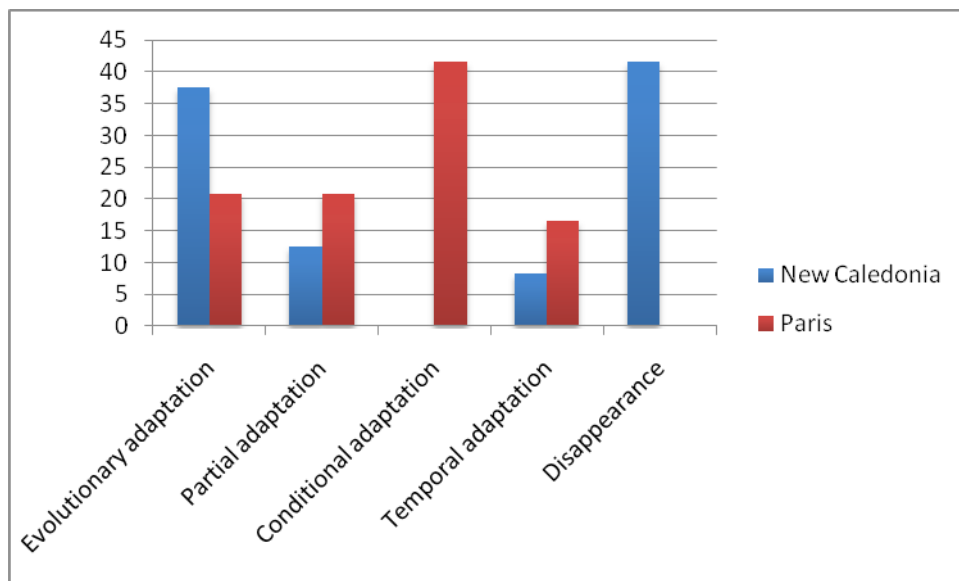
To illustrate the influence of culture on cognitive adaptation, we will present a second comparison, on mental representations of human adaptability to climate change, between new-Caledonian and Parisian participants. In the semi-structured interviews we asked the question: "Can human beings adapt to climate change?" This question enables us to obtain an argumentation of the subject. The argument allows identifying qualitative reasoning and ways of thinking about the subject, as well as its mental representations. From a sample of 48 participants living in Paris and New Caledonia, we conducted a thematic analysis of interviews. Our analysis points to five types of representations of human adaptation to climate change (Table 1).

**Table 1**

*Categories of human adaptation to climate change*

<b>Adaptation</b>	<b>Representation</b>
Evolutionary adaptation	«Human beings have always been able to adapt in the past, so now they are able to do so too»
Partial adaptation	"Rich countries can adapt, we can move, but not others"
Conditional adaptation	«Human beings can adapt if they change their lifestyle, if they find renewable energy»
Temporal adaptation	«Human beings will have increasing difficulties in the future to adapt»
Disappearance	«Human beings will disappear»

Although we found some similar explanations in the distribution of responses, the results, presented in Figure 2, highlight important divergences between the two populations.



**Figure 2.** Percentages of participants by categories of responses to the question “Can human beings adapt to climate change?”

In both samples, we can observe responses which we call “representations ready to integrate”, as for instance, “Human beings have always been able to adapt in the past, so now they are able to do so too.” This sentence is devoid of evidence or further reflection. The most significant differences were observed between the responses of participants from New Caledonia, who consider that human beings can disappear from Earth as well as certain plants or animals, and the Parisians who evoke the possibility of conditional adaptation.

The sample’s demographic equivalences showed that the differences can be attributed to contextual variables. Data on the representations held by Parisian participants suggests that they provide a special and privileged place for human beings amongst other life forms. This is consistent with the analytic way of thinking characterized by the idea that the world is made up of discreet elements. In the representations made by Caledonian participants, human beings are as vulnerable as plants or animals. On the other hand, the vision of Parisians reflects anthropocentric values while that of New Caledonians reflects eco-centric values (Gagnon Thompson & Barton 1994). In the first situation, humans are considered superior to the forces of nature which they dominate, whereas in the second situation humans are part of the ecological system and should respect it. From this point of view, the two populations show opposite positions.

However, we can identify a “cognitive vulnerability” in both cases. With the exception of the “representations ready to integrate”, they reflect a high degree of uncertainty. Indeed, in both cases, the participants express the powerlessness of the individual, that is to say that the future escapes them, and power is delegated to exterior forces (technologies, Nature). However, we believe that the holistic vision can reduce anxieties with regard to this uncertainty, while accepting that humans are one of the components of the climatic system.

### **Environment as a Factor of Cognitive Vulnerability**

Our model (Figure 1) integrates another fundamental element: the environment (climate, geography). We suppose that local geographical and climatic conditions will influence the processing of information concerning climate on an intra-cultural level. To test our hypothesis we firstly collected data from open-ended interviews in three geographic and climatic environments in France: Paris (urban / gradient oceanic climate) Ile de Ré (island / oceanic climate) and Alps (High Mountain / high mountain climate). Secondly, we took into account the degree of climatic experience of Parisian participants and created two groups: (a) so called “monoclimatic” persons who lived their entire lives only in Paris and (b) so called “biclimate” persons who lived in Paris and in other climatic conditions.

In the first study, data consisted of definitions of climate given by 30 participants per environment ( $M = 29.2$ ) Thematic analyses of data (using the method of an independent judge) enabled identification of catego-



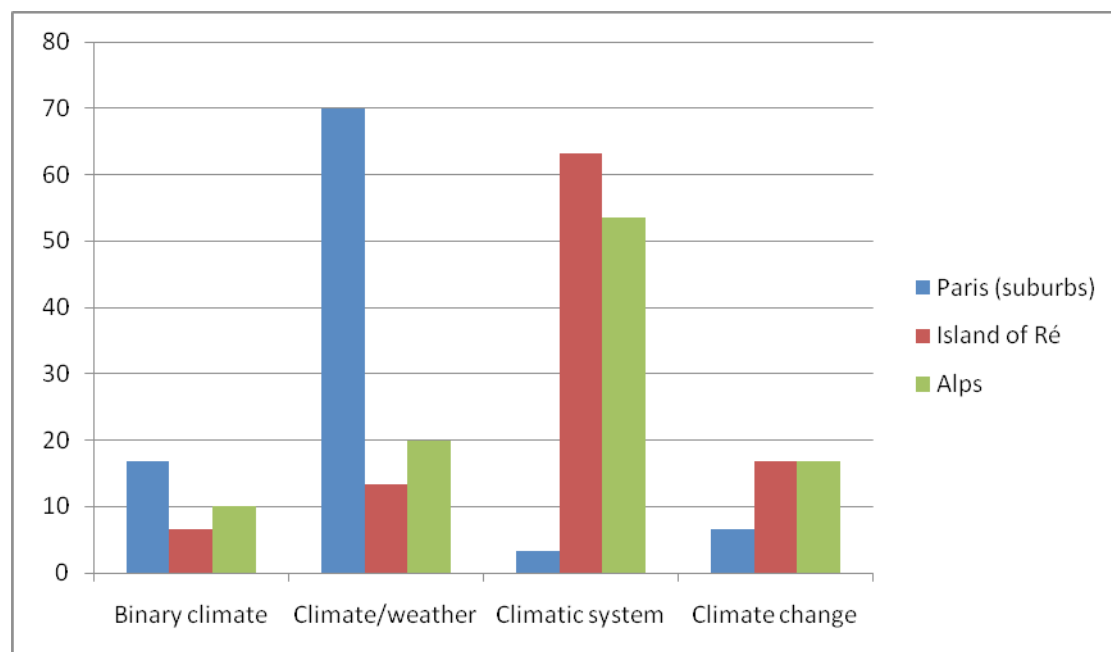
ries corresponding to four levels of complexity (Table 2).

**Table 2**

*The different responses to the question “What is climate for you?”*

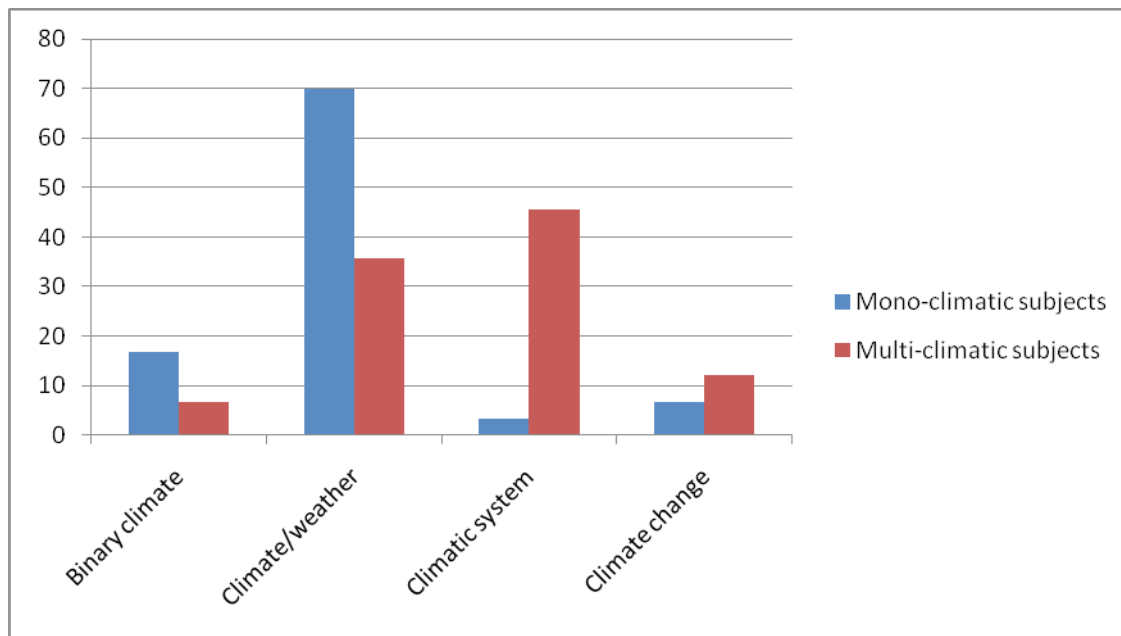
Responses	Example
Binary climate	“Climate is the temperature, it is hot or it is cold. “
Climate/ weather	“Climate is the weather, the wind, the rain, the sun, etc.”
Climatic system	“Climate is all that is around us, the atmosphere, nature, plants, animals but also the ocean.... “
Climate change	“Climate is changing right now, there is global warming, temperatures rise and weather deteriorates.”

Firstly, we analyzed the data of the persons who have lived all their lives under the same climatic and geographic conditions. The different responses show several levels of understanding the complexity of the climatic system. The binary climate category is the most basic level followed by the three other categories. The results shown here (Figure 3) indicate that people living in Paris and its suburbs have the most basic representations. The results point out that persons living in the Island of Ré and in the Alps perceive the climate as a system. Therefore, we can suppose that the protected urban environment is not favorable for constructing a complex and correct representation of climate. These results reveal that direct experience of the participants with the natural environment allows the construction of more complex representations, in this case of systemic, bi-metric representations of climate. The concept of “bi-metric representation” (Lammel, 1989) enables one to identify the relationship between the participant’s cultural knowledge and the direct experience with the environment.



**Figure 3.** Distribution of climate definition answers by French regions

In the second study we compared the representations of “mono” and “bi climatic” participants (30 participants per group,  $M=29.7$ ). The results presented in Figure 3 are consistent with those of the first study. The bi-climatic experience enables the development of more complex and less erroneous representations.



**Figure 3.** Distribution climate definitions in terms of climatic experiences

The analyses of our data suggest that the environment and climatic experience produce intra-cultural differences. However, we do not have any available data on the representations of climate change. The concordance that we observe between the conceptualization of climate and climate change taking into account the culture variable allows us to formulate the hypothesis that it will be the same with the environmental context and the climatic experience. In other words, we suppose that the mono climatic people living on the coastline or in the mountains will have more elaborate representations concerning climate change than people living in the suburbs of Paris. This difference will be more pronounced among people who have experienced contrasting weather conditions. We therefore think that people living all their life in an urban area (Paris, suburbs) without other climatic experience cannot develop bi-metric, complex representations, and will present the most pronounced cognitive vulnerability. This vulnerability can constitute an obstacle to establishing adequate cognitive adaptation.

### Conclusions and Perspectives

Our article has attempted to provide some answers to the question of human adaptation to climate change. In the theoretical section, we argued that cognitive capacities mediated by culture have always helped human groups to adapt to different climatic conditions. However, even if in the past humans have already confronted abrupt climatic changes the current situation places them in extreme vulnerability. In the past, because of the low human population, displacements offered a realistic adaptive behavior and human needs were incomparably less significant. Nowadays, because of the increase in climatic change combined with over-population, important needs the lack of shared cultural knowledge, human beings are susceptible to cognitive vulnerability. This prevents them from accurate reasoning and from establishing some strategies for problem solving. Based on our model, we suppose that the variables “culture” and “environment” might influence cognitions and adaptive cognitions can be also identified. We consider that urban populations with a rather analytic thinking process with no real climatic experience will present more cognitive vulnerability. This cognitive vulnerability slows cognitive adaptation that can be manifested in the absence of some behavior required for effective adaptation to climate change.

Our current studies attempt to identify the cognitive treatment of climate and of climate change. We consider that without a complex and correct representation of the climate as a system, people cannot develop adequate mental representations of climate change. The examples presented are consistent with our hypotheses and show that analytic thought can constitute an obstacle in the comprehension of climate and climate change.

We also observed that this is sometimes associated with withdrawal and even unfounded optimism. As the individuals have neither knowledge nor the modes of dealing with this complex phenomenon, misconceptions develop. We also demonstrated that environment influences the organization of complex representations. These examples are for now only indicators and are part of the preliminary investigations of the ACOCLI research project, which attempts to identify in an experimental way cognitive adaptation to climate change.

Our preliminary research suggests that individuals in urban settings are predisposed to a very low level of conceptualization of climate and climate change and a very poor understanding of the mechanisms of this complex phenomenon. This fact produces cognitive vulnerability and can constitute a difficulty in the cognitive adaptation of human beings to global warming. We consider that cognitive adaptation is essential for all collective efforts to adapt. We think that if culture cannot enable the development of complex individual cognitive models on global warming, humans cannot adapt to important and rapid environmental changes. Proper understanding of climatic phenomena is necessary in view of drawing up pertinent strategies for problem solving at a local level. In addition, these local solutions can help in the global cognitive adaptation to climate changes.

The passage from an interview that follows, illustrates the extreme vulnerability with which individuals face climate change.

“The human species is that it can adapt? Well, the question is how far. It is the story of frogs, I always remember the stories of frogs. A frog that you put in water, fresh water and then water warms gradually, the frog adjusts to temperature gradually, time passes and the frog adapts, but in the end the frog is cooked. Its adaptation has led to becoming completely cooked and the frog dies. Does the adaptation of human beings lead to suicide? Maybe, but I hope not. After all, everything is possible. As for myself, I still want to believe that at least some humans, at least a few on this planet, experience wisdom. That humanity has given birth to at least some people who are able to move things to save us.” (Lawrence, 37, New Caledonia)

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## **Is There Cultural Change In The National Cultures Of Indonesia?**

**Wustari L. H. Mangundjaya**

Faculty of Psychology, University of Indonesia

wustari@yahoo.com, wustari@ui.ac.id

### **Abstract**

Understanding of the national culture as well as the local culture can give people an advantage in understanding and developing intercultural knowledge and skills. It is also useful for achieving a successful life in this challenging global world. In order to understand a nation's people it is important to understand their values and culture. Indonesia consists of thousands of islands and people of various ethnicities, which consequently affect Indonesia's culture as a whole nation. This research was done at one of Indonesia's state-owned companies. It comprised 2025 respondents from various ethnic backgrounds such as: Balinese, Batak, Javanese, Minangkabau, Sundanese and others. The questionnaire used was developed on the basis of Hofstede's work on values. The study showed that respondents (the employees of Company XYZ) were high on Uncertainty Avoidance, Power Distance, Future Time Orientation, Individualism, and Masculinity. This findings is different from the stereotype of Indonesian people as well as from Hofstede's findings (Hofstede & Hofstede, 2005), which indicated that Indonesian people score higher on the Collectivist and Feminist dimensions, and lower on Uncertainty Avoidance. This raises the question of whether there has been a cultural change or whether the results reflect only the impact of organizational culture. Although this study consists of a large sample, the results cannot be generalized to all Indonesian people. In this regard, future research should be carried out in order to obtain an accurate profile of Indonesia, taking into account that Indonesia is very diverse country.

**Key Words:** Work Values, Uncertainty Avoidance, Power Distance, Future Time Orientation, Individualism, Collectivism, Masculinity and Femininity.

### **Background**

As is generally understood, the culture of a given society comprises the shared values, understandings, assumptions, and goals learned from earlier generations, imposed by present members of a society, and passed onto succeeding generations. Consequently, culture (local culture, national culture) will also influence the organization, as well as the people in the organization. In relation to this, an accurate understanding of the local culture and local environment can give people an advantage in understanding and developing intercultural knowledge and skills, which at present has become most critical for a productive and successful life in this challenging global world. Indonesia, as a diverse country, consists of many islands as well as many ethnicities. This condition consequently will have an impact on the culture and on the people's behavior. In relation to culture and values, Hofstede and Hofstede (2005), mention that there are five cultural dimensions (values) that play important roles in the society and individuals' behavior. According to the previous findings by Hofstede (Hofstede and Hofstede, 2005), Indonesian people are Collectivist, High on Power Distance, Low on Uncertainty Avoidance, and Feminine.

However, those findings were based on the scores of Indonesian employees who work for IBM, whose scores might be different from those of Indonesian people in general, particularly since Indonesia has so many ethnicities and cultural backgrounds. This raises the questions of whether those people have the same work value as other Indonesian people in general, and whether organizational culture might also have some impact on their work values, as defined by Hofstede (2005).

Based on this consideration, the research questions concern whether organizational culture has some impact on people's work values, and whether this consequently affects the culture in general. The objective of the study was to identify the profile of work values (using Hofstede's concept) among Indonesian employees, and compare the results of Indonesia's profile (based on Hofstede's research) with the results of the present research.



## **Individualism vs. Collectivism**

Individualism is a psychological state in which people see themselves first as individuals and believe their own interests and values are primary. Individualism pertains to societies in which the ties between individuals are loose, everyone is expected to look after himself or herself and his or immediate family (Hofstede, 1993).

Collectivism is the state of mind where in the values and goals of the group, whether extended family, ethnic group, or company is primary (Hofstede, 1993). Collectivism pertains to societies in which, from birth onward, people are integrated into strong, cohesive in groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty.

## **Power Distance**

Power Distance can be defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally (Hofstede, 1980; Hofstede & Hofstede, 2005). This dimension deals with society's orientation to authority. The extent to which people of different status, power or authority should behave toward each other as equals or un-equals is referred to as power distance (Achua & Lussier, 2010).

Hofstede's Power Distance Index measures the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally. This represents inequality (more versus less), as defined from below, not from above. It suggests that a society's level of inequality is endorsed by the followers as much as by the leaders.

In high power-distance cultures, leaders and followers rarely interact as equals, while in low power-distance cultures, leaders and their members interact on several levels as equals. In an organization with a high power-distance culture, the leader is the primary decision maker while in a low power-distance culture, decision making is a group-oriented and participative activity (Van Dier Vegt, Van De Villert, Huang, 2005; Hack-et & Liang, 2007, as cited in Achua & Lussier, 2010).

## **Uncertainty Avoidance**

Uncertainty Avoidance can be defined as the extent to which the members of a culture feel threatened by ambiguous or unknown situations (Hofstede & Hofstede, 2005). Uncertainty avoidance deals with a society's tolerance for uncertainty and ambiguity; it ultimately refers to humankind's search for Truth. It indicates to what extent a culture compels its members to feel either uncomfortable or comfortable in unstructured situations. Unstructured situations are novel, unknown, surprising, and different from usual.

High Uncertainty Avoidance cultures try to minimize the unstructured conditions and situations by strict laws and rules, safety and security measures, and on the philosophical and religious level, by a belief in absolute Truth; 'there can only be one Truth and we have it'.

## **Masculinity vs. Femininity**

A society is called masculine when emotional gender roles are clearly distinct; men are supposed to be assertive, tough and focused on material success, whereas women are supposed to be more modest, tender and concerned with the quality of life (Hofstede & Hofstede, 2005). A society is called feminine when emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life (Hofstede & Hofstede, 2005).

## **Long Term vs. Short Term Time Orientation**

Long Term Orientation (LTO) stands for the fostering of virtues oriented toward future rewards, in particular, perseverance and thrift. Short Term Orientation (STO) stands for the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of "face" and fulfilling social obligation (Hofstede & Hofstede, 2005).

## Characteristics of Indonesian People

Indonesia consists of some of the world's largest islands – Sumatra, Java, most of Kalimantan (Borneo), Sulawesi (Celebes), Halmahera, and the west half of New Guinea (Papua) – and numerous smaller islands, of which Bali (just east of Java) is best known. The cultures of the inner islands are more homogeneous, with only four major cultural groups: the Sundanese (in West Java), the Javanese (in Central and East Java), the Madurese (on Madura and in East Java), and the Balinese (in Bali).

In Indonesia, most islands can be considered as multiethnic, with large and small groups forming geographical enclaves. In multiethnic areas, disputes between members of different ethnic groups may be settled by leaders of either or both groups, by a court, or by feud. In many regions with settled populations, a customary settlement is honored over a court one, and many rural areas are peaceful havens.

Many of Indonesia's ethnic groups have strong kinship groupings based upon patrilineal, matrilineal, or bilateral descent (Collectivist). In Indonesia, seniority and elder status plays an important role in the society and community; people usually respect the elderly as well as value their social status in the community (High Power Distance). Moreover, Indonesian people in general are also more comfortable with stable and predictable conditions. For example, they prefer to become civil servants rather than to become entrepreneurs (High Uncertainty Avoidance), although in some cases they prefer to leave everything to Allah (God), for the situations that they cannot control and manipulate anymore. In general, although there are traditional roles for women and men in the society these roles sometimes overlap. In addition, Indonesian people are very much characterized by many ritual activities, both in relation to culture and religion, but not by thinking about the future (for example future planning with insurance is not yet popular: Short Term Orientation).

Based on these characteristics, the people of Indonesia can be regarded as follows:

1. Having high value of the group (Collectivism)
2. Placing high importance on seniority (high Power Distance)
3. Preferring stable conditions and situations, not liking ambiguous conditions (high Uncertainty Avoidance)
4. Having a clear cut between gender roles, that nevertheless do sometimes overlap (Masculinity/Femininity)
5. Having a time orientation that is more about the past and present (Short Term Orientation).

### Javanese

The nuclear family relationships in Javanese people are mainly the primary relatives like, father, mother and children (Suseno, 2003). Their primary obligations and family duties are to take care of people in the family rather than other people outside the family. Koentjaraningrat (in Suseno, 2003) claims that people who resist or forget their primary obligation to look after the welfare of their families may be considered as having a bad attitude. In contrast, not being able to look after the welfare of people outside the family does not receive severe social sanctions (Suseno, 2003). Basically, the Javanese people are neo-locality, which means that their main purpose is to build and develop their own family welfare and it is assumed that family are the important resource for developing the social identities of children.

Koentjaraningrat (as cited in Mulder, 1996) mentioned that basically all nuclear families take care of their own welfare. Financially, Javanese people are more independent and don't have any obligation to finance other family within the range of the extended family. They have their own home, and families, and economically they are independent. This reality indicates that the Javanese people tend to be more individualistic. However, extended families support them morally and emotionally in several rituals and/or life crises. Javanese people who live in the villages are usually oriented more collaterally (Sardjono, 1995). They believe that people are not alone in the world, and there are always other people who will help them when they are in need, especially close relatives. As relatives they also look after each other and are very careful not to mingle with other people's problems or step too far in other people's business if they are not asked to help. They also try to take care of others' feelings and well being. This is called *tepa selira* (Sardjono, 1995, Hardjowirogo, 1984), which reflects a Collectivist orientation).

On the other hand, with the Concept of Harmony (*Kerukunan*), all types of interaction among Javanese people should aim to avoid conflict; in this regard an open conflict should not occur in any conflict situation. Having enemies is something Javanese people try to avoid. Togetherness is very important for them (Collectivist). This is consistent with the notion that the people have their own nuclear family to take care of, but still feel obliged to help other people in the range of their extended families, and always welcome other families visiting their home (Greetz, 1961 in Suseno, 2003). The other principle upheld by Javanese people is to maintain a healthy relationship with others or honoring other people. This principle is important for Javanese people in order to maintain interactions and show respect, especially to the elderly people (Suseno, 2003). Javanese people also value social hierarchy; this is reflected at the level of Javanese language. In this regard, they are very much aware of their social status in the society (High Power Distance). Javanese people are also more comfortable with stable and predictable conditions; they prefer to stick together in the neighborhood rather than move elsewhere looking for better conditions and a better future (High Uncertainty Avoidance). In their day-to-day lives, Javanese people's activities are also very much based on the ritual activities (Short Term Orientation).

In conclusion, Javanese people can be categorized as follows: (1) They are considered as an individualistic but also collectivist culture, (2) The family structure in the Javanese society is more like the nuclear family system which consists of a father, mother and children, (3) They have certain principles in their interaction with other people that consist of value of harmony and respect, (4) The Javanese people are fully aware of their individual rights and belongings, and (5) Javanese people appreciate other people's autonomy, and try not to interfere in other people's matters unless asked. From the discussion above, Javanese people can be regarded as Collectivist, high on Power Distance, high on Uncertainty Avoidance, have a Masculine-Feminine orientation, and Short Term Orientation.

### **Sundanese**

The Sundanese are similar to Javanese people, as they also respect the elderly, value extended family, and the convenience of stable and predictable situations. On the other hand, they are somewhat different from Javanese people, particularly in terms of religious activities, as they are more overtly Islamic. Moreover, although they respect the elderly and the status hierarchy, they have a much less rigid system of social hierarchy compared with Javanese society. Based on the consideration of the major similarities between Sundanese and Javanese people, Sundanese people can be regarded as Collectivist, high on Power Distance, high on Uncertainty Avoidance, Masculine-Feminine in orientation, and have a Short Term Orientation.

### **Minangkabau**

Minangkabau people are characterized with Matriarchate, which means that women are the ones who play an important role in the family (Mas/Fem). Men usually leave the town after they graduate from the University or High School, in order to earn a better living outside their village. In this regard, they usually act as entrepreneurs (Long Term Orientation). However, they never forget their family (or as we call it, their Big Family), as family and Big family, as well as key persons in the culture, play an important role in their life (Collectivist). Minangkabau people also perceive the environment as unstable and want to adjust to the environment (Low Uncertainty Avoidance). The elderly or so called Mamak are very important and play a major role in people's lives, and Minangkabau people very much respect to the elderly and seniority (Amir, 1983). In conclusion, it can be said that Minangkabau people are Collectivist, high on Power Distance, Feminine, low on Uncertainty Avoidance, and have a Long Term Orientation.

### **Balinese**

Balinese people are characterized by ritual and religious activities. Based on Hindu religion, Balinese people live in Kasta (degree in society) namely: Brahma, Indra, Waisya, and Sudra. This consequently affects work values, with High Power Distance. The custom and regulation of irrigation of Subak in Balinese communities also represents the Collectivist culture of Balinese communities. It appears that there are no clear cut of roles between men and women, as even women have to earn money for the family (which can also be regarded

as Feminine). Their time orientation is also more Short term as their central activities are the ritual and religious activities, and they are quite tolerant with ambiguous conditions (Low Uncertainty Avoidance). Based on the discussion above, it can be said that Balinese people are Collectivist, high on Power Distance, low on Uncertainty Avoidance, Feminine and have a Short Term Orientation.

### Batak

Batak people, on the other hand, are characterized with a Patriarchal type of culture. Men play the important role in the family. Families should have at least one son to carry on the family names, and family as well as big families and key persons in the society play an important role in a person's life. Batak men also usually leave their hometown to get a better life in the city but always remember their big families. In this regard, they can be regarded as Collectivist, high on Power Distance, Masculine, low on Uncertainty Avoidance, and have both a Short term orientation (as they still believe and celebrate their tradition), as well as a Long term orientation (as they are willing to leave their hometown to seek a better life).

Based on the above discussion, Table 2 summarizes the perceived (stereotypical) values and culture of each ethnicity.

**Table 1**  
*Perceived Indonesian and Ethnic values*

Work Values	Indonesia	Javanese	Sundanese	Balinese	Minang	Batak
Individualism vs. Collectivism	Collectivist	Collectivist	Collectivist	Collectivist	Collectivist	Collectivist
Uncertainty Avoidance	High	High	High	Low	Low	Low
Power Distance	High	High	High	High	High	High
Masculinity vs. Femininity	Feminine	Feminine	Feminine	Mas/Fem	Feminine	Masculine
Short Term Orientation vs. Long Term Orientation	STO	STO	STO	STO	STO-LTO	STO-LTO

As the objective of this study is to identify and compare of the Work Values with Hofstede's findings, Table 2, will show the score and Hofstede's analysis of Indonesia's work values. According to Hofstede's study, Indonesia can be regarded as Collectivist, high on Power Distance, low on Uncertainty Avoidance, and Feminine (Hofstede and Hofstede, 2005).

**Table 2**  
*Work Values for Indonesians, using Hofstede's results\**

Dimensions	Score	Category
Individualism vs. Collectivism	14	Collectivist
Power Distance (Low vs. High)	78	High Power Distance
Uncertainty Avoidance (Low vs. High)	48	Low Uncertainty Avoidance
Masculine vs. Feminine	46	Feminine
Short Term vs. Long Term Orientation	-	No Result Yet

Note: \* According to Hofstede's studies (Hofstede & Hofstede, 2005).

## Method

### Respondents

This study was done at one of Indonesia's State owned companies, and comprised of 2025 respondents of various ages, educational backgrounds and years of service with the company. The profile of respondents is shown in Table 3.

**Table 3**  
*Profile of respondents*

Variable	N	%
Education		
Doctorate Degree	1	0.0
Master's Degree	82	4.0
Bachelor Degree	680	33.6
Diploma	294	14.5
Senior High School	941	46.5
Junior High School	27	1.4
Age		
Below 25 years old	27	1.3
25 – 30 years old	103	5.1
31 – 44 years old	646	31.9
Over 44 years old	1249	61.7
Sex		
Male	1662	82.1
Female	363	17.9
Tenure		
< 2 years – 2 years	76	3.8
> 2 – 6 years	47	2.3
> 6 – 10 years	10	0.5
>10 – 12 years	193	9.5
>12 – 18 years	289	14.3
>18 years	1410	69.5
Ethnicity		
Javanese	856	42.3
Sundanese	98	4.8
Minangkabau	102	5.0
Batak	135	6.7
Balinese	40	2.0
Malay	131	6.5
Ambonese	88	4.3
Others	143	7.1
(Indonesian)	432	21.3



From the table above, it can be seen that the majority of the employees (respondents) are Javanese people (42.3%), who had worked more than 18 years in the company (69.5%), were male (82.1%), over 44 years old (61.7%), and had graduated from Senior High School (98.6%).

### Materials

The questionnaire of Work Values was developed and modified from Hofstede's version (Hofstede & Hofstede, 2005). Its validity was checked with Factor Analysis and reliability with Cronbach's Alpha coefficient. Responses were made on a 6 point scale, and total scores were converted to a value from 1-100 in order to match with the score categorization of work values done by Hofstede (Hofstede & Hofstede, 2005). The results of the reliability analysis are shown in Table 4.

**Table 4**

*The Results of Reliability*

<b>Work Values</b>	<b>Cronbach Alpha</b>
Individualism – Collectivism	.723
Power Distance	.720
Uncertainty Avoidance	.733
Masculinity vs. Femininity	.761
Time Orientation	.774

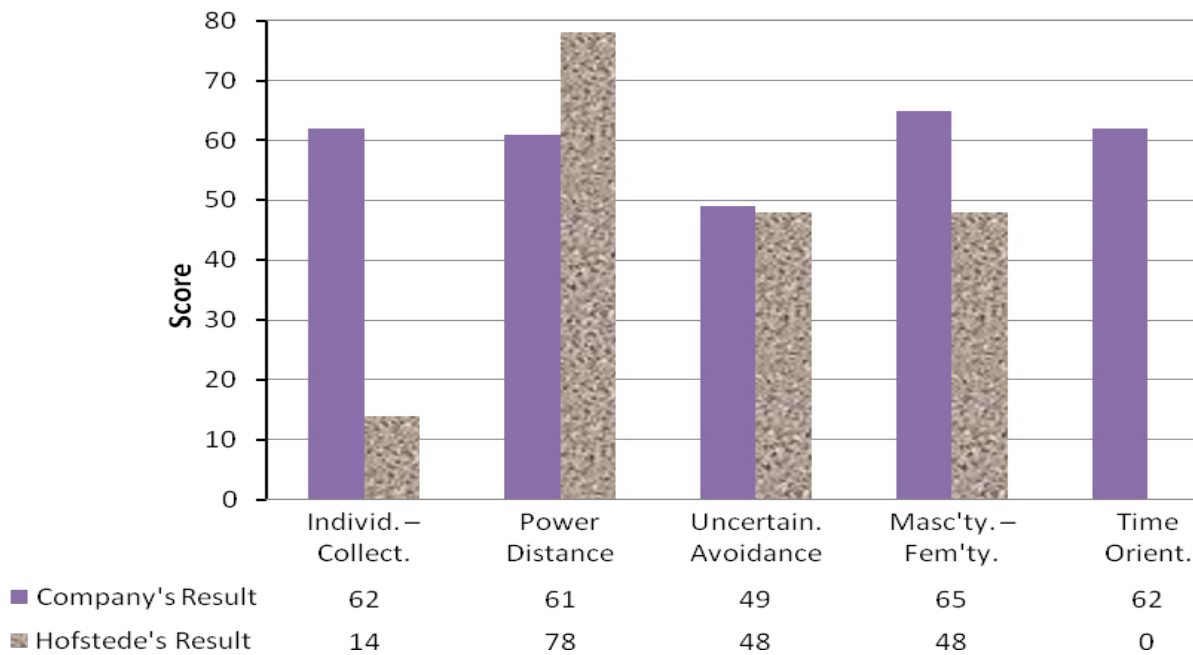
### Results

The results show a different profile from both Hofstede's results and the perceived values (stereotype). Table 5 and Figure 1 show the results in detail.

**Table 5**

*Work Values of the Company*

<b>No</b>	<b>Work Values</b>	<b>Score</b>	<b>Category</b>
1	Individualism - Collectivism	62	Individualism
2	Power Distance	61	High Power Distance
3	Uncertainty Avoidance	49	Low Uncertainty Avoidance
4	Masculinity – Femininity	65	Masculinity
5	Time Orientation	62	Future Orientation

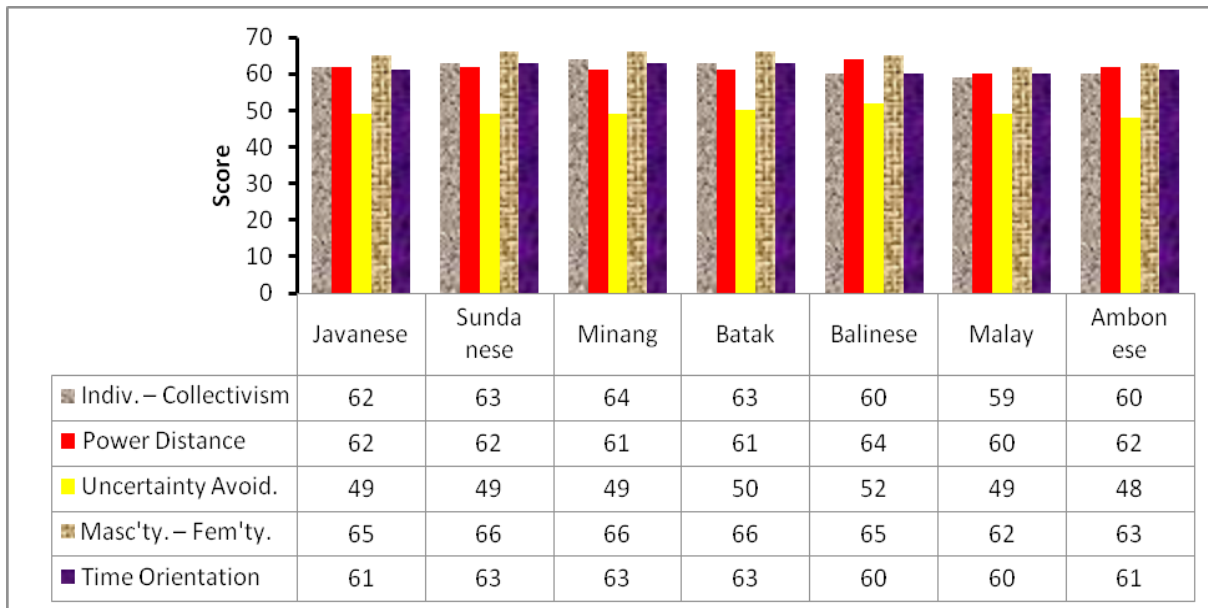


**Figure 1:** Comparison of Company's work values and Hofstede's result.

From the results above, it can be seen that the company's work values are Individualist, High Power Distance, Low Uncertainty Avoidance, Masculine, and have a Long Term Orientation. In order to identify whether results vary with ethnicity, *t* tests were conducted. These showed no significant differences between the company and ethnic results nor between the various ethnicities.

**Table 6**  
*Work Values by Ethnicity*

No	Work Values	Javanese	Sundanese	Minang	Batak	Balinese	Ma-lay	Ambonese
1	Indiv. – Collect.	62 (Indiv)	63 (Indiv)	64 (Indiv)	63 (Indiv)	60 (Indiv)	59 (Indiv)	60 (Indiv)
2	Power Distance	62 (High)	62 (High)	61 (High)	61 (High)	64 (High)	60 (High)	62 (High)
3	Uncertainty Avoidance	49 (Low)	49 (Low)	49 (Low)	50 (Med)	52 (High)	49 (Low)	48 (Low)
4	Masculinity – Femininity	65 (Mas)	66 (Mas)	66 (Mas)	66 (Mas)	65 (Mas)	62 (Mas)	63 (Mas)
5	Time Orientation	61 (LTO)	63 (LTO)	63 (LTO)	63 (LTO)	60 (LTO)	60 (LTO)	61 (LTO)



**Figure 2:** Comparison of Work Values by Ethnicity

From the results above, it can be seen that the work values that have been changed both at the Company level and at the Individual/Group (Ethnic) level are as follows: the shift from Collectivist to Individualist work values, and Feminine to Masculine. A Long Term Orientation was also observed.

### Discussion

The study showed different results from Hofstadter's findings as well as perceived values. The present results indicated a shift in work values from Collectivist to Individualist, and Feminine to Masculine. In addition they identified a LTO. In comparison, Hofstede's findings (Hofstede & Hofstede, 2005) indicated that Indonesian people are Collectivist, and Feminine. The question arising from this is whether this result is an expression of a shift in culture from Collectivist to Individualist, and from Feminine to Masculine, or whether it reflects the impact of organizational culture on the employee. In this regard, my previous research on banking industries has identified similar results with work values shifting from Collectivist to Individualist. Shifting work values from Collectivist to Individualist can also happen due to the challenge and demand of the tight competition, and as a result, people tend to focus and think about themselves first rather than thinking about the group or communities. In this regard, future research should be done in order to test the findings.

From the results, it can also be concluded that people's work values are different from the perceived values (stereotyping of people based on ethnicity). In this regard, future research in various organizations should be conducted.

The results also suggest that socio-cultural factors (social, economic, historical, ideological) can shape and influence human behavior. It is an interesting, important and difficult area to research. No society or culture is homogeneous. Cultures are dynamic, inconsistent and multifaceted. They are therefore difficult to categorize and compare. Furthermore, the processes by which culture influences an individual's or group's behaviors are far from clear (Furnham, 2006).

Although this study can boast a large sample, the results cannot be generalized to all Indonesian people and several other limitations should be pointed out. Firstly, this study is based on cross-sectional data and, thus, no causal relationship should be inferred. More longitudinal studies across organizations are needed. Secondly, the data in this study was collected through self-reports, which creates the potential for common-method bias. The data should be collected, in future studies, at different times in order to reduce the potential for bias. Thirdly, this study was only conducted at the stated owned enterprises, which might limit generalization to different types of organizations. Finally, care should also be taken into consideration when categorizing people's

ethnicity. Although criteria of ethnicity have been developed, however, potential biases can occur due to the perceived culture/ethnicity of the people.

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# **Does Importing of Everyday Mathematics to the Classroom Guarantee better Mathematics Learning? Lessons from a Study of Ngoni/Tumbuka Learners in Zambia**

**Zanzini B. Ndhlovu** (zanzinin@yahoo.com)  
The University of Zambia, Zambia

## **Abstract**

The present research paper comprises of two parts. Part I discusses the difference between the epistemic basis of everyday practices of Ngoni/Tumbuka children and the school mathematics practices in Zambia and the embedded nature of everyday and school mathematics concepts in the respective discursive practices. The second part looks at the mathematics pedagogy of Grade I and VI. The analyses show that the teachers in Grade I brought in a lot of everyday examples, materials and ideas to teach the young children the number concept, place value, concept of zero etc. In contrast, the teachers in Grade VI used very few examples of everyday experiences for children in the mathematics class. They emphasise the use of routines, templates and the procedures for teaching mathematics in school. Most children excepting a few in Grade VI had not developed any theoretical understanding well. They could, sometimes, solve the problems because the teacher presented the problems in familiar templates but not because they understood the problem. Some teachers tried to link everyday experiences to the school mathematics concepts like ratios and factors. Yet, they failed to exhibit any understanding of how to help these children shift from everyday discourse to school mathematics discourse. Most of the teachers in Government schools emphasised specific use of mathematical signs, symbols and registers, standards of accuracy, language etc. without working sufficiently on how to help these children mathematize everyday experiences using this representational and semiotic system of school mathematics. The paper concludes with some suggested activities to bridge this gap.

## **Introduction**

The research report I share comprises two parts. The first part highlights the Ngoni/Tumbuka children's mathematical practices and the embedded nature of their everyday and school mathematics. The second part looks at the pedagogical practices of Grade I and Grade VI learners. I end with a proposed way forward.

The low levels of numeracy in Zambian schools have been well documented. Tabakamulamu (1998) found that approximately 50% of students had difficulties understanding concepts in mathematics. Other researches and National assessments for school-age learners of 5 – 7 years indicate that learners have numerous and varied difficulties (e.g. Kalima, 2006; Ministry of Education, 2008; Ndhlovu, Tambulukani, Sampa, 2004).

The difficulties learners face have been attributed to traditional teaching and learning approaches, the way learners are introduced to basic concepts and ideas in primary school (Ministry of Education, 1996, 2006) and teachers not considering children's experiences worthy of including in the classroom discourse. Meanwhile children enter school possessing much mathematical ideas and knowledge, however, little was known about the qualitative nature of their experience prior to school (Anderson, Anderson, & Shapiro, 2004). As pointed out by Resnick, "the accumulated body of research on the development of children's mathematical knowledge indicates that certain fundamental concepts are normally constructed by children and are, therefore, available as the basis for further mathematical development. Also of significance are the social practices and activities that embody these mathematical ideas.

The studies dealing with everyday and school mathematics indicate that there is mathematical knowledge (concepts that are used outside and in school), but that there are differences in the ways in which the knowledge/practices of this mathematical knowledge is treated in the two areas. Also little is known about how this informal knowledge interplays with school knowledge. There are few studies that have extensively theorised everyday and school mathematics knowledge and discourse (Panda, 2007; Sfard, 2000).

## **Methodology**

The study I did examined mathematical practices by children while they participated with other people in cultural activities and sought to find out if the knowledge established in such contexts was helpful in school.



The broad objective of the study was to examine the treatment of mathematical knowledge from the community by teachers while teaching school mathematics.

In order to focus on the discursive practices of school mathematics, focused ethnographic approaches were utilized which allowed an examination of the community interactions through the socially constructed learning activities both in the community and the classroom. The study targeted one school along with the community where the school was located in Lundazi District of the Eastern Province of Zambia. School-going children at Grade I (age range 6 – 7 years) and Grade VI levels (age range of 12 – 13 years) were selected. The study utilised observations, unstructured interviews and analyses of discourses and activities in the community and school to collect data.

I immersed myself in the community life, observing, interviewing and note-taking the activities such as, numeration system, buying and selling activities etc. Classroom observations included the whole class both for the first grade and the sixth grade. Apart from lesson observations, mathematical tasks were given to the class.

The data obtained using focused ethnographic methods were analysed through a process of inductive data analysis (Berg, 1995), while data from classroom observations, were analysed using discourse analysis techniques. The research questions that guided the study were:

What mathematics was practiced in the community?

What pedagogical practices did teachers exhibit in the class room?

How did teachers treat the mathematics knowledge from the community in the classroom?

## Results

Before I present some mathematical practices in the community I will briefly outline the context: The Ngoni/Tumbuka people.

The Ngoni/Tumbuka people are located in the Eastern Province of Zambia, in a district called Lundazi. The estimated population of the area is 50 000 people. The social life is organised around the cycle of maize growing. The Ngoni/Tumbuka people did not have a currency as a medium of exchange for commodities – rather the barter system was used. The Ngoni/Tumbuka did not have a written alphabet, but they utilised sticks, stones and strings to keep records. The barter system in the community continued and existed alongside the currency introduced by the settlers/missionaries. The missionaries introduced basic literacy, new crafts (carpentry, building) and generally helped people to participate in the modern exchange economy. Thus, men and women engaged in agricultural farming and, buying and selling of these products.

The Ngoni/Tumbuka people had a centralised and hierarchical social structure, which was also patriarchal in nature. The elderly and many who had not been to school still preferred the barter system to obtain their requirements in the community. The surplus food items were traded for clothes, soap and salt. Otherwise the most common way of buying and selling was through money. Below I present an excerpt of the kind of buying and selling practices in the community

I found an eight year old girl selling bananas sent by her mother. An excerpt below exemplifies a buying and selling practice in the community

“R: How much is one banana?

Girl: Tugulisa imoza imoza yayi, kweni folu in 300 Kwacha (We are not selling one by one, we sell four for K300)

R: If I were to buy one, how much would it cost?

Girl: Ngeti ninga gulisa yayi! (I would not sell!) [At this point the girl wanted to leave and continue her business]

R: Okay, give us these, 5 heaps... how much?

Girl: [She remained quiet for sometime, then she counted on her fingers and said] ‘One five’ [The exchange rate between the US dollar and the Zambian Kwacha at the time of research was K3,500 per \$US1. When dealing with the local currency, people usually ignore the last two zeros and refer only to the figures in front. “One five” means, One Thousand Five Hundred Kwacha K1500/-]

R: [She was given K2000/-] How much is my change?

Girl: [after a short while she said] Five ngeti? (Five is it?? meaning K500 is it?)”

The girl knew how to sell only the ‘packed’ items. She was matching the four bananas against the K300. She had not thought about how much one banana would cost. She did not entertain the idea that she could sell one, it was not in her mind. She handled the transaction well, by counting on. Thus, instead of multiplying 5 by 300, she added up the K300 to find ‘one-five’, that is, K1,500. The girl was not eager to attend to an as-if situation. She ignored the request/question and she tried to move away.

In the school arena the situation was different but before I talk about these I will briefly give the school context in terms of facilities and a profile of learners and teachers.

Many classrooms were not adequately equipped. There were not enough desks to go round; three and sometimes four learners shared a desk meant for two. The classroom for the Grade VI class was bare in terms of wall charts and other learning aids. The Grade I class however, had charts on the walls and many other teaching and learning aids.

### **Learner Profile:**

The average age of the Grade VI learners under study was between 12 and 13 years with girls being younger compared to boys. The ages varied more in the case of boys. The average age for Grade I learners was 7 years.

### **Teacher Profile:**

In this research site (school), out of ten teaching staff, only three (3) were females. The teachers who handled the research classes had High Secondary Education academic qualifications. They went through a two year pre-service teacher preparation course. This was the trend for the teachers of primary school learners.

### **Classroom Practices:**

The class was observed during the second term of the school calendar (May –July term). The learners had already spent one term in school. In Grade I ten lessons were observed and during this time the class dealt with writing of 1 up to 20, counting, addition and subtraction. The starting points for introducing concepts were learners’ everyday experiences or were situations that could be related to concrete objects, especially in Grade I.

An excerpt from a Grade I class highlights the teacher’s treatment of learners knowledge from the community.

[T: stands for teacher, Ls: Stands for learner(s)]

1. T: Nthoci na Papaya lutani kumalo yinu (Nthoci and Papaya go back to your seats) [Teacher asked two groups; Nthoci and Papaya to go back to their seats/groups]
2. [Two groups remain at Teaching Corner, while Nthoci and Papaya work on writing of numbers 15,16,17,18,19, 20, repeated on each line, the remaining group, dealt with how to add. The teacher wrote 6 + 4 and advised learners to use the sticks which they had!]
3. T: Pendani tumi tengo wuto muli nato – penda Iwe! Sazyani 6 na 4 musyazye! Penda ‘6’ nibo neko!(Count the sticks that you have – you count, add 6 and 4, first count 6, I want to see) [Some learners do not have sticks that reach 10, teacher advises them to pick more sticks]
4. Ls: A ticha, a ticha! A ticha! Ine napenda! (Teacher, teacher, me I have counted!)
5. T: Tapenda ‘7’ (Have we counted seven?)
6. Ls: eeh! Eeh! (Yes! Yes!) [Many respond accordingly]
7. T: Para walembe kuniphallira yayi! Walembe! [Teacher cautions those that mention the answer when they find it, as they were giving their answers away to others]
8. T: Sono pendaso ‘5’ sono sazya! Lembani mu box! Sono mupendeso ‘7’ (count 5 again then add, then write in the box. Then again 7.) [Teacher wrote 7 + 5 = ]
9. [Teacher writes 7 + 8 = and guides the learners, taking step by step in counting on as a strategy for addi-

tion!]

10. T: Sazyako na '8', mbwenu vose pamoza niwuli? Pendani '8' (Add with 8, then together it comes to what? 'count 8') [Teacher is referring to  $7 + 8$ , that is adding 7 and 8]

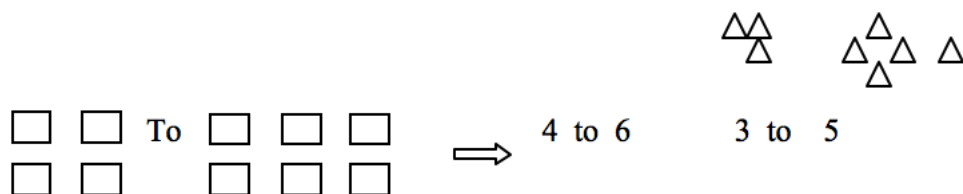
11. T: Another exercise  $9 + 4 =$

12. Sono penda '9', sono penganiso '4', sazya . Sono vose pamoza ni vichi (Now count 9, count again 4 and add. Together what have you found?)

The teacher gave work to two groups as they prepared to leave the front of the classroom. One group worked on writing numbers; that is, repeating the same figures on each line in their exercise books. To the group that remained in front of the class, the teacher introduced addition through counting on. The group used sticks to aid their counting. The group went through a process of physically counting six sticks, putting them aside and counting another four sticks, putting them aside. They were then advised to put the two heaps together and to count the whole lot. The answer they obtained after counting was written down in the box (Turns 3, 4, 5, 6).

In the first grade the lessons were characterized by statements that were ground in local practices/knowledge. The teacher advised learners to use objects or materials that they were familiar with, such as, sticks, stones etc.

In the Grade VI class, however, the teaching and learning practices were predominantly on content and procedures without much link to everyday mathematics knowledge. The teacher focused on giving instructions and examples of the procedures to be followed. On the basis of instruction and example(s) learners were expected to pick up ideas of what to do when given particular types of questions or problems. On occasions that everyday situations/examples were brought in, learners were provided with a useful platform upon which to engage with school mathematics. When introducing ratios, the teacher brought in concrete materials to re-enforce the concepts. Some diagrams were also used as shown in Figure 1.



**Figure 1:** Objects showing ratios

The learners indicated the ratios correctly which appeared to suggest grasping of the concept. At the outset the use of concrete materials facilitated the limited idea of ratio, but many learners were just able to indicate the ratio of  $4 : 6$ , and  $3 : 5$  as these tallied directly with the concrete shapes. However, learners did not pay attention to the relationship between the numbers (numerals). As a result, when learners were asked to put or express the ratio in its lowest terms, many learners failed to proceed with the task. Basically, the concept of ratio and its related prepositional reasoning concepts i.e. as an arrangement of objects according to set proportion was not grasped by the learners. The learners, on their part, focused on the empirical visual features, while the teacher desired them to see the abstract 'relations' between the concrete objects.

**Pedagogical Aspects:**

In order to highlight pedagogical aspects in the classroom an excerpt below might exemplify the practices. In the excerpt the teacher introduced some concepts through pattern recognition, from which a given pattern or behaviour of numbers, learners deduced a pattern. The excerpt below also shows the teacher guiding the learners along a pattern of generating multiples of numbers.

1. T: Sono bekani apa! (Now look here!)

Teacher wrote  $1 \times 3 = 3$ ,  $2 \times 3 = 6$ ,  $3 \times 3 = 9$ ,  $4 \times 3 = 12$ ,  $5 \times 3 = 15$ ,  $6 \times 3 = 18$

2. T: Sono apa mwaona ( So here you have seen) these are called multiples of 3 Sono (now) what are the first six multiples of 4? What do we begin with? We began with one So (teacher begins to write  $1 \times 4 = 4$ , as learners respond giving the multiples following the pattern of 3 previous examples.

3. Ls:  $2 \times 4 = 8$ ,  $3 \times 4 = 12$ ,  $4 \times 4 = 16$ ,  $5 \times 4 = 20$ ,  $6 \times 4 = 24$  (teacher wrote as learners gave the answers. Teacher asks, 3 times 4 = ? , then next ni vichi (is what)? Ok 4 times 4 = ? and so on). These were the first six multiples of 4 which are 4, 8, 12, 16, 20, 24. sono para tachita divide by 4 agha ma number tikusanga vichi? (Now when you divide by 4 these numbers, what do we find?) 4 into 4? Ans 1! 4 into 8? Ans 2 4 into 12? Ans ...till 24.

4. T: sono tiyeni tisanga (Now lets find the) multiples of 5, what are the first multiples of five?

5. Ls: [The teacher directed learners as they produced]  $1 \times 5 = 5$ ,  $2 \times 5 = 10$ ,  $3 \times 5 = 15$ ,  $4 \times 5 = 20$ ,  $5 \times 5 = 25$ ,  $6 \times 5 = 30$

6. T: you are supposed to know the tables by heart! Mose mukwenela kumanya! (All of you should know) Sono tiyeni tisanga ma (Now lets find the ...) multiples of 6 – the first six multiples of 6 (learners generated the following;  $1 \times 6 = 6$ ,  $2 \times 6 = 12$ ,  $3 \times 6 = 18$ ,  $4 \times 6 = 24$ ,  $5 \times 6 = 30$ ,  $6 \times 6 = 36$ )

The teacher introduced the concept of multiples through pattern recognition by learners. The first pattern –multiples of three – was the basis for development of the other sets of multiples of numbers. The teacher did not explain what multiples were or link them to known knowledge in the community but hoped that learners would see the pattern and deduce for themselves. The teacher presented the procedure to be used when dealing with the tasks.

### Discussion of Results

The profiles and pedagogic practices in the two grades provide the circumstances and learning context at the school. The main thrust of the study, however, was on how the everyday experiences and activities of learners were utilized in the classroom and whether these facilitated or made learning of mathematics better.

The discourse in the Grade I class focused on everyday practices. The teacher introduced school mathematics alongside the learners' community ways. The discourse focused on the mathematical practices that learners already had and the teacher formalised the learners' knowledge. The teacher utilized aids, such as sticks and stones, as he introduced the school terms. The teacher worked within the epistemic practices of the learners. The learners physically counted the objects; either counting on or removing some. There was a direct extension of the learners' orientation as the learning of number in the community involved or was accompanied by finger gestures.

In the Grade VI class some lessons began with exemplifiers or situations from everyday mathematics but this was not sufficiently explored to facilitate meaningful learning. The transition was rushed such that there was a sudden jump into school (academic) mathematics. Learners had difficulties as they remained in the frame of their everyday knowledge relating empirical phenomena to particular numerals step by step, without thinking about the relationship among numerals. In the ratio lesson, for example, many learners missed the school ratio concept. The learners not grasping the concept of ratio arose out of teachers not taking care of the step or rupture in the epistemological bases of the learners' knowledge from their community practice into school practice.

In Grade I teachers themselves brought in a lot of everyday examples, materials and ideas to teach the young children the concepts of number, place value etc. In contrast, the teachers in Grade VI allowed some everyday experiences and activities to inform the classroom teaching, but emphasised the routines, templates and the procedures for learning and production of classroom knowledge. Most children, except a few, had not developed any theoretical understanding well.

The teachers, nonetheless, tried in their own ways to link everyday ways of knowing and doing mathematics to the school mathematics concepts and methods but they failed to exhibit any understanding of how to help children shift from everyday discourse to school or scientific discourse. Teachers tended to focus on accuracy

of terms/language and use of appropriate symbols/signs of school mathematics.

The initial focus should have been development of a strong mathematical foundation which is rooted in the learners' everyday mathematical practices.

### Conclusion

The use of everyday mathematical knowledge/practices in school enhances classroom learning. It allows learners to utilise their knowledge and experiences and thus cherish their heritage and culture. It has the potential to build a strong mathematical foundation rooted in the learners' culture.

In the study, however, in Grade VI the transition from everyday mathematical practices to school mathematics was rushed. The pedagogy adopted did not foster understanding of concepts by learners; instead, the teacher provided routines, procedures and templates for learners to follow.

### Suggestion

In order for teachers to critically and consciously engage learners in transforming everyday knowledge to academic knowledge, the study proposes that:

- Teachers, in consultation with stakeholders in the community (supervisors, Non Governmental Organisations, other teachers etc), identify mathematical knowledge practices, strategies and experiences that relate to school mathematics.
- From the identified/surveyed practices, lessons should be developed.
- The ideas/activities identified should be used as pedagogical tools for teaching in the classroom (Vygotsky, 1987)
- Teachers should encourage discourse in learners' language in the development of concepts.

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## Task Switching in English-Chinese Bilinguals: A Life Span Approach

Li Qu (quli@ntu.edu.sg)

Joel J. W. Low (lowj0014@e.ntu.edu.sg)

Pei Shan Chong (chon0067@ntu.edu.sg)

Dawn W. L. Lim (li0001wn@ntu.edu.sg)

F. F. E. Keren-Happuch (h060077@e.ntu.edu.sg)

Nanyang Technological University, Singapore

### Abstract

The current study investigated the developmental trajectory of 124 English-Chinese Singaporean bilinguals (41 6-9-year-olds, 44 18-26-year-olds, and 39 55-79-year-olds) with the Standard (SD), Total Change (TC), Positive Priming (PP), and Negative Priming (NP) versions of the Computerized Dimensional Change Card Sort task. Tasks were administered in either English or Chinese. Additionally, participants were tested with both English and Chinese versions of the Peabody Picture Vocabulary Test. Separate curve fitting indicated that significant quadratic trends appeared in the local switch costs for accuracy only in the SD and the PP versions. Children had significantly larger local switch costs in all the versions compared to young adults and elderly adults, who had similar local switch costs. These findings suggest that bilingualism may slow down the decay of information maintaining, updating, disinhibition, and task set integration in elderly adults. Results imply that bilingual advantage may accumulate through childhood, and be preserved in late adulthood.

### Introduction

Previous research has well documented the advantages of bilingualism as bilinguals tend to have superior flexibility and inhibitory control compared to monolinguals (see Bialystok, 2006 for a review). Nevertheless, research in the past mainly compares bilinguals with monolinguals. It is unclear whether the bilingual advantage develops at the early stage, accumulates over adulthood or is maintained in late adulthood. The current study took a different approach by examining the bilingual advantage across life span in proficient English-Chinese bilinguals with a task switching paradigm.

### Bilingualism

Bilingual individuals have been widely reported to have advanced abilities in meta-linguistic awareness (Ianco-Worrall, 1972), analytic skills and logical reasoning (Ben-Zeev, 1977), flexibility and creativity (Ricciardelli, 1992), and understanding of theory of mind (Goetz, 2003), even though bilingual children have relatively smaller vocabularies than monolingual children (e.g., Ben-Zeev, 1977). In addition, bilingualism has been associated with superior inhibitory control after vocabulary is taken into consideration. For example, bilinguals are more able to ignore misleading and irrelevant features in meta-linguistic tasks such as a grammar detection task (e.g., Bialystok, 1986), a picture-name matching task (e.g., Bialystok, 1999), and an absolute quantity judgment task (e.g., Bialystok & Codd, 1997). Furthermore, bilinguals outperform monolinguals in cognitive control tasks such as an antisaccade task (Bialystok, Craik, & Ryan, 2006), the Simon task (Bialystok, 2006), and the Dimensional Change Card Sort (Bialystok & Shapero, 2005).

Such advantages are possibly related to the unique experience of bilinguals. An important and normal aspect of bilingualism is language alternation (Grosjean, 1982), consisting of code switching and code mixing. Code switching refers the use of language alternation within a single discourse accompanied by a shift in speech situation while code mixing refers to intrasentential alternations – language alternation within a sentence (Grosjean, 1982). During code switching, bilingual people need to constantly “overcome negative transfer between the languages” (Dopke, McNamara, & Quinn, 1991, p. 43). During code mixing, bilinguals need to activate both language systems simultaneously (Sridhar & Sridhar, 1980). Thus, compared to monolinguals,

bilinguals utilize their executive function more often. When communicating in one language, bilinguals need to continuously hold the relevant language in their minds and inhibit the irrelevant language (Bialystok, 2006). Indeed, compared to monolinguals, bilinguals appear to have enhanced brain activities in the left dorsolateral prefrontal cortex, an area essential for executive functioning and task switching (Rodriguez-Fornells, Balaguer, & Münte, 2006).

### Task Switching

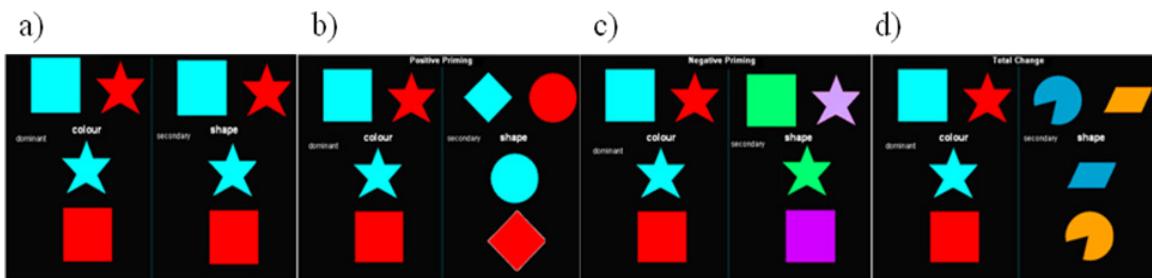
Switching between tasks is a key aspect of executive function (Miyake et al., 2000), and one that develops across a wide range of ages (Cepeda et al., 2001). In task switching paradigms, participants are required to switch from responding in one way to specific stimuli to responding in a different, incompatible, way. For example, participants need to switch between matching test stimuli to targets either according to shape or colour during a switching block of trials (Casey et al., 2004). Performance on trials that require participants to switch between tasks (switch trials) is compared to performance on trials that do not require participants to switch (repeat trials). Generally, participants take more time and make more errors on switch trials compared to repeat trials; the extra response time and errors are called local switch costs (Allport, Styles, Hsieh, 1994). In addition to the local switch costs, there are global switch costs, usually defined as the difference between performance on repeat trials during switch blocks and performance on trials during blocks in which no switching is required (Meiran, Gotler, Perlman, 2001). Global switch costs are associated with the ability to maintain and select appropriate task sets in a continuous switching context.

The task switching process involves various cognitive processes (e.g., Allport et al., 1994; Rogers & Monsell, 1995): information updating and maintaining the current task set in mind (e.g., Bojko, Kramer, & Peterson, 2004), the formulation and use of higher order rules for switching between task sets or the integration of task sets (e.g., Zelazo, Müller, Frye, & Marcovitch, 2003), and inhibition (e.g., Davidson, Amso, Anderson, & Diamond, 2006; Hasher & Zack, 1988). In particular, inhibition consists of the suppression of the previously activated task sets, and disinhibition of the previously suppressed task sets (e.g., Lustig, Hasher, & Zacks, 2007; Müller, Dick, Gela, Overton, & Zelazo, 2006).

These processes may influence children, young adults, and elderly adults differently. Lifespan studies on monolinguals have found that task switching improves during childhood and adolescence and declines during senescence (e.g., Cepeda et al., 2001). Age differences in local switch costs are observed when cognitive demands are large (e.g., Davidson et al., 2006) and they may decrease when the switch is highly predictable (e.g., Reimers & Maylor, 2005), or after age-related slowing is taken into consideration (e.g., Salthouse, Fristoe, McGuthry, & Hambrick, 1998). Age differences in global switch costs are often observed (e.g., Meiran et al., 2001), even when age differences in general speed are taken into account (e.g., Salthouse et al., 1998). Age differences may decrease and even disappear when the demands of working memory are reduced with the presentation of external cues (e.g., Chevalier & Blaye, 2009).

The current study used four versions of the Dimensional Change Card Sorting (DCCS) task to investigate the life-span development of task switching in English-Chinese bilinguals: the Standard (SD), Total Change (TC), Positive Priming (PP), and Negative Priming (NP) versions (Qu, Wijeya, Zelazo, & Craik, 2007; Zelazo et al., 2003). In the SD condition (see Figure 1a), participants are shown two target stimuli (e.g., a blue square and a red star) that vary along two dimensions (e.g., color and shape), and they are asked to sort a series of bivalent test stimuli (e.g., red squares and blue stars), first according to one dimension (e.g., color) and then according to the other. Hence, participants have to update, maintain and integrate the different task sets while inhibiting the previously activated pre-switch rules and activating of the previously inhibited post-switch rules in the trial following the switch. In the PP condition (see Figure 1b), the values of the dimension that are irrelevant in the pre-switch task are different in the post-switch task. In this case, during switch trials, participants' main challenge is to inhibit the previously activated rules. In the NP condition (see Figure 1c), the values of the dimension that are irrelevant in the pre-switch task are kept the same in the post-switch task. In this case, during switch, participants' main challenge is to activate the previously inhibited rules. In the TC condition (see Figure 1d), the values of both dimensions are changed between the pre- and post-switch tasks. Hence, during

switch, participants' main challenge is to activate the novel stimuli and there is no inhibition demand.



**Figure 1.** Target stimuli (top row) and test stimuli (bottom row) in the a) Standard version, b) Positive Priming version, c) Negative Priming version, and d) Total Change version. In each panel, the sorting task on the left side is the dominant task with colour as the dominant cue while the right side is the secondary task with shape as the secondary cue, in this example.

In addition, in this study, we used a pragmatic approach proposed by Grosjean (1989, 1998) to define a proficient bilingual as an individual who can function in either language according to the given needs of a situation. Thus proficient bilingual individuals have equivalent functional proficiency in both languages when they are able to carry out similar activities in both languages even though their formal proficiency in either language may not match that of a monolingual.

## Method

### Participants

One hundred and twenty-four English-Chinese Singaporean bilinguals (children:  $N = 41$ ,  $M$  age = 7.3,  $SD = 0.8$ ,  $Median = 7.3$ ,  $Range: 6 - 8.8$  years; young adults:  $N = 44$ ,  $M$  age = 20.8,  $SD = 1.8$ ,  $Median = 21$ ,  $Range: 18 - 26$  years; elderly adults:  $N = 39$ ,  $M$  age = 62.0,  $SD = 6.0$ ,  $Median = 60$ ,  $Range: 55 - 79$  years) participated the study. All participants were healthy and none of them was color-blind, as indicated by their performance on the Ishihara colour-blindness test (Ishihara, 1917). All children were recruited from a database of parents who expressed interest in participating in the research, and the children received stationery as tokens of appreciation. The young adult participants received academic credits while the elderly participants received \$(SG) 15 for compensation.

### Materials

Computerized Dimensional Change Card Sorting task (Qu et al., 2007). Twenty geometric shapes and 20 colors were used to construct 8 cm X 8 cm stimuli. For each participant, target and test stimuli were randomly chosen and the target or test stimuli were not repeated across different conditions. The task was programmed in E-Prime 1.1 software (Schneider, Eschman, & Zuccolotto, 2002) and run on a Pentium 4 laptop computer with a 12.5" X 9.5" monitor that was positioned approximately 50 cm away from the participant. Participants responded using the numerals 1 and 2 on the number pad of the standard keyboard. The task was presented in either English or Chinese.

The Ishihara Colour-Blindness Test (Ishihara, 1917). Participants were asked to identify digits embedded in 6 coloured plates.

The Peabody Picture Vocabulary Test, Fourth Edition (PPVT-IV; Dunn & Dunn, 2006). Participants were asked to select one picture out of four that best represents the meaning of a stimulus word presented orally. Both forms A and B of the PPVT were translated into Chinese by a native Chinese speaker. Participants were given one form in English and the other form in Chinese. The test order was counter-balanced between participants.

### Design

All participants received all four versions of the DCCS and the order in which these four versions were presented was determined randomly. Different target and test stimuli were used in each version, and the order

in which specific test stimuli within each version were presented was determined randomly. In each version, there was a dominant task, presented on a majority (87%) of trials, and a secondary task presented on a minority (13%) of trials. In the dominant task, participants were instructed to sort test stimuli according to one dimension (i.e., the dominant dimension); in the secondary task, participants were instructed to switch to another dimension (i.e., the secondary dimension). The dominant dimension, color or shape, was counter-balanced between participants. Each version took less than 6 minutes, and there was a 2-minute break between each version. The whole DCCS took less than 45 minutes.

### Procedure

Participants were first assigned to being tested in either Chinese or English. After completing the consent form and information sheet in their test language, they were tested for their colour-blindness using the Ishihara Colour-Blindness Test and for proficiency in the test language using either forms A or B of the PPVT. Then they were instructed to go through all versions of the DCCS task in their test language on a computer. Each version consisted of 2 blocks of trials: the first block served as a baseline of 40 trials which required participants to match stimuli by the dominant dimension while the second block – switching block – had a total of 78 trials with a mixture of 68 dominant trials and 10 secondary trials which required participants to switch to match stimuli by the secondary dimension. A cue word in the center of the screen instructed the participants by which dimension to match the stimuli. After the DCCS computer task, participants were assessed for their proficiency in the non-test language using the other form of the PPVT.

### Results

The primary dependent measures were accuracy (ACC) and reaction time (RT). Four children and four young adults failed to reach 80% accuracy during the baseline trials, and their data were excluded from the final analysis. Furthermore, 6 senior adults and 1 child achieved zero accuracy during all the switch trials and their data were also excluded. In addition, among the participants in the final sample, the following trials were excluded from the final RT data analyses: (1) the first four trials following each practice or break, (2) trials on which participants erred, (3) trials immediately following an error, and (4) the trials where RTs were shorter than 100 ms or longer than 3 SDs of the median RTs for the corresponding age group and condition. Only 109 participants' RTs were kept (children:  $N = 36$ ; young adults:  $N = 40$ ; elderly adults:  $N = 33$ ). Separate one-way analyses of variance (ANOVAs) on the ACCs and RTs failed to show any significant effects of gender, dominant dimension, or test language, so data were combined across these variables.

### Vocabulary

Participants' PPVT scores (see Table 1) reflected their English and Chinese language proficiency. Sample  $t$  tests showed that both English and Chinese PPVT scores for each age group were significantly greater than 70, indicating that the participants in the current study were indeed proficient bilinguals.

**Table 1**

*Mean (and Standard Deviation) Scores of the Peabody Picture Vocabulary Test by Version.*

	Children	Young Adults	Elderly Adults
<b>English Scores</b>	101.06 (19.59)	102.05 (16.31)	86.91 (13.92)
<b>Chinese Scores</b>	83.61 (19.32)	109.18 (13.80)	95.39 (9.48)

### Baseline

Performance during the baseline blocks was analyzed using separate 3 (Age: children, young adults and elderly adults)  $\times$  4 (Version: SD, NP, PP, and TC) ANOVAs for ACC and RT. For ACC, there was a significant effect of age ( $F(2, 106) = 23.49, p < .001, \eta_p^2 = .31$ ). Tukey HSD tests ( $p < .05$ ) showed that children ( $M = .96, SE = .00$ ) were significantly less accurate than younger ( $M = .98, SE = .00$ ) and elderly adults ( $M = .99, SE = .00$ ). There was no significant effect of version ( $F(3, 318) = 1.23, p > .05$ ) or any interaction ( $F(6, 318)$

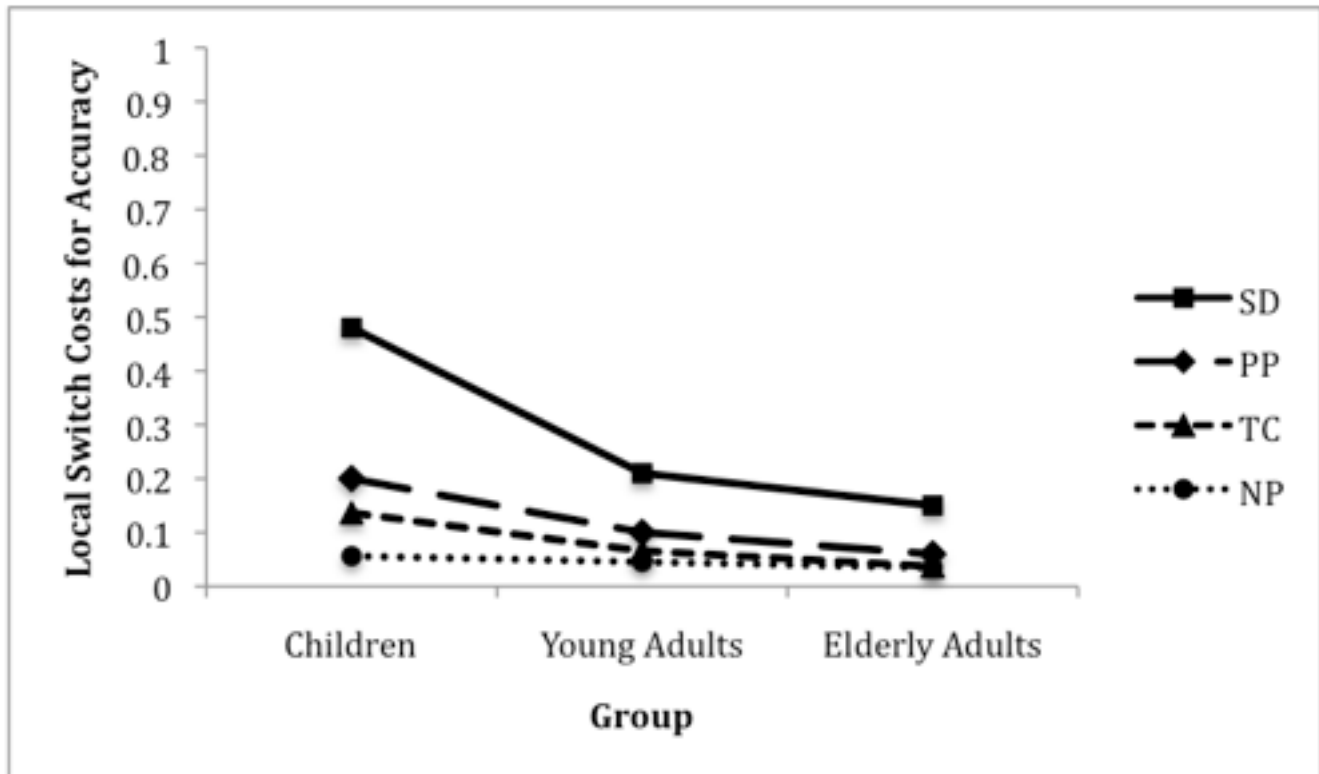


= .59,  $p > .05$ ). For RT, there was a significant effect of age ( $F(2, 106) = 68.06, p < .001, \eta_p^2 = .56$ ). Tukey's HSD tests ( $p < .001$ ) showed that younger adults ( $M = 612.04, SE = 36.30$ ) were significantly faster than children ( $M = 1227.09, SE = 38.27$ ) and older adults ( $M = 921.82, SE = 39.97$ ). There was no significant effect of version ( $F(3, 318) = 1.70, p > .05$ ) or any interaction ( $F(6, 318) = 1.22, p > .05$ ). With the averages of four baseline ACCs and RTs, separate curve fitting indicated that a significant quadratic trend appeared in both the baselines of ACC ( $R_{adj}^2 = .25, F(2, 106) = 19.17, p < .001$ ) and RT ( $R_{adj}^2 = .06, F(2, 106) = 4.37, p < .05$ ).

### Local switch costs

Local switch costs were calculated by comparing the performance on the switch trials during the switch blocks with the performance on the baseline trials during the nonswitch blocks (Meiran, 1996; Rogers & Monsell, 1995). The local switch costs for ACCs (LSC-ACCs) were calculated by subtracting the proportion correct on the switch trials during the switch block from the proportion correct on the baseline trials, then dividing by the proportion correct on the baseline trials. The local switch costs for RTs (LSC-RTs) were calculated by subtracting the median RT on the baseline trials from the median RT on the switch trials during the switch block, then dividing by the median RT on the baseline trials.

To examine the LSC-ACCs, a 3 (Age)  $\times$  4 (Version) ANOVA on LSC-ACC was used. Results showed that there was a significant effect of age ( $F(2, 106) = 18.89, p < .001, \eta_p^2 = .26$ ), a significant version difference ( $F(3, 318) = 56.52, p < .001, \eta_p^2 = .35$ ), and a significant interaction between age and version ( $F(6, 318) = 8.52, p < .001, \eta_p^2 = .14$ ). All participants had significantly larger LSC-ACCs in the SD version ( $M = .28, SE = .02$ ) than in the rest of three versions. In addition, they had significantly larger LSC-ACCs in the PP version ( $M = .12, SE = .02$ ) than in the NP ( $M = .05, SE = .01$ ) and TC versions ( $M = .08, SE = .02$ ). Further analysis showed that age differences only appeared in the SD ( $F(2, 106) = 34.82, p < .001, \eta_p^2 = .40$ ), the PP ( $F(2, 106) = 5.61, p < .01, \eta_p^2 = .10$ ) and the TC versions ( $F(2, 106) = 3.98, p < .05, \eta_p^2 = .07$ ), not in the NP version ( $F(2, 106) < 1$ ). Tukey HSD tests ( $p < .05$ ) showed that (see Figure 2) in the SD version, the children ( $M = .48, SE = .21$ ) had significantly larger LSC-ACCs than both the young ( $M = .21, SE = .17$ ) and elderly adults ( $M = .15, SE = .15$ ); and in both the PP and TC versions, the children (PP:  $M = .20, SE = .25$ ; TC:  $M = .14, SE = .23$ ) had significantly larger LSC-ACCs than the elderly adults (PP:  $M = .06, SE = .11$ ; TC:  $M = .04, SE = .08$ ). Separate curve fitting indicated that significant quadratic trends only appeared in the LSC-ACCs in the SD ( $R_{adj}^2 = .22, F(2, 106) = 16.25, p < .001$ ), and the PP ( $R_{adj}^2 = .05, F(2, 106) = 3.89, p < .05$ ) versions.



**Figure 2:** Local switch costs for reaction time across the Standard (SD), the Positive Priming (PP), the Negative Priming (NP), and the Total Change (TC) conditions in children, young adults, and elderly adults.

To examine the LSC-RTs, a 3 (Age)  $\times$  4 (Version) ANOVA was used. Results showed (see Figure 2) that there was a significant effect of age ( $F(2, 106) = 14.40, p < .001, \eta_p^2 = .21$ ), and Tukey HSD tests ( $p < .05$ ) showed that the LSC-RTs in the young adults ( $M = 0.52, SE = 0.05$ ) and elderly adults ( $M = 0.61, SE = 0.06$ ) were significantly smaller than those in the children ( $M = 0.90, SE = 0.05$ ). In addition, there was a significant version difference ( $F(3, 318) = 13.12, p < .001, \eta_p^2 = .11$ ). Further analysis showed that the LSC-RTs in the SD version ( $M = 0.84, SE = 0.05$ ) were significantly larger than in the NP ( $M = 0.48, SE = 0.03$ ) and the PP versions ( $M = 0.64, SE = 0.05$ ) but similar to those in the TC version ( $M = 0.75, SE = 0.05$ ); the LSC-RTs in the PP version were similar to those in the TC version, but were significantly larger than those in the NP version. The LSC-RTs in the TC version were significantly larger than those in the NP version. Separate curve fitting did not show any significant quadratic trends in the LCS-RTs.

### Global Switch Costs

Global switch costs were calculated by comparing the performance on the task repetition trials during the switch blocks with the performance on the baseline trials during the nonswitch blocks (e.g., Meiran et al., 2001). The global switch costs for ACCs (GSC-ACCs) were calculated by subtracting the proportion correct on the repeat trials during the switch block from the proportion correct on the baseline trials and then dividing by the proportion correct on the baseline trials. The global switch costs for RTs (GSC-RTs) were calculated by subtracting the median RT on the baseline trials from the median RT on the repeat trials during the switch block then dividing by the median RT on the baseline trials.

To compare the GSC-ACCs, a 3 (Age)  $\times$  4 (Version) ANOVA was used. Results showed that there was only a significant effect of version ( $F(3, 318) = 3.03, p < .05, \eta_p^2 = .03$ ). Further analysis showed that although the GSC-ACCs in the TC version ( $M = .01, SE = .00$ ) was similar to the rest of the versions, the GSC-ACCs in the SD ( $M = .02, SE = .00$ ) and PP versions ( $M = .02, SE = .00$ ) were significantly larger than that of the NP version ( $M = .00, SE = .00$ ).

To compare the GSC-RTs, a 3 (Age)  $\times$  4 (Version) ANOVA was used. Results showed that there was a significant effect of age ( $F(2, 106) = 3.93, p < .05, \eta_p^2 = .07$ ), and Tukey HSD tests ( $p < .05$ ) showed that the GSC-RTs in the young adults ( $M = 0.15, SE = 0.02$ ) were significantly smaller than those in the children ( $M = 0.23, SE = 0.02$ ) but similar to the elderly adults ( $M = 0.16, SE = 0.02$ ). In addition, there was also a significant effect of version ( $F(3, 218) = 14.57, p < .001, \eta_p^2 = .12$ ) and a significant interaction between age and version ( $F(6, 318) = 2.28, p < .04, \eta_p^2 = .04$ ). All participants had significantly larger GSC-RTs in the SD version ( $M = 0.27, SE = 0.02$ ) than in the other three versions. In addition, they had significantly larger GSC-RTs in the PP version ( $M = 0.21, SE = 0.03$ ) than in the NP ( $M = 0.11, SE = 0.02$ ) and the TC versions ( $M = 0.12, SE = 0.02$ ). Further analysis showed that an age difference appeared only in the SD ( $F(2, 106) = 3.77, p < .05, \eta_p^2 = .07$ ) and the PP versions ( $F(2, 106) = 4.90, p < .01, \eta_p^2 = .09$ ), not in the NP and the TC versions ( $F(2, 106) < 1$ ). Tukey's HSD tests ( $p < .05$ ) showed that in the SD version, the children ( $M = 0.36, SE = 0.35$ ) had significantly larger GSC-RTs than the young adults ( $M = 0.23, SE = 0.11$ ); and in the PP version, the children ( $M = 0.32, SE = 0.42$ ) had significantly larger GSC-RTs than both the young ( $M = 0.13, SE = 0.12$ ) and elderly adults ( $M = 0.16, SE = 0.19$ ).

## Discussion

The current study examined the developmental trend of task switching ability in children, young adults, and elderly adults, who are proficient English-Chinese bilinguals. Significant quadratic trends were found in baselines. This is consistent with the findings from monolingual populations: Children are less accurate and much slower than younger adults while elderly adults are slower than younger adults though they may be equally accurate (Salthouse et al., 1998).

After taking baseline ACC and RT into consideration, a significant quadratic function of age was found in the local switch costs of the SD version. Children had significantly larger local switch costs than young adults and elderly adults. These suggest that the ability to switch between tasks flexibly was still developing in the 7 year old bilingual children. Such a pattern is similar to that found among monolinguals (Casey et al., 2004). Nevertheless, young and elderly adults appeared to have similar local switch costs in the SD version, suggesting that bilingualism may slow down the decay of cognitive flexibility in elderly adults (Bialystok et al., 2006).

Similarly, a significant quadratic function of age was found in the local switch costs of the PP version. Children had significantly larger local switch costs than adults, suggesting that they are still developing the ability to suppress the previously activated task sets. This pattern is similar to that found with monolinguals (Davidson et al., 2006). Although there was a tendency of decay, elderly adults appeared to have similar local switch costs in the PP version as young adults. These suggest that bilingualism may slow down the ability to suppress the previously activated task sets in elderly adults (Hasher & Zack, 1988).

However, no quadratic function of age in the local switch costs of the NP version was observed. Elderly adults had similar switch costs to young adults, unlike monolingual elderly adults who have shown difficulty with disinhibition (May et al., 1995). These results suggest that the ability to re-activate the previously suppressed task sets is preserved in bilingual elderly adults. Children had significantly larger local switch costs than adults in terms of RT, suggesting that they are still developing the ability to re-activate the previously suppressed task set. This pattern is similar to that observed for monolinguals (Müller et al., 2006).

In addition, there was no quadratic function of age in the local switch costs of the TC version. Unlike monolingual elderly adults (Craik & Bialystok, 2006), bilingual elderly adults appeared to have similar local switch costs to young adults, suggesting that the ability to maintain and update information still functions well in the 60 years old bilingual adults. However, children had larger local switch costs than the adults. This suggests that the ability to maintain and update information is still developing in the 7 year old bilingual children.

Additionally, children had significantly larger global switch costs than young adults in the SD version and both young adults and elderly adults in the PP version. These indicate that children are still developing the ability to maintain and select appropriate task sets in a continuous switching context. Compared to the PP version, the SD version is still challenging for elderly adults. It seems that even for bilingual elderly adults, when

the task is demanding, flexibility is lost. Such a pattern has been observed in monolingual elderly adults as well (Zelazo, Craik, & Booth, 2004).

These results imply that a bilingual advantage may accumulate through childhood, and be maintained in late adulthood. In particular, bilingualism may slow down the decay of cognitive flexibility in elderly adults. Compared to monolingual young adults, during task switching, elderly adults appear to have similar switch costs during information maintaining and updating, suppressing previous task sets, re-activating previously suppressed task sets, and integrating task sets. These suggest that the accumulated bilingual advantage is domain general, including various higher cognitive functions.

Although bilingual children outperform monolingual children in inhibitory control and task switching (e.g., Bialystok et al., 2006), similar to monolinguals, during early and middle childhood, bilinguals are still developing the abilities to maintain and update information, integrate task sets, suppress previously activated task sets, and disinhibit previously suppressed task sets. In other words, bilingual children may show some advantages in the performance of executive function, but their developmental trajectory of executive function is similar to monolinguals.

In conclusion, bilingual advantage may accumulate through childhood, and be preserved in late adulthood. In particular, bilingualism may slow down the decay of cognitive flexibility in elderly adults.

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## Development of Theory of Mind in English-speaking Chinese Singaporean Preschoolers

Li QU (quli@ntu.edu.sg)  
Pinxiu Shen (shen0063@ntu.edu.sg)  
Fan Qianqian (fanq0002@ntu.edu.sg)

Nanyang Technological University, Singapore

### Abstract

The current study examines Theory of Mind (ToM) development in English-speaking ethnically Chinese 3- to 6-year-old children raised in Singapore, a country influenced by both eastern and western cultures. All tasks were administered in English. Study 1 investigated the vertical development of ToM in 3- to 6-year-olds ( $N = 65$ ) with five tasks, including diverse desires, diverse beliefs, knowledge access, content false-belief, and explicit false-belief tasks. Results revealed that like English-speaking preschoolers growing up in the West, English-speaking Chinese Singaporean preschoolers develop the understanding of diverse desires and diverse beliefs earlier than the understanding of knowledge access and false beliefs; however, contrary to previous findings in both the West and East, even 5-year-olds had not fully developed the understanding of false beliefs. Study 2 specifically examined the understanding of beliefs through the appearance-reality, deceptive pointing, false belief, and non-mental states control tasks. Results ( $N = 127$ ) showed that in terms of the development of beliefs, English-speaking Chinese Singaporean preschoolers develop the understanding of the difference between appearance and reality earlier than deception, the understanding of false beliefs regarding location and content. In addition, Study 2 replicated the findings of Study 1 by showing that even 5 year old English-speaking Chinese Singaporean preschoolers had not fully developed the understanding of false beliefs. Together, these results suggest that the developmental pattern of ToM in English-speaking Chinese Singaporean children is unique, possibly reflecting a mix of East and West, and their unique linguistic experience.

### Introduction

Theory of Mind (ToM) is the ability to ascribe mental states such as beliefs, desires, and intentions to oneself and others, and to use these attributions in anticipating the behavior of oneself and others (Premack & Woodruff, 1978; Zelazo, Qu, & Müller, 2005). It includes the understanding of diverse desires (i.e., others can have different desires from oneself), diverse beliefs (i.e., others can have different beliefs about the same event, object, or person from oneself), knowledge-ignorance (i.e., others can have different knowledge about events from oneself), false belief (i.e., others can have beliefs which differ from the truth), appearance-reality (i.e., something looks different from what it really is), and deception (Carlson & Moses, 2001; Flavell, Flavell, & Green, 1983; Wellman & Liu, 2004).

ToM is a necessary core human capacity required for the comprehension of the social environment and the display of socially adequate behavior (Astington & Jenkins, 1995). The development of ToM during preschool years is closely related to preschoolers' social competence (Wellman, Fang, Liu, Zhu, & Liu, 2006), school readiness (Astington & Pelletier, 2005), academic performance (Blair & Razza, 2007), lack of behavioural problems (Fahie & Symons, 2003), and good mental health during later years (Pilowsky, Yirmiya, Arbelle, & Mozes, 2000). Thus, it is important to study the early development of ToM.

Research in the West has documented that the development of ToM follows a sequence. Children first develop the understanding of diverse desires, diverse beliefs, knowledge-ignorance, and then false beliefs (Wellman & Liu, 2004). For instance, by 5 years of age, most children are able to pass false belief tasks which children of younger age fail (Wellman, Cross, & Watson, 2001).

Recent work in the East has found that the development of ToM is universal and cultural-specific at the same time. For example, like their counterparts who grow up in the West, most 5-year-olds who grow up in the East such as in China and Korea have no difficulty with false belief tasks (Oh & Lewis, 2008; Sabbagh et al., 2006). Nevertheless, there are cross-cultural differences. Australian and North American preschoolers devel-

op the understanding of diverse beliefs before knowledge-ignorance (Wellman & Liu, 2004). Contrastingly, Chinese children have an earlier understanding of knowledge-ignorance than diverse beliefs (Wellman, Fang, Liu, Zhu, & Liu, 2006). This is consistent with Lillard's (1998) proposal that cultural variation exists in the development of ToM.

Additionally, language may play a role in the development of ToM as well. For example, in Mandarin Chinese, three verbs can refer to mental states such as thinking. Chinese preschoolers have performed better when the mental verbs were used in the false belief tasks implying that the characters' thinking may be false compared to when the neutral verb was used (Lee, Olson, & Torrance, 1999). Furthermore, bilingual experience may facilitate the development of ToM. For example, Goetz (2003) has found that bilingual 3- to 4-year-old Mandarin-English bilinguals outperformed English monolinguals and Mandarin Chinese monolinguals on the appearance-reality, perspective taking, and false belief tasks.

Noticeably, with globalization and wide information exchange, it is almost impossible to find a country with only one pure traditional culture. Indeed, traditional western and eastern practices are often mixed in today's modern societies. To further investigate the impact of culture and language on the development of ToM, the current study recruited children from a country with extremely mixed cultures. Singapore, with its blend of eastern and western cultural influences, provides a unique setting for exploring this cross-cultural question of child development. This Southeast Asian country emphasizes traditional cultures such as Confucianism, but includes western popular culture. It uses English, Chinese Mandarin, Malay, and Tamil as its official languages, but features British institutions. Traditional holidays of all ethnicities are celebrated together with Christmas and Easter Sunday. Thus, Singaporean English-speaking Chinese children constitute a distinctive sample through which to study the early development of cognitive and social abilities.

Study 1 aimed to illustrate the ToM development trajectory of English-speaking Chinese Singaporean preschoolers. Study 2 specifically examined the development of beliefs through the appearance-reality, deceptive pointing, false belief, and non-mental states control tasks.

## Study 1

### Methodology

*Participants.* Sixty-five English-speaking Chinese Singaporean 3- to 6-year-olds (3-year-olds:  $N = 28$ ;  $M = 41.6$  months,  $SD = 4.1$ , *Range*: 36 – 47; 15 girls; 4-year-olds:  $N = 21$ ;  $M = 54.1$  months,  $SD = 3.2$ , *Range*: 48 – 59; 12 girls; 5-year-olds:  $N = 16$ ;  $M = 64.4$  months,  $SD = 4.0$ , *Range*: 60 – 71; 9 girls) were recruited from local daycare centers. In all cases, parents were provided with a written description of the experiment, and they granted informed consent allowing their children to participate.

*Measures.* Theory of Mind Tasks (Wellman & Liu, 2004):

*Diverse desires task.* It requires children to identify that other people have different desires from their own about the same objects. Children are told that John likes a snack different from the children's preference and then asked which snack John would choose.

*Diverse beliefs task.* It asks children to identify that other people have different beliefs from the children's about the same object. Children are told that Linda thinks her cat is hidden in a place different from what the children believe and then asked where Linda would look for her cat.

*Knowledge access task.* It requires children to acknowledge that other people, who do not see what is in a box, do not know what is in the box. Children are shown what is hidden inside a box and then are asked whether Mary would know what is inside the box given that she has never seen inside the box before.

*Contents false belief task.* It is about children's understanding that other people's beliefs about what is in a container can be false. Children are shown a cookie box but are shown that it is a car inside the box instead of cookies. Then children are asked what Peter would think is inside the box given that Peter has never seen inside the box.

*Explicit false belief task.* It asks children to predict how a person will search if the person's beliefs are false. Children are told that Tom's candy is in his bag, however, Tom thinks that his candy is in his drawer.

Then children are asked to predict where Tom would look for the candy.

Puppets, toy figurines, and other props were used to demonstrate situations and remind children of the response options. In each story, two questions were asked: a target question about the protagonist's mental state or behaviour and a contrast or control question about the reality or another person's state. To pass a task, participants had to answer both questions correctly.

There were three control tasks:

*Peabody Picture Vocabulary Test, Fourth Edition* (PPVT-IV; Dunn & Dunn, 2006). This is an individually administered and un-timed receptive vocabulary measure. Four pictures were presented at one time on a computer screen and children were asked to point to the one which best represents the meaning of a stimulus word presented orally.

*Digit span Task* (Davis & Pratt, 1996). This is a short-term memory measure. Participants were asked to repeat a set of numbers after the experimenter. Each number was spaced one-second apart.

*Dimensional Change Card Sort* (DCCS; Frye, Zelazo & Palfai, 1995). This is a measure of executive function. Participants were given two target cards which differed on two dimensions, each placed in front of a tray. They were asked to sort six cards according to one dimension, either color or shape, then sort another six cards by the other dimension. The order of the dimensions was counterbalanced between participants.

*Procedure.* The participants were tested individually in a quiet classroom in their daycare centre by a trained adult experimenter. Each child was administered all nine tasks in a single session which lasted approximately 50 minutes. The test order was the PPVT-IV, two ToM tasks, digit span, another two ToM tasks, the DCCS and the remaining ToM task. The order in which the ToM tasks were presented was counterbalanced between children.

## Results

Preliminary analysis did not show any significant gender or DCCS dimension difference, so data were combined. See Table 1 for the summary of performance.

A cross-tabulation of age group and ToM tasks employed in Study 1 was conducted to determine the passing rate for each task in each age group. Separate *t*-test was conducted to determine if participants in each age group performed above the chance level,  $p = .50$  for each ToM task. Children in all age groups performed below chance level on the two false belief tasks.

Kruskal-Wallis tests were then conducted to evaluate differences among the three age groups on ToM task performances. Corrected for tied ranks, the tests were significant for the diverse beliefs and knowledge-ignorance tasks. Follow-up Mann-Whitney U tests were conducted to evaluate pairwise differences among the three age groups, using the Bonferroni approach to control Type I error rates across tests. Results indicated that 5-year-olds,  $U = 89.0$ ,  $z = -2.46$ ,  $p = .014$ , and 4-year-olds,  $U = 83.5$ ,  $z = -3.08$ ,  $p = .002$ , performed significantly better than 3-year-olds on the knowledge-ignorance task. Five-year-olds also performed significantly better than 3-year-olds on the diverse belief task,  $U = 104.0$ ,  $z = -2.43$ ,  $p = .015$ .

ANOVA analyses were conducted to evaluate differences among the three age groups on the PPVT, Digit Span and the DCCS task performances. Significant age improvement appeared on the performance of the DCCS. Post-hoc LSD tests were conducted and results revealed that 5-year-olds performed significantly better than 3-year-olds on the DCCS post-switch trials,  $p < .001$ .

**Table 1***Descriptive Statistics for Theory of Mind and Control Tasks as a Function of Age.*

	3-year-olds	4-year-olds	5-year-olds	Age difference
<b>Theory of mind tasks</b>				
Diverse desires (Percentage passing)	77.8*	72.2*	93.8*	$\chi^2 = 2.61, p = .27$
Diverse beliefs (Percentage passing)	66.7*	88.9*	100.0*	$\chi^2 = 6.96, p = .03$
Knowledge-ignorance (Percentage passing)	22.2 <sup>^</sup>	69.2*	100.0*	$\chi^2 = 10.70, p = .005$
Content false belief (Percentage passing)	3.7 <sup>^</sup>	23.0 <sup>^</sup>	28.6 <sup>^</sup>	$\chi^2 = 3.63, p = .16$
Explicit false belief (Percentage passing)	0.0 <sup>^</sup>	29.4 <sup>^</sup>	12.5 <sup>^</sup>	$\chi^2 = 2.79, p = .25$
<b>Control tasks</b>				
Peabody Picture Vocabulary (SD; Range)	86.04 (19.19; 48-131)	84.05 (24.00; 48-134)	86.60 (7.61; 74-100)	$F = .10, p = .91$
Digit span (SD; Range)	3.00 (1.46; 1.5-5.0)	3.67 (1.03; 2.5-6.0)	4.12 (0.74; 2.5-5.5)	$F = 2.69, p = .08$
Dimensional Change Card Sorting: # of correct trials during post- switch (SD; Range)	1.79 (2.59; 0-6)	3.31 (3.03; 0-6)	5.25 (2.05; 0-6)	$F = 9.20, p < .001$

Note: \*performance was above chance level (.5) at  $p < .05$  level; <sup>^</sup>performance was below chance level at  $p < .05$  level.

To determine if the understanding of ToM concepts occurred sequentially, a Friedman Test was used to rank the mean score of each ToM concept. A significant rank-order was revealed,  $\chi^2 = 48.2, p < .001$ . Follow-up Wilcoxon Signed Rank tests were conducted to evaluate pairwise comparisons between participants' understanding of ToM concepts. It revealed that understanding of knowledge-ignorance developed significantly later than that of diverse desires,  $z = -3.14, p = .002$  and diverse beliefs,  $z = -3.53, p < .001$ . Understanding of content false belief occurred significantly later than that of knowledge-ignorance,  $z = -2.71, p = .007$ .

These results indicate that in English-speaking Chinese Singaporean preschoolers, ToM develops in the following sequence: diverse desires, diverse beliefs, knowledge ignorance, content false belief, and explicit false belief.

## Discussion

Results revealed that like English-speaking North American and Australian preschoolers but unlike Mandarin-speaking Chinese preschoolers (Wellman & Liu, 2004; Wellman et al., 2006), English-speaking Chinese Singaporean preschoolers develop an understanding of diverse beliefs before knowledge-ignorance. This implies that when advancing beyond understanding of desires, English-speaking Chinese Singaporean children first have an appreciation of how two people can have differing views about the same situation then have some sense of how one can be knowledgeable or ignorant.

Furthermore, results showed that most Singaporean preschoolers had difficulty with the content and location false belief tasks. These contradict to the previous finding that most monolingual children in the West and the East by age 5 pass these false belief tasks (Carlson & Moses, 2001; Sabbagh et al., 2006; Wellman et al., 2001), and bilingual children develop false belief faster than monolingual children (Goetz, 2003). Thus, Study 2 further investigated this issue with four tasks on the understanding of beliefs in English-speaking Chinese



Singaporean children.

## Study 2

In Study 2, four ToM tasks were used: an appearance-reality task – form and color versions, a deceptive pointing task – 2 trials, a location false belief task – standard and explicit versions, and a content false belief task – self and other versions.

### Method

*Participants.* One hundred and twenty-seven English-speaking Chinese preschoolers (3-year-olds:  $N = 42$ ;  $M$  age = 43.5 months,  $Range$ : 36 – 47 months,  $SD = 2.7$ ; 21 were girls; 4-year-olds:  $N = 53$ ;  $M$  age = 52.8 months,  $Range$ : 48 – 59 months,  $SD = 3.8$ ; 27 were girls; 5-year-olds:  $N = 32$ ;  $M$  age = 64.6 months,  $Range$ : 60 – 71 months,  $SD = 3.7$ ; 17 were girls) were recruited from Singaporean local daycare centres. In all cases, parents were provided with a written description of the experiment, and they granted informed consent allowing their children to participate.

*Measures.* Theory of Mind Tasks (Carlson & Moses, 2001):

*Appearance-reality* (Flavell et al., 1983). Two versions were used. In the identity version, children were shown a piece of sponge which looked like a rock. In the color version, children were shown a green paper clip in a red glass, which appeared to be black instead of green. In each version, children were asked how the object appeared, and what the object was in reality. Children were credited with passing if they answered both questions accurately.

*Deceptive pointing* (Carlson & Moses, 2001). Children were shown two opaque containers (one yellow and one red) and a marble. The experimenter put the marble in one of the containers (counterbalanced between children) and demonstrated the marble's location by pointing to the container. Then children were asked to place the marble in the other container and to show the experimenter the location of the marble by pointing to the container. After this warm-up, Experimenter 2 left. The children were asked to put the marble in one container. Experimenter 1 encouraged the children to play a trick by pointing so the other experimenter would not find the marble. Then Experimenter 2 returned and asked, "Where is the marble?" Children's responses were marked as pointing decisively or not. Then Experimenter 1 left the room and the children were encouraged to trick Experimenter 1 instead.

*Location false belief.* It measures whether children understand that other people's beliefs can be incorrect. In the standard version (Wimmer & Perner, 1983), children were told a story about two puppets, Barnie and Elmo. Barnie and Elmo played with two blocks, then Barnie (the two puppets were counterbalanced between children) needed to go home for lunch, so Barnie put the blocks in a blue container and left. Then Elmo wanted to play more blocks, so he took out the blocks and played. After a while, Elmo needed to go home for lunch too. He put the blocks in a white container and left. Now Barnie came back and wanted to play with the blocks. Children were asked the false belief question, "Where does Barnie think the blocks are?" and the reality question, "Where are the blocks really?" Children were credited with passing if they answered both belief and reality questions accurately. The explicit version (Wellman & Bartsch, 1988) is similar to the one used in Study 1.

*Contents false belief* (Gopnik & Astington, 1988). This task is similar to the one used in Study 1.

In addition to the three control tasks used in Study 1, there were two more control tasks:

*The Non-mental states location task* (Carlson & Moses, 2001) measures children's ability to understand the change of physical location. Children were asked to put a block inside a blue box, then to put the block inside a green box. Children were asked, "Now where is the block?" Then children were asked, "When we first put the block in a box, before we moved it, where was it then? Was it in this box [green] box or this box [blue]?" Children were scored a pass if they answered both questions correctly.

*The Non-mental states content task* (Carlson & Moses, 2001) measures children's ability to understand the change of physical content. Children were shown a box containing a marble. Then children were asked to take out the marble and put a toy fish inside the box. Then the box was closed. Children were asked, "Now what is inside?" Then children were asked, "When I first showed you the box, before we opened it, what was inside it



*then? Was there a marble inside or was there a fish inside?"* Children were scored a pass if they answered both questions correctly.

*Procedure.* The procedure was similar to that of Study 1, except that the test order was: the PPVT, standard location false belief, the non-mental states content, appearance-reality, digit span, content false belief, explicit location false belief, card sorting, deceive pointing, and the non-mental states location.

## Results

Preliminary analysis did not show any significant gender or DCCS dimension differences, so data were combined. See Table 2 for the summary of performances.

Between the two non-mental states control tasks, separate Kruskal-Wallis tests showed that the age improvement was only significant with the non-mental states content task. Additionally, 3-year-olds', 4-year-olds' and 5-year-olds' performances on the non-mental states content task were significantly below chance. The performances on the non-mental states location task were at chance level for children in all age groups.

Among the four beliefs tasks, separate Kruskal-Wallis tests showed that age improvement was significant on appearance-reality color, deceptive pointing, and content false belief other, but not on the remaining tasks. Additionally, only 5-year-olds' performances on appearance-reality color and deceptive pointing task were significantly above chance. Four-year-olds' performance on appearance-reality color were at chance level. The performances on the remaining tasks were below chance level for children in all age groups.

Separate composite scores of appearance-reality, deceptive pointing, location false belief, and content false belief were calculated by summarizing the performance of the two subtests. A Friedman Test was used to rank the mean score of each ToM concept. A significant rank-order was revealed,  $\chi^2 = 4.87$ ,  $p < .01$ . Follow-up Wilcoxon Signed Rank tests were conducted to evaluate pairwise comparisons between participants' understanding of ToM concepts. The results revealed that the performance on appearance-reality was significantly better than those of the rest of tasks; the performance on deceptive pointing was similar to that of location false belief  $z = 1.45$ ,  $p = .15$ , which was significantly better than that of content false belief  $z = 3.57$ ,  $p < .01$ .

These results indicate that the understanding of beliefs in English-speaking Chinese Singaporean preschoolers develop in the following sequence: the difference between appearance and reality, deception, false beliefs regarding location, and then false beliefs regarding content. Additionally, the verbal instruction used in false belief tasks, though without tapping into mental states, was also demanding for these children.

**Table 2***Descriptive Statistics for Theory of Mind and Control Tasks as a Function of Age.*

	3-year-olds	4-year-olds	5-year-olds	Age difference
<b>Theory of mind task</b>				
Appearance-reality (Percentage passing):				
color	26.2 <sup>^</sup>	50.9	75.0*	$\chi^2 = 17.34, p < .01$
identity	12.8 <sup>^</sup>	30.8 <sup>^</sup>	34.4 <sup>^</sup>	$\chi^2 = 5.26, p = .07$
Deceptive pointing (Percentage passing)				
1	7.9 <sup>^</sup>	23.1 <sup>^</sup>	53.3	$\chi^2 = 18.43, p < .01$
2	13.2 <sup>^</sup>	34.6 <sup>^</sup>	56.7*	$\chi^2 = 14.35, p < .01$
False belief location: (Percentage passing)				
standard	11.9 <sup>^</sup>	22.6 <sup>^</sup>	31.3 <sup>^</sup>	$\chi^2 = 4.13, p = .13$
explicit	28.9 <sup>^</sup>	15.4 <sup>^</sup>	23.3 <sup>^</sup>	$\chi^2 = 2.43, p = .30$
False belief content: (Percentage passing)				
self	2.6 <sup>^</sup>	1.9 <sup>^</sup>	10.3 <sup>^</sup>	$\chi^2 = 3.59, p = .17$
other	7.9 <sup>^</sup>	5.8 <sup>^</sup>	34.5 <sup>^</sup>	$\chi^2 = 14.54, p < .01$
<b>Control tasks</b>				
Peabody Picture Vocabulary (SD; Range)	78.3 (15.4; 60-120)	87.5 (16.4; 53-121)	83.9 (13.7; 41-110)	$F = 3.90, p = .02$
Digit span (SD; Range)	4.0 (1.1; 2-6)	4.5 (1.0; 3-6)	5.3 (1.1; 3-6)	$F = 13.64, p < .01$
Card Sorting:				
# of correct trials during post-switch (SD; Range)	4 (1.0; 0-3)	1.3 (1.4; 0-3)	2.2 (1.2; 0-3)	$F = 19.19, p < .01$
Non-mental state (Percentage passing):				
Location	42.1	38.5	60.0*	$\chi^2 = 3.72, p = .16$
Content	7.1 <sup>^</sup>	18.9 <sup>^</sup>	31.3 <sup>^</sup>	$\chi^2 = 7.10, p = .03$

Note: \*performance was above chance level (.5) at  $p < .05$  level; <sup>^</sup>performance was below chance level at  $p < .05$  level.

Separate Spearman correlation tests showed that children's performance on appearance-reality and deceptive pointing tasks were significantly correlated with their PPVT scores  $r = .30, p = .01$ ;  $r = .22, p = .02$ , with their digit span  $r = .35, p < .01$ ;  $r = .28, p = .02$ , and with their performance during the post-switch of card sorting  $r = .39, p < .01$ ;  $r = .32, p < .01$ . There was no such pattern between PPVT scores, digit span, card sorting, and the performance on the other ToM tasks.

## Discussion

Study 2 replicated the findings of Study 1 and showed that English-speaking Chinese preschoolers developed the understanding of beliefs relatively slower than other ToM tasks. Unlike their counterparts growing up in western and eastern countries such as the US and China, most 5-year-olds in the current study failed the false beliefs tasks (Sabbagh et al., 2006).

These results are contrary to Goetz's (2003) findings which showed that bilingual 3- to 4-year-old Mandarin-English bilinguals outperformed English monolinguals and Mandarin Chinese monolinguals on the appearance-reality, perspective taking, and false belief tasks. For example, among 4-year-olds, 44% of Chinese monolinguals, 50% of English monolinguals, and 55% of bilinguals passed content false belief task, which were much higher than the passing rate of Singaporean 4-year-olds. Such differences may be due to several factors. First, in Goetz's study, the bilingual children whose PPVT scores were below 64 (i.e., the lowest score of the monolingual children) were removed from the final analysis. So the PPVT scores of the bilingual children in her study were much higher than those of the current sample. Nevertheless, the passing rates of the

current participants did not improve significantly after the children who had low PPVT were removed from the analysis. For example, the passing rate of content false belief task was 4.2% for the self version and 12.7% for the other version. Second, the verbal demands embedded in the instruction may partially interfere with the Singaporean bilingual children's performance, as shown by their relatively low performance on the non-mental states task. However, the passing rates did not improve fundamentally after the children who failed the non-mental states tasks were removed from the analysis. For example, the passing rate of content false belief task was 8.3% for the self version and 16.7% for the other version. Third, the linguistic experience is different in these two samples. The bilingual children in Goetz's study were recruited in the US and these children mainly spoke Mandarin at home and English at school. They may have more experience in code-switching than code-mixing. During code switching, bilinguals need to constantly suppress the irrelevant language and activate the appropriate language. During code mixing, bilinguals do not need to inhibit any language. It is possible that code-switching experience can improve the development of inhibitory control in bilingual children whereas code-mixing experience cannot. However, the children in Singapore have more experience in code-mixing because most Singaporeans are bilingual if not trilingual. Hence there is no need for children to inhibit one language while using the other language. It is possible the code-mixing instead of code-switching experience influences the development of Singaporean preschoolers. Furthermore, the unique mixture of eastern and western cultures may also play a role. Further investigation is needed.

### **General Discussion**

The ToM development in Singaporean preschoolers is unique. Although their sequence of ToM development is similar to that of North American preschoolers, Singaporean preschoolers gain understanding of false beliefs later than the preschoolers who grow up in relatively pure western or eastern culture.

The relatively slower ToM development in Singaporean preschoolers may be explained by differences in cultural practices such as parenting style. Singaporean children who are directly told what their parents want or believe have a better understanding of others' beliefs and thinking (Qu, Koh, Wu, Hon, & Ng, 2009). Possibly these children may have more exposure to ToM-relevant experiences such as identifying discrepancies between their own and others' beliefs than their peers.

Additionally, Singaporean preschoolers' unique bilingual experience may also influence their understanding and development of mental states. Goetz (2003) proposed that compared to monolinguals, bilingual children are advanced in inhibitory control, metalinguistic understanding, and sensitivity to sociolinguistic interactions with interlocutors. It is unclear whether such advantages only exist in the bilinguals who grow up among monolinguals and constantly engage in code-switching instead of code-mixing. Whether English-speaking Chinese Singaporean preschoolers who grow up among bilinguals and constantly engage in code-mixing have any of these advantages over monolinguals deserves further examination.

### **Conclusion**

The current studies have shown that like English-speaking preschoolers growing up in the West, English-speaking Chinese Singaporean preschoolers develop the understanding of diverse desires and diverse beliefs earlier than the understanding of knowledge access and beliefs. In terms of the development of beliefs, English-speaking Chinese Singaporean preschoolers develop the understanding of the difference between appearance and reality, deception earlier than the understanding of false beliefs regarding location and content. Contrary to previous findings in both the West and East, even 5-year-olds had not fully developed the understanding of false beliefs. Together, these results suggest that the developmental pattern of ToM in English-speaking Chinese Singaporean children is unique, possibly reflecting a mix of East and West, and their unique linguistic experience.

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## A Comparison of Chinese and Western Interpretations of Cause, Will, and Free Will<sup>1</sup>

Martin E. Morf (morf@uwindsor.ca)  
University of Windsor, Canada

### Abstract

A cross-cultural comparison of how constructs overlapping with cause, will (human cause), and free will (human cause of a controversial kind) have evolved from concrete origins reflected by Chinese pictographs and the Indo-European etymologies of Greek written words. Cause-related constructs compared are Zhang Dainian's 元 (yuán), 因 (yīn), 故 (gù), and 所以 (suóyǐ) and the Greek terms *aitia* (αἰτία; “cause”), *archē* (ἀρχή; “origin”) and *genesis* (γένεσις, “genesis”). 因 (yīn) is said, for example, to show a man enclosed (by determinants, possibly prison walls), while *aitia* (“cause”) is said to be related to *aisa* (“fate”) and ultimately to the Indo-European root \*aito- (“share,” “allotment,” what fate has—concretely, it is contended here—allotted to a person). Reflections on cause lead to interpretations of the more specific cause called will, encountered as 志 (zhì) and 意志 (yìzhì) in Mandarin. Whether the ancient Greeks relied on a construct like will has been debated, but volition in some sense underlies the *hekusion* (ἐκούσιον), the voluntary. Volition immediately raises the much debated issue of whether the will is “free.” i.e., whether there is a subset of willed acts without antecedents, spontaneous, emerging *ex nihilo*. Examination of the etymologies of the characters used to translate the term free will into Chinese—自由的意志 (zìyóu de yìzhì, “freedom of the will”)—and of the Indo-European etymologies of Greek terms like *hekusion* and *prohairesis* (προαίρεσις, “deliberated choice”), suggest that neither the Chinese nor the ancient Greeks postulated the existence of free will.

### Abstract Terms

Causes are ubiquitous. In the view of most observers, everything—except events on the subatomic level of quantum physics and the mysterious “first cause”—has a cause. Cause is also an abstraction based on observations made by observers in just about every imaginable discipline, though most clearly in the natural sciences.

In the human world, the cause is sometimes said to be the will, a term often implying power (“will power”) or energy. These, in turn, are frequently associated with decisiveness and action.

Finally, the will is sometimes said to be free in a way which implies that it is an emergent generated *ex nihilo*. On this construct the spirits are divided. In the West, it has given rise to interpretations which have split psychology into two camps, often labeled determinist and libertarian. These camps seem to overlap with, and sometimes to be as far apart as, those of the evolutionists and the creationists.

The question of interest here is how these three related and highly abstract constructs evolved from more concrete beginnings in human consciousness. The underlying premise guiding the approach taken is that the best way to understand something abstract and/or complex is to find out how it came about.

### An Etymological Approach

Ontogeny is said to repeat phylogeny and one approach to the issue at hand might be to study how concrete terms and abstract concepts evolve in the course of individual development. Piaget (1971), for example, noted parallels between ontogeny and phylogeny and intensively studied how abstract notions like *conservation of volume* arise in the mind of the child.

Another approach is one suggested by a surprising source: B. F. Skinner (1989). Skinner reviewed the evolution of terms referring to mental activities like *deciding*, *analyzing*, *feeling* or *experiencing*. He did so by

<sup>1</sup>This paper extends a paper delivered at the Mid-Winter Meetings of APA Division 24 in Miami, February 26-28 2010.

looking at the etymologies of these terms of mostly Latin provenance.

This paper seeks to extend Skinner's approach by pursuing the possibilities that we can go beyond Latin in attempts to trace etymologically and philologically the origins of *cause*-related constructs. Of particular interest are two quite distinct living languages presumed to have a common origin in the deep past. The two languages are Mandarin and Greek. They are promising for two reasons. First, they have evolved quite separately in the East and the West of Eurasia. Second, Mandarin has traceable concrete origins in the pictographs and ideograms used to record it, and the etymologies of Greek words, and those of Indo-European languages in general, have been intensively studied.

The following is thus meant to outline some possibilities in the way in which the terms *cause*, *will*, and *free will* may have evolved in two quite separate contexts.

## Chinese *Cause*-Related Characters

### Zhang on cause

Zhang (2002) declares flatly that “the concept... ‘cause’” has “no counterpart in ancient Chinese works... because ancient Chinese scholarship did not emphasize analysis” (p. xlv). However, Zhang does list three characters and one two-character term which were used by Chinese scholars in the past and which overlap or allude to what in English we know as cause. These characters and the two-character word are: 元 (yuán), 故 gù, 因 yīn, and 所以 (suóyǐ). In the body of his book, Zhang lists 元 (yuán) under “concepts of growth” and the remaining three terms in a category of their own labeled “causal concepts.” He distinguishes this category from that containing “binary relations,” i.e., relations between polar opposites. This suggests that cause was not necessarily construed to be the opposite of effect and appears to reinforce Zhang's point that cause did not play an important role in Chinese scholarship.

Introducing his book, Zhang (2002, p. xlv) also presents, in passing, two terms pertaining to cause in use in modern Chinese: 因素 (yīnsù) and 元素 (yuánsù). The editor/translator of his work presents the first as “cause,” the second as “original cause.” These terms are interesting because they add the character 素 (sù) to those one might expect to relate to the notion of cause.

The online dictionary of modern Chinese at nciku.com (NCIKU, 2010) translates cause as 起因 (qǐyīn), introducing a final character of interest here in relation to cause: 起 (qǐ).

### 元 (yuán), 素 (sù), 元素 (yuánsù)

元 (yuán; “origin, beginning”) has been derived from a pictograph showing a person with an exaggerated head. The head being the prime part of the human body, the character came to mean “the origin” (e.g., Henshall, 1998, p. 30). In Japanese, 元 has retained this ancient meaning, in Mandarin it still contributes this meaning of origin in the two-character word 元素 (yuánsù). See below).

素 (sù) can be disassembled into three components, each of which is a character on its own (e.g., Henshall, 1998, p. 229). On a first level, there are 絲 (sī; “thread”) and 垂 (chuí; “drooping, hanging down”). On a second level, 垂 (chuí) turns out to contain 土 (tǔ; “earth, soil”). Each of these component characters comes with its own etymology, some of these are more persuasive than others. 土 (tǔ), for example, is said to be derived from a pictograph showing a “clod of earth on the ground” by Henshall (1998) and from a “plant sprouting out of the earth” by Yoshida et al. (1969). Together these various elements are said to give 素 (sù) meanings like “elemental, primitive, basic, original.”

One might expect the combination 元素 (yuánsù) to mean something like basic or ultimate cause. However, the Nciku.com dictionary translates it most frequently as “factors” in the context of “all factors” or “every factor.” Although the meanings “cause” and “element” (*sensu* “factor,” “determinant”) of the two characters overlap, they do not appear to combine in a particularly obvious way to produce a more specific meaning than either does separately.

因 (yīn), 起 (qǐ), 因素 (yīnsù), 起因 (qǐyīn)

因 (yīn) is said to show a man in an enclosure which some interpret to be a prison and others the house of a host offering shelter. The character's meanings include "cause," "because," "to depend on." There is no obvious pictographic root meaning of the character here, but the focus may originally have been the power of the prison warden or the host to cause things to happen for the enclosed one. The "prison" interpretation is interesting because, in the medieval West, cause denoted a legal cause or case long before it re-acquired its Roman and now present very broad meaning of "thing that has effects," "mover," etc. (e.g., Barfield, 1985; McNaughton & Li, 1999; Kluge; 1975).

起 (qǐ) is confusingly rich in identifiable components which may throw light on its origins and its meaning. On a first level we have 走 (zǒu) and 己 (jǐ), and on a second level 走 turns out to contain 止 (shǐ). Henshall (1998, p. 72) notes that 己 (jǐ) serves as sound element but also contributes the meaning "rearing up" (like a stopped or cornered snake) to 起 (qǐ). 走 means "walk" and its subcomponent 止 means "stop." He endorses the view that 起 (qǐ) can mean "rearing, to rise, arise, occur, cause."

What does this tell us about the modern term 起因 (qǐyīn)? It seems fairly clear that both characters of this word point to cause, 因 in a more general way ("the thing that has effects"), 起 in a more specific way ("something that moves," perhaps like Hume's apparently causal billiard ball).

故 (gù) and 所以 (suóyǐ)

The right half of 故 (gù) is said to represent "a stick in the hand" and to mean "coerce" while the right half is derived from the character meaning "old." Henshall (1998, p. 207) explains its meanings "cause" and "reason" (in the sense of cause) by alluding to something in the past which compels us to do something.

The two characters of Zhang's binome 所以 (suóyǐ) do not overlap with the cause-related characters discussed so far. At least one ancient meaning of the term is hinted at—and contrasted with the meaning of 故 (gù) in a passage Zhang quotes from the Laozi: "That by which (suoyi) rivers are the kings of the valleys is that they are able to descend; thus (gu) they are able to be kings of the valleys..." (Zhang, 2002, p. 277). In this context 所以 (suóyǐ) can be translated, as do Zhang and his translator Ryden, as "the reason why" and 故 (gù) simply as "thus", i.e. as "it follows."

Henshall (1998, p. 93) traces an elaborate derivation of 所 (suó) focusing on the left side of the character meaning "door" and pronounced, in Japanese, ko, cho, and sho and on the right side meaning "axe" and "chop." It appears the left side serves both as sound element and perhaps as "place," originally in the sense of "door" at which the wood was chopped. From "place" the meaning extended to the more abstract "situation" in the sense of "circumstances."

Henshall's (1998, p. 128) suggestions concerning the origins of 以 (yǐ) center on the idea that an original pictograph from which it is derived depicted a person behind a plow. The concrete utensil "plow" may be the origin of a more abstract notion of "means" through which effects are achieved.

Together the two characters 所以 (suóyǐ) appear to have the meanings like "the reason why" in ancient Chinese and of rather vague notions like "so" and even "the" offered by nciku.com in modern Mandarin.

## Greek Variants of Cause

Αἰτία (aitia; "cause")

In the Indo-European languages the two most widely used terms referring to determinants, antecedents, agents, movers etc. are the Greek *aitia* and the Latin *causa*. Cicero is sometimes cited as a Roman author who dealt with the Greeks' notion of *aitia* and who translated it, or followed the practice of translating it, as *causa*. The etymological roots of *causa* appear to be a mystery (e.g., Buck, 1949). There is, however, an interesting connection between the Greek and the Latin terms, and the Greek term has been traced to its proto-Indo-European origins. The connection is this: Both *aitia*, in particular in the forms *aition* (e.g., "agent") and *aitios* (an adjective translated not only as "responsible," but also as downright "culpable") refer not solely to physical causes but in large part to human causes. Cicero was a lawyer and Romans had a penchant to *ac-cuse* and to take their *cause* or *case* to court. *Cause*, whatever its etymology might have been, was intimately connected with one's

case, one's explanation, one's arguments about what and who did (caused) what. In the Germanic world the word *Ursache*, the translation of *causa* into Germanic or German, attests to this legal meaning of cause since one's *Sache* is one's case and an *Ur-sache* is something that initiated a chain of other *Sachen*.

Given the implications of culpability, responsibility, and legal argumentations of both *aitia* and *causa*, and given that *causa* is an etymological dead end, the speculations about the etymology—i.e., the roots in human consciousness—of *aitia*, *aition*, and *aitios* are of interest because they throw light on human pondering of origins and explanations that take us much further back in time than even the times of the first Romans, the iron age shepherds on the seven hills of the time of Romulus and Remus circa 800 BC.

In a nutshell, the etymology of interest here can be represented as: *Aitia* (explanation), *aition* (agent), *aitios* (responsible, culpable) <= Greek *aisa* (fate) <= Indo-European \**aito-* (share, allotment; what fate has allotted) <= Indo-European \**ai-* (to give, to allot, e.g. Buck, 1949, p. 1183; *Chambers Dictionary of Etymology*, 1988, p. 346).

This etymology points to the early Greeks' conceptions of cause: The Greeks of the first western world we know—that of Homer—explained their world in the fatalistic way of Antiquity. The gods, Zeus in particular, determine human fate. But even the gods, including Zeus himself, operate within limits: those set by the mysterious, baffling, and implacable three *moirae*. In Greek mythology these ultimate causes or agents change shape, but in the time of Hesiod they were Klotho, the spinner; Lachesis, the allotter; and Atropos, the inflexible one. The notion of ultimate causes as constituting an allotment and the associated fatalism are deeply rooted in Western culture and similar threesomes appear at other times ranging from the Erynies of Aeschylus's *Oresteia*, the Furies, the Roman *Parcae*, the Germanic *Parzen* or *Nornen*, perhaps the three witches of Shakespeare's *Macbeth*.

In the Aristotelian explanation of how the pot came into being, four elements or causes play a role. They are the clay, *hyle*, the *causa materialis*; the desired or anticipated form of the pot, *eidos*, the *causa formalis*; the idea of what the pot is for, *telos*, the *causa finalis*; and the potter whose hands and tools actually impact on and shape the clay, the *causa efficiens*. Only the last of these pertains to modern *cause*—we see the world as pushed by the past rather than pulled by the future. (This last of Aristotle's four causes also happens to be the one always referred to by its Latin label, never—as far as admittedly non-exhaustive research suggests—by the Greek word or words Aristotle himself must have used.). Modern interpretations indicate that Aristotle used the word *aitia* in the sense of “explanation” to refer to all four of these causes acting together (Hankinson, 1998, p. 238).

The connection between cause and guilt suggests that the notion of will, or something resembling it, appeared as early as the more general abstract notion of cause. Indeed, it has been suggested that *aitios* was initially, and in the Homeric epics, applied to sentient agents, and that it only later was applied to natural and historical causes like the plague “responsible” for the deaths of many Athenians in the fifth century (Hankinson, 1998, p. 73).

### **Ἀρχὴ (archē; “origin”) and γένεσις (genesis, “genesis”).**

Two other Greek terms which convey the sense of cause in one way or another are *archē* (“origin, principle”) and *genesis*. Both are deeply embedded in the various European languages greatly influenced by Greek.

*Archē* is said to overlap greatly with *aitia* (Nussbaum, 1986, p. 282). Its etymology leads to the Greek verb *arkhein* (literally “to begin,” as in *ancient*, *archaeology*, and *archive*; figuratively “to take the lead,” as in *monarchy* and *architect* (Claiborne, 1989, p. 53). *Genesis* has been linked to the Greek verb *gignesthai* (“to be born”) and to the Indo-European root \**gen(h)-* (“to beget,” “to give birth”). It is reflected by words like *generate*, *gene*, *progeny*, *kin*, *genital*, *congenital* and many more.

## **Will**

### **Chinese notions of will: 志 (zhì, “will”), 意志 (yìzhì, also “will”)**

Both Zhang (2002) and the online NCIKU dictionary (NCIKU, 2010) translate “will” as 意志 (yìzhì). Of the two characters comprising this term, the second seems to be the more central one. 志 (zhì) by itself is also translated as “will.” The lower half of the character is 心 (xīn, “heart-mind”); the upper part is 土 (tǔ, “earth,



soil”). This second component is a sound component, but it also modifies the meaning component . According to Henshall (1998, p. 215), 志 is sometimes interpreted as “warrior plus heart” but appears more likely to have represented an “emerging plant plus heart.” 志 is said to mean “movement of the heart.”

意 (yì) is variously translated as “feelings, sentiment, intention.” It combines 音 (yīn, “tone, sound”; “mouth blowing a flute”; Yoshida et al., 1969) with 心 (xīn, “heart-mind”). It is said to mean “oral expression of a thought” (Yoshida et al., 1969). The expression 任意 (rènyì; “arbitrarily,” “at will,” “random”) suggests that 意 points to something quite different from the Western kind of “will” with its connotations of will power and self-determination.

The concrete roots of the word 意志 (yìzhì) thus point to 心 (xīn; “heart”) and, to a lesser extent, to speaking, perhaps fighting, and to emerging (from the ground). 意志 denotes things that arise in an organic manner, from within, or both. Its meaning seems to be quite different from that of the Western will which emanates with often explosive force from the cortex and/or from the faculty of ratio.

### Εκούσιον (hekusion, “the voluntary”); βούλομαι (bulomai; “to will, to wish”), and θελω (thelo)

Homeric Greece may not have had a word to express the idea of (human) will or volition (Jaynes, 1976, pp. 70-71). Onians (1973, p. 303) points out the striking fact that the Homeric heroes, however great in battle, are not great decision-makers and are presented as mere puppets manipulated by the gods. By the 5th century, Athenian philosophers made a distinction which on the surface might look as implying human will: Some actions are *hekusios* and most are *akusios*. The terms *hekusion* and *akusion* have typically been translated as “the voluntary” and “the involuntary.”

However, commentators on Aristotle in particular have noted that the Greeks’ distinction and the modern one are not equivalent (e.g., Liao, 2009; Siegler, 1968). For example, while an action is *hekusios* in Aristotle’s sense, and thus subject to ethical judgement, if the organism is its origin (*archē*), the organism could be a child or an animal and the action could be something as mundane as brushing one’s teeth.

Perhaps the ancient Greeks did not have a word for *will* in our modern sense of a mover or agent, but *boulomai* (“to will”) and *boulesis* (“will”) approach our meaning. The following etymology of *boulomai* (Buck, 1949, p. 1160) is suggestive: *boulomai* (“to will, to make a choice”) <=*boule* (“counsel, Council”) <=*ballomai* (“cast about in the mind, ponder, resolve”) <=*ballo* (“throw, put”) <=*Indo-European \*gwel* and other roots such as *\*wel* (related to Latin *volere*, English volition).

It should be noted that *thelo* is another widely used Greek term of interest. It is translated as both “will” and “wish.”

## Free will

### 自由的意志 (zìyóu de yìzhì)

This brings us to the extremely controversial subcategory of will called *free will*. Free will is usually translated into Chinese as 自由的意志 (zìyóu de yìzhì). The last two of the characters of this term have been unpacked earlier, the third character 的 (de) in this context is translated as “of” (it also can mean “from,” “to,” etc.). What remains is the two-character word 自由 (zìyóu; “free, freedom”).

自 (zì) is derived from the pictogram representing a nose. The term still means “nose,” it also means “self.”

由 (yóu) has a complicated etymology. Henshall (1998, p. 120) derives it from a pictograph representing a basket and, more specifically, a wine press. An earlier version of 由 is said to depict “drops falling from the basket.” The drops depend on the basket; it is their source, origin, cause. Yoshida et al. (1969) think of the original pictograph as depicting fruit hanging from a branch: the fruit is dependent on the branch. Both sources translate 由 as “to depend on.”

Together, 自 (zì) and 由 (yóu) seem to reinforce and make more specific each other’s meanings of “self” and “depending on”: Freedom of the will according to this reading appears to be the compatibilist freedom of self-determination and agential action in the soft-determinist sense of Deci and Ryan (2008) and Bandura (2008).



### Προαιρεσις (prohairesis, “deliberated choice”)

If the Greeks had no term for will, one cannot expect them to have one for free will. It is worthwhile, however, to consider their term *prohairesis* (προαιρεσις). Some have translated it as “free will” (Hirschberger, 1976), others as “deliberated choice” (e.g., Robinson, 1989). Clearly the possibility of free will did not arise in Homeric Greece, but did it, for example, in the work of Aristotle? Scholars do not agree whether Aristotle was a determinist (Irwin, 1980, see Robinson, 1989) or whether he was—implicitly or explicitly—a libertarian (Hardie, 1968; Hirschberger, 1976; Huby, 1967; Sappington, 1990). It seems parsimonious to think of him as a determinist.

### Will and Free Will as Recent Western Constructions

The present, extremely cursory, comparison between Mandarin and Greek terms pertaining to *cause*, *will*, and *free will* offers hints to what on the surface appears to be a spectacular evolution of human terms and constructs which help make sense of the world.

A closer look suggests a gradual rather than a punctuated evolution: Later abstractions usually evolved step-by-step from earlier concrete observations and actions. In the case of Mandarin, concrete perceptions have been depicted in pictographs like 囚 (yīn) which is said to show a man enclosed (by determinants, possibly prison walls). In the case of Greek, concrete activities have been expressed originally in Indo-European roots like *\*aito* (“to give”).

A closer look also suggests the Chinese understanding of *cause* is more holistic and intuitive than the Western understanding which has focused more on analysis of causal sequences in the service of prediction and control. It seems to confirm the prevalent Western view that in China the will of the individual has less significance than it does in the West. Finally, it suggests that the notion of free will in the libertarian sense quite sensibly exists in China only as a concept occurring in translations of Western writings. Much more detailed analyses, by investigators more deeply steeped in Chinese culture, philosophy, and language, is clearly required. Much relevant research is most likely already available on either side of the still formidable Great Wall separating Eastern and Western cultures. But in a nutshell: The issue of free will does not appear to have arisen in the construction and evolution of ideas about *cause* in China.

Similarly, their ideas pertaining to *cause* suggests that the Greeks had a sophisticated vocabulary for describing and identifying causal agents, that they originally saw causes as sentient agents but that these agents were not modern Sartrean agents making courageous decisions, they were basically manifestations—usually personifications—of fate. The actions of Zeus himself had to fit within the possibilities defined by more primary, primal, or primitive powers the Greeks labeled *Chronos*, *Uranos*, and the *moirae*. The Ancient Greeks, both Homeric and Aristotelian, are said *not* to have had a concept that corresponds to the modern will, qua power emanating from an actor, leader, or hero. Whether the Greeks interpreted *will* and *free will* in the modern sense is thus doubtful in the first case and extremely unlikely in the case of the second.

Tracing the history of cause-related terms in both the East past and present and in the Greek origins of Western philosophy may thus lend support to the view that the notion of free will is a recent and western invention (e.g., Bandura, 2008). If that is what it is, one may ask why other cultures have done without it and, in the process, have avoided the fundamental conflict pitting determinists and libertarians against each other in the West.

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# **Social, Cultural, and Environmental Drivers of International Students' Fear of Crime: A Cognitive Behavioral Perspective**

**Lin Xiong** (lin.xiong@rmit.edu.au)  
RMIT University, Australia

**Kosmas X. Smyrniotis** (kosmas.smyrniotis@rmit.edu.au)  
RMIT University, Australia

## **Abstract**

This investigation develops and tests an hypothesised Cognitive Behavioral Fear of Crime Model. Mass media reports of crimes against international students have raised public awareness, questions about racially-oriented victimization, and the need for appropriate preventative strategies. Drawing upon Culture Shock Theory, this study proposes that international students are a vulnerable group, showing elevated levels of fear of crime, perceived risk, and avoidance behaviors. Five-hundred and ninety-one international students across four universities participated in either an online or hardcopy questionnaire survey, the measures of which were adapted from related studies. Structural Equation Modelling demonstrates a nonrecursive relationship between perceived risk, fear of crime, and avoidance behavior, supporting cognitive behavioral theory as an appropriate theoretical conceptualization for investigating fear of crime. Results show that young and female international students express significantly higher levels of fear of crime than their older and male counterparts. International students, who report high levels of social disorder and feel as an outsider or that it is difficult to make friends, express elevated perceived risk and fear of crime. Direct victimization, perceived cultural distance, and host attitudes influence fear of crime and avoidance behavior indirectly via perceived risk. Intriguingly, international students' perceived prejudice by local residents is a nonsignificant predictor of perceived risk and fear of crime. Findings suggest the importance of social integration, social disorder, cultural differences, and attitudes of locals when it comes to international students' perceived risk and fear of crime.

## **Introduction**

An in-depth review of the pertinent literature suggests a dearth of studies investigating international students' fear of crime. Literature on international students focuses mainly on the positive or negative consequences of culture shock, such as academic performance, socio-cultural, and psychological adaptations (Khawaja & Dempsey, 2008). Although fear of crime research has been well developed in the criminology area, adult residents are the main participants, with limited studies addressing students' fear of crime (May & Dunaway, 2000; McConnell, 1997).

Recruitment of international students has brought substantial financial benefits to host countries (Andrade, 2006). Education services provided in Australia to overseas students was estimated at \$14.2 billion in export earnings in the financial year 2007–08 (ABS, 2008), making it the third largest export dollar earner after coal and iron ore (AEI, 2009). Full-fee paying overseas students play an important role in revenue sources for Australian universities, representing 15% of all revenue within the higher education sector (DEST, 2005). Also, international education exports make significant contributions to employment (Braley, Noonan, Nugent, & Scales, 2008), optimize the range and quality of educational programmes, and provide opportunity to expand locals' knowledge of different cultures (ABS, 2007).

In recent times mass media and other publications have reported an increase in the number of crimes against international students, culminating in murder (Robby, 2005), racial attack (Millar & Doherty, 2009), theft (Allen, 1999), and racial discrimination (Poyrazli & Lopez, 2007). This racially-oriented violence has raised public awareness and the need for appropriate preventative strategies. For example, sequential racial attacks on Indian students in Melbourne (Millar & Doherty, 2009) have led to heightened levels of fear of victimization among on-shore international students, resulting in a number of negative consequences, such as on-shore Indian students' terminating their study prematurely; a dramatic drop (50%) in student visa applications in 2009 and 2010; and threats to the future of Australia's international education sector and reputation (Mercer, 2010; Rao, 2010).

Do international students encounter high levels of victimization? What are key factors contributing to international students' fear of crime? Driven by these questions, this study aims to investigate international students' fear of crime from cultural, social, environmental, and personal perspectives. Drawing upon the culture shock thesis (Oberg, 1954), this investigation holds that being in an unfamiliar culture, international students are likely to express heightened levels of fear of crime and perceived risk. Cognitive-behavioral theory underpins the current research on the ground that fear of crime has been conceptually viewed as a multidimensional psychological phenomenon, comprising cognitive (i.e., perceived risk), emotional (i.e., fear of crime), and behavioral (i.e., avoidance or protective) facets (Gabriel & Greve, 2003).

For these reasons, the current investigation views various facets of fear of crime from a better cognitive, emotional, and behavioral perspective, and integrates pertinent elements of two important research streams involving international students and fear of crime, the topics of which have been largely investigated independently of one another. This confluence of multi-discipline (i.e., psychology, criminology, sociology, and education) and multi-perspectives (i.e., social, environmental, cultural, psychological, and personal) provides an in-depth understanding of the nature, causes, and consequences of international students' fear of crime.

### **Culture Shock Thesis**

Culture shock was first introduced by anthropologist Oberg (1954) as an occupational disease of people who have been suddenly transplanted abroad, precipitated by anxiety resulting from losing all familiar signs and symbols of social intercourse. International students, tourists, international businessmen and businesswomen, refugees, and immigrants are prone to experience culture shock (Ward, Bochner, & Furnham, 2001).

There is a wide range of symptoms of culture shock: sense of loss, confusion, isolation, fearfulness, distrust, depression, helplessness, vulnerability, self-doubt, anxiety, and suspiciousness. Those symptoms can result in a number of behaviors, including excessive hand washing; feelings of helplessness and a desire for dependence on long-term residents of one's own nationality; fits of anger over delays and other minor frustrations; delay and outright refusal to learn the language of the host country; excessive fear of being cheated, robbed, or injured; and longing to be back home (Oberg, 1954).

Both positive and negative outcomes relating to international students' culture shock have been well developed and redefined as cross-cultural adjustment, culture learning, or cultural adjustment stress (Chapdelaine & Alexitch, 2004). Students who perceive high levels of cultural differences and have limited social interaction with host students show intensive levels of culture shock and poor adjustment (Poyrazli & Lopez, 2007). Unfavourable experiences and negative host attitudes also affect international students' psychological well-being and cultural adjustment (Spencer-Rodgers, 2001).

Forbes-Mewett and Nyland (2008) reported that being in an unfamiliar culture affects students' levels of safety and security. Allen (1999) noted that educational tourists are more likely to be victimized when compared with those who visit for vacation and business purposes. On the grounds of the culture shock thesis, it is reasonable to hypothesize that international students are prone to express high levels of fear of crime and perceived risk owing to living in a new culture with different values and rules, encouraging them to avoid certain places and behaviours at particular times, thus reducing their likelihood of being victimized. The following section discusses prior research on fear of crime.

### **Fear of Crime**

Fear of crime can be defined as "an emotional response of dread or anxiety to crime or symbols that a person associates with crime" (Ferraro, 1995). Fear of crime can lead to many negative consequences, such as increased levels of anxiety, depression, or other psychological sequelae, heightened interpersonal distrust, deteriorative social cohesion and control, behavioral restriction, and withdrawal from the community (Schafer, Huebner, & Bynum, 2006; Wyant, 2008).

It has been widely accepted that fear of crime is a product of individual-level information processing, highly related to personal vulnerability to crime, and perceptions of ecological setting conditions and dynamics (Wyant, 2008). Physical and social vulnerability observed through personal characteristics are found to be significantly related to fear of crime (Ferraro, 1995). In general, the elderly (Evans & Fletcher, 2000), female



(Ferraro, 1995), prior victims (Wyant, 2008), minorities (Perkins & Taylor, 1996), and people with lower education (LaGrange, Ferraro, & Supancic, 1992) and poor health (Lee & Ulmer, 2000) express heightened levels of fear of crime and perceived risk.

Also, ecological factors involving perceptions of disorder and social integration influence fear of crime. Social integration serves to diminish residents' perceptions of danger in the neighbourhood (Rountree & Land, 1996), as social integration is the initial step in the process of people getting to know each other (Gibson, Zhao, Lovrich, & Gaffney, 2002). Perceptions of high levels of physical and social disorder, such as proliferation of unsupervised teenagers, prostitutes, and drug users are more likely to lead to high levels of fear of crime, as these signals communicate that no one cares (Bennett & Flavin, 1994). Anxiety, helplessness, withdrawal, and propagation of disorderly conditions generate increasing levels of fear of crime (Schafer, et al., 2006). Disorder can also be viewed as powerful as crime itself in generating and elevating feelings of fear (Maxfield, 1984).

A growing body of evidence (Carmen, Polk, Segal, & Bing, 2000) shows that students are fearful of being a victim of crimes on campus, especially at night, and in open and outside campus areas. Female students express higher levels of fear than their male counterparts. The following section provides a review of cognitive-behavioral theory underpinning this research.

### **Cognitive-Behavioral Theory**

There is no single definition of cognitive-behavioral theory (Kalodner, 2007). It is best conceptualized as a set of related theories that emphasize that "cognitive activity" and "behavior" are fundamentally different (Hupp, Reitman, & Jewell, 2008), and that cognition plays an important role in behavior change (Kalodner, 2007). Rational-emotive therapy (RET) (Ellis, 1962), cognitive therapy (CT) (Beck, 1976), cognitive-behavior modification (Meichenbaum, 1977), and problem-solving training (D'Zurilla & Goldfried, 1971) are the leading models.

Beck's CT, also labelled as cognitive behavior therapy (CBT) was initially developed for understanding and treating depression and anxiety disorders. The central tenets of CBT are: cognitions have a controlling influence on emotions and behaviors; cognitive activity can be monitored and altered; and how we act or behave can strongly affect thoughts and emotions (Kalodner, 2007). Cognitive processing plays a central role because individuals continually appraise the significance of events (e.g., stressful events, memories) around and within them (Wright, Basco, & Thase, 2006).

Based on CBT, it is taken that if international students experience difficult or traumatic life events (i.e., being victimized) during their residence, then they would be more likely to develop negative core beliefs and assumptions (i.e., unsafe or disrupted environment) than nonvictims. These negative beliefs can develop into everyday negative automatic thoughts (i.e., risk of victimization) and feelings (i.e., fear of crime), and in turn change their behaviors (i.e., constraining their day-to-day activities). In turn, behavioral changes would increase their cognitive assessment of potential risk and crime in the future, and thus accentuate emotional reactions to crime (Liska, Sanchirico, & Reed, 1988). The following section discusses the present methodology.

## **Method**

### **Participants and procedures**

Via both an online survey and hand-out of hardcopy questionnaires, 591 on-campus international students across four Melbourne universities participated in this study from March to May, 2009. The majority of participants were female (60.8%), aged 18-25 (81%), and studying at an undergraduate level (69.7%). 90% of students rated their health as *Good to Excellent*. Almost 53% of international students shared their accommodation with other individuals, with 16.1% living in single-person households. 30.6% of international students had been in Melbourne for 1-2 years, followed by those who had lived here for 3-4 years (26.0%), or less than 6 months (25.3%). 8.6% of international students rated their English speaking ability as *Not at all Fluent*. 84% of international students disagree that *the culture differences between Australia and their home country are very small*. A significant number of international students report relatively high levels of *having been cheated out of money* (20.3%); and *having been attacked, threatened, or verbally abused owing to their ethnic origin* (18.4%).



## Measures

Measures of the present Fear of Crime questionnaire (FCQ) were adapted from related literature (Evans & Fletcher, 2000; Gibson, et al., 2002). Along with the description of measures, results of Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) are reported. Harman's one-factor test (Podsakoff, MacKenzie, Jeong-Yeon, & Podsakoff, 2003) and testing for social desirability (Marlowe & Crowne, 1961) suggest that common method effects are unlikely contaminants of the present results.

*Fear of Crime.* According to Ferraro (1995), fear of crime constitutes eight specific crime items: *being cheated out of money; having your room broken into while you are away/there; being raped, sexually assaulted or harassed; being physically attacked (e.g., assaulted or kidnapped); being robbed or mugged; having your car stolen or things stolen from your car; and being attacked/harassed, threatened, or verbally abused owing to your ethnic origin.* Five-point Likert scales, ranging from 1=*Not at all Afraid* to 5=*Extremely Afraid*, were used. An EFA of these eight offenses provides a one factor solution explaining 65.59% of variance. A CFA resulted in a reasonable fitting measure, with factor loadings ranging from .61 to .88. CR (.81), Cronbach's alpha ( $\alpha = .87$ ), and VE (.51) indicating sound reliability levels.

*Perceived Risk.* The same eight Fear of Crime items were utilized to tap participants' cognitive assessment of the likelihood of being a victim over the ensuing 12 months. Five-point Likert-type scales were used, ranging from 1=*Extremely Unlikely* to 5=*Extremely Likely*. Sections of fear of crime and perceived risk were not contiguous in FCQ so that participants were unlikely to recall their ratings for fear of a crime when estimating perceived risk for the same crime (Ferraro, 1995). Similarly, an EFA resulted in a one factor solution explaining 62.54% of variance. A CFA of this one factor solution culminated in a sound fitting measure, with factor loadings ranging from .62 to .88. Although VE (.44) was relatively low, CR (.79) and Cronbach's alpha ( $\alpha = .84$ ) were acceptable.

*Avoidance Adaptation.* Respondents were asked to rate on a 5-point Likert-type scale, ranging from 1=*Never* to 5=*Often*, 7 items investigating participants' avoidance reactions to crime: *how often does fear of crime prevent you from walking in the neighbourhood after dark; walking in the city after dark; leaving home when it is dark; opening the door to strangers in the evening or at night; attending outside activities or events (e.g., sports, religious events or movie); visiting night spots/clubs/bars; and visiting certain areas.* An EFA resulted in a one factor solution explaining 55.48% of variance. A CFA indicated a good-fit, with factor loadings ranging from .51 to .89. CR (.80), VE (.51), and Cronbach's alpha ( $\alpha = .85$ ) indicated sound levels of reliability.

*Victimization.* As suggested by Evans and Fletcher (2000), measures of both direct and indirect victimization were used to evaluate their impact on fear of crime. The same eight Fear of Crime types were utilized to determine whether respondents had been exposed to any offenses over the previous 12 months (or since their arrival in Melbourne). Responses were coded 1 (*Yes*) and 0 (*No*). Two composite scales were developed to decrease nonnormality of data.

*Environmental Disorder.* This construct was assessed through perceptions of disorder. Eight items were selected from Katz et al. (2003) and Evans and Fletcher (2000): *litter and trash lying around; poor street lighting; Groups of teenagers fighting, vandalizing, or harassing; people drunk in public; prostitution; harassment, threatening behavior, or verbal abuse in the street; drug dealing and drug offers; and racial harassment or attack.* Five-point Likert-type scales ranging from 1=*Not at all Serious* to 5=*Very Serious* were utilized. An EFA suggested a one factor solution. A CFA of this one factor solution resulted in a reasonable fitting measure, with factor loadings ranging from .66 to .84. Cronbach's alpha ( $\alpha = .86$ ), CR (.79), and VE score (.50) indicate sound levels of reliability.

*Social Integration.* Two items (i.e., *It is difficult to meet and make new friends in Melbourne; I always feel that I am an outsider*) were used to assess international students' perceptions of social integration. Participants were asked to rate statements on a five-point Likert scale, ranging from 1=*Strongly Disagree* to 5=*Strong Agree*.

*Cultural factors.* Cultural influences were assessed from three perspectives: cultural distance between Australia and their home country, feelings of prejudice, and perceived host attitudes. In terms of host attitudes, participants were asked to rate two statements on a five-point scale, ranging from 1=*Strongly Disagree* to 5=*Strong*

Agree, in response to: *Overall, people in Melbourne are accepting of people from other culture/religions.*

*Demographics.* Nine socio-demographic factors were employed, involving age, gender, education, length of residency, living arrangements, English speaking ability, romantic relationship status, home arrangement, and health.

### Data Analyses

EFA, CFA, and Structural Equation Modelling (SEM) were used to analyse data. The present sample was split randomly in half for EFA and CFA, in order to confirm both the reliability and “goodness-of-fit” of theory-based measures (Fabrigar, Wegener, MacCallum, & Strahan, 1999). All constructs demonstrated sound fit, providing further support for testing the proposed model.

According to Hu and Bentler (1998), multiple criteria are used to assess the goodness-of-fit of a hypothesized model, including Normed Chi-square (i.e., the ratio of  $\chi^2$  to df -  $\chi^2/df$ ), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root-Mean-Square Residual (SRMR). The ML-based RMSEA is less sensitive to distribution and sample size than Chi-square (Hu & Bentler, 1998); a value of about .05 or less reflects a model of close fit, whereas values between .05 and .08 indicate reasonable fit (Browne & Cudeck, 1993). The cut-off points for CFI and TLI are .90, and .05 for SRMR.

### Results

This section focuses on findings of the structural equation model. The Type I error rate was set at  $\alpha=.05$ . Figure 1 shows the final path model, containing seven latent constructs and five observed indicators. Nonsignificant paths and factors (i.e., indirect victimization, English speaking ability, romantic relationship status, home arrangement, and perceived prejudice) were excluded. Goodness-of-fit indices exceeded acceptable levels ( $\chi^2(305)=704.959$ ,  $\chi^2/df=2.311$ , TLI=.911, CFI=.928, RMSEA=.049, and SRMR=.046), indicating a reliable and robust fit between the present conceptual model and sample covariances.

Findings show nonrecursive and positive relationships between perceived risk, fear of crime, and avoidance adaptation, with a stability index=.033. In terms of explanatory power, the model accounts for 23.6% of variance in perceived risk, 22.7% of variance in fear of crime, and 12.1% of variance in avoidance behavior, all of which are sufficiently high to make examination of path coefficients practically meaningful.

Results indicate that disorder (.30,  $t=5.91$ ) and gender (.13,  $t=3.08$ ) are related positively and significantly to fear of crime. However, social integration (-.17,  $t=-2.71$ ), Living Arrangement (-.10,  $t=-2.26$ ), age (-.14,  $t=-3.13$ ), and health (-.11  $t=-2.61$ ) have a negative impact on fear of crime, respectively. With regard to cognitive assessment of risk, disorder (.20,  $t=4.19$ ), culture distance (.16,  $t=3.55$ ), and direct victimization (.21,  $t=4.415$ ), each influence perceived risk positively and significantly. Social integration (-.17,  $t=-2.65$ ), gender (-.09,  $t=-2.16$ ), and host attitudes (-.14,  $t=-2.59$ ) are related to this construct negatively and significantly. Direct victimization influences fear of crime indirectly via perceived risk. All independent factors have an indirect impact on avoidance behavior via perceived risk and fear of crime.

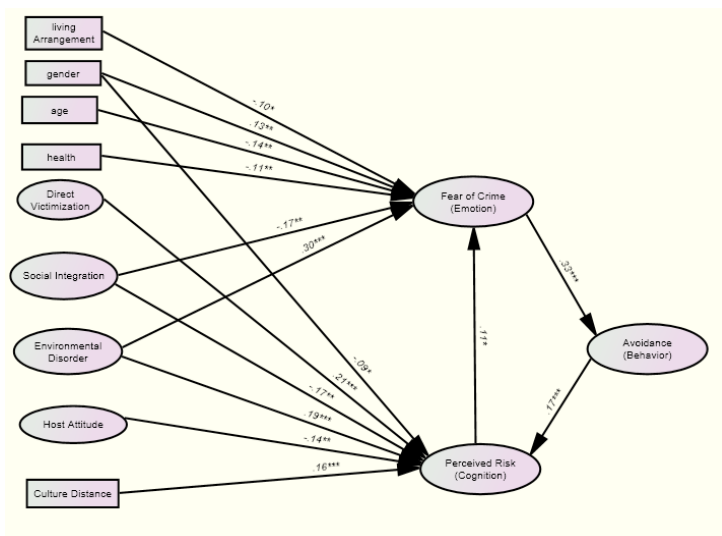


Figure 1: Cognitive-behavioral fear of crime model.

Note. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Nonsignificant relationships are not indicated.

$R^2$  for Fear of Crime = 22.7%.  $R^2$  for Avoidance = 12.1%.

## Discussion

This study investigated international students' fear of crime, perceived risk, and avoidance behavior from cultural, social, environmental, and personal perspectives. The multidimensional nature of fear of crime was explored from a cognitive-behavioral theory perspective. Nonrecursive relationships between perceived risk, fear of crime, and avoidance behaviour suggest that cognitive-behavioral theory is appropriate in understanding fear of crime. International students who report high levels of perceived risk show heightened levels of fear of crime, and avoid walking in the neighbourhood or city after dark, leaving their accommodation after dark, or opening the door to strangers in the evening.

Consistent with the culture shock thesis, international students who perceive a large culture gap between Australia and their home country, and report negative host attitudes, express high levels of perceived risk, which in turn indirectly influence their fear of crime and avoidance behavior. As expected, fear of crime results from geographical distance, influent English communication skills, lack of social support, being away from families, and holding different values, beliefs, and associated behaviors.

Environmental disorder is a significant and potent factor influencing fear of crime and perceived risk (Ferguson & Mindel, 2007). International students who perceive high levels of disorder in the community such as groups of teenagers fighting, threatening behavior or verbal abuse in the street, drug dealing, and racial harassment or attack, report elevated levels of perceived risk and fear of crime, and constraints on their behavior. This result suggests that when international students believe that disorder is prevalent in the community, such beliefs culminate in actual consequences (i.e., constrained behavior) (Schafer, et al., 2006).

Another salient finding is the negative effect of social integration on fear of crime. International students who feel as outsiders or report difficulties making friends report heightened levels of fear of crime and perceived risk. This finding is consistent with fear of crime literature (Adams & Serpe, 2000; Rountree & Land, 1996) demonstrating that social integration involving socialization, interaction, and attachment to the local community can help to alleviate feelings of fear (Delone, 2008). Chapdelaine and Alexitch (2004) stated that social interaction with hosts plays an important role in international students' adjustment and ability to overcome loneliness. In other words, international students who have appropriate friends from a host culture are more likely to learn skills, rules, and values of the host culture than those whose friends are compatriots (Furnham & Bochner, 1986). In the light of these findings, international students who tend to interact with co-na-

tionals hinder their social integration levels (Chapdelaine & Alexitch, 2004).

In terms of demographics, international students who are young and have been in Melbourne a short time express high levels of fear of crime. Possible explanations relate to being away from families, lack of social support, and their lifestyle. Ho, Li, Cooper, and Holmes (2007) reported that Chinese students studying in New Zealand spend substantial periods of time gambling, boy-racing, or even being involved in prostitution, drug addiction, and gang activities, increasing their likelihood of being victimized. Poor health also increases international students' feelings of physical vulnerability and levels of fear of crime (Moore & Shepherd, 2007). Interestingly, the influence of gender differed for fear of crime and perceived risk. Female students reported accentuated fear of crime which is consistent with prior literature (Ferguson & Mindel, 2007; Schafer, et al., 2006). However, male students expressed significantly higher levels of perceived risk. One possible explanation is that males and females are affected differently by social pressure to downplay fears about crime. Men who are most concerned with distorting their responses for self-presentational reasons may report the lowest levels of fear (Sutton & Farrall, 2005).

### Implications and Limitations

This study has several implications. Theoretically, it bridges a gap by demonstrating that cognitive-behavioral theory is an appropriate approach to understanding fear of crime, an area that has been criticised for a lack of theoretical grounding. On a practical level, this study highlights the importance of social integration as an important process for reducing fear of crime, providing direction for international education advisors and universities to monitor safety issues and to design support programs. When students feel more physically and emotionally safe, learning/academic performance improves, and stress, depression, and other related mental health problems subside. On a governmental level, international education strengthens relations between countries and world trade, promoting global understanding. Not only is it important to attract students, it is also necessary to care for them upon and following arrival (Li & Kaye, 1998). The unspoken assumption is that word of mouth accounts for market penetration, both positive and negative. Students who feel that their study abroad has been worthwhile will provide favourable publicity for the country and the institution where they obtain their education (Ward, et al., 2001).

This study involves a number of limitations. First, cultural factors were measured by culture distance, host attitudes, and perceived prejudice, however, it is also possible that this construct might be more appropriately operationalized in terms of other dimensions, such as power-distance, or individualism and collectivism relating to conflict (Shupe, 2007). Second, understanding fear of crime is challenging because it is possible that significant differences in causes of fear might exist (Meško, Fallshore, Muratbegović, & Fields, 2008). Third, the context of this study is Melbourne, but different neighbourhood environments might influence perceptions and fears differently.

Future research could adopt mixed-methodologies such as open-ended interviews that allow individuals to voice what they are thinking and feeling, helping to reveal hidden factors. Quantitative research enables researchers to statistically test and compare the magnitudes of relationships between different constructs, but can fail to generate rich insights (Tsang, 2001). Interviews could yield information on participants' particular circumstances. Observation of students in school at different places at different times can also provide insights into processes and causes of heightened levels of fear of crime and their avoidance behavior (Wayne & Rubel, 1982). Moreover, future studies would benefit by including several universities across different states. Such comparisons could make a significant contribution to Australia's international education and associated policies.

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# **Attitudes Towards Youth Suicide: A Comparison Between Italian, Indian and Australian Students**

**Erminia Colucci** (ecolucci@unimelb.edu.au)

**Harry Minas** (h.minas@unimelb.edu.au)

CIMH (Centre for International Mental Health)  
School of Population Health, The University of Melbourne, Australia.

## **Abstract**

There is a paucity of cross-cultural research on youth suicidal behaviour. An understanding of the cultural aspects of suicidal behaviour is essential for the development of culturally appropriate suicide prevention and intervention strategies. In this study, meanings, cultural representations, attitudes, values and beliefs regarding youth suicide were explored in 700 young Italians, Indians and Australians. Participants were University students (18-24 years old) from Italy, India and Australia. Participants had to be at least second generation, i.e. both they and their parents were born in the countries included in the study. Data collection was through completion of a questionnaire with structured and semi-structured questions (e.g. case vignettes, word associations, attitude scale, open-ended questions) and focus groups. In this proceedings, findings about the attitudes towards suicide focusing on the differences/similarities by country, gender, spiritual beliefs and suicide risk will be presented and the implications of the findings for suicide risk assessment and treatment will be discussed.

## **Rationale for the Research Project**

Relatively few of the studies that have explored factors that may account for the highly variable national suicide rates have addressed culture or ethnicity as potentially important variables impacting an individual's decision to take his or her own life. This missing area in Suicidology has been identified by many authors (e.g., Colucci, 2006; Colucci & Martin, 2007a, 2007b; Colucci, Martin, Marsella, & Schweitzer, 2007; De Leo, 2002; Eskin, 1999; Shiang, 2000; Tortolero & Roberts, 2001).

Attitudes towards suicide, and the role these play in the way people think about and relate to suicide, have been researched by several scholars (e.g., Domino et al.: 1980, 1995, 2005; Diekstra, Maris, Platt, Schmidtke & Sonneck, 1989; Eskin: 1992, 2003). However, to date cross-cultural studies involving Italian, Australian or Indian youth are scarce (Domino, Niles, Raj, 1993; Etzersdorfer, Vijayakumar, Schoeny, Grausgruber, & Sonneck, 1998; Kerkhof & Nathawat, 1989) and no previous study has compared young people from these cultures.

As argued by Etzersdorfer and collaborators (1998):

When looking for explanations for differences between countries or cultures in their suicide rates, there is much emphasis in the literature on the role of cultural influences in shaping attitudes to suicidal behavior. Explanations are often presented in terms of "attitudes", "social atmosphere", "climate" and so on, but not many studies investigate these attitudes, and only a few assess attitudes in different cultures using similar instruments (p.105)

Colucci's PhD project (Colucci, 2008) examined the meanings and social representations of suicide in University students in Italy, India and Australia. This paper focuses on the main findings concerning participants' attitudes towards suicide. More detailed results are in Colucci (2008).

## **Methodology**

### **Sample**

Participants in the study were 686 students (18-24 years old, approximately equal numbers of males and females) from the University of Padua (Italy), several colleges in Bangalore (India) and from The University of

Queensland and Queensland University of Technology in Brisbane (Australia). Students had to be at least second generation citizens, i.e. both they and their parents were born in the same country. Ninety-six participants also volunteered to take part in focus group discussions.

### Method

Qualitative and quantitative methods were used in the research to triangulate responses. The project was divided into two stages:

In the first stage, volunteers (anonymous students) received the semi-structured questionnaire “Exploring the meaning of suicide” (Colucci, 2008). The questionnaire investigated social representations, attitudes, values, views and meanings of youth suicide both through structured (attitude scale, ranking order task, multiple-answer questions) and semi-structured (case scenarios, open-ended questions, word associations) sections. The questionnaire was back-translated into Italian for the Italian sample, and completed in English by the Australian and Indian samples. The questionnaire and the focus group techniques were pre-piloted and piloted with Italian, Indian and Australian students.

Questions specifically investigating attitudes towards youth suicide were based on existing literature on this topic and tests, including Domino’s SOQ (1982), Diekstra and Kerkhof’s SUIATT (1989) and Salander, Renberg and Jacobsson’s ATTS (2002). In this way, a 21-items scale (Attitudes towards Youth Suicide- AtYS) was built, with a 5-point Likert-scale from “Strongly agree” to “Strongly disagree”. The majority of the questions referred to youth suicide and one of the questions was the same except for the group addressed, which was the general population (“People do have the right to commit suicide”) or young people (“Youth do have the right to commit suicide”).

With the questionnaire, students also received a consent form to participate in the successive stage of the project.

In the second stage, 96 students were involved in two tape-recorded focus group sessions investigating the cultural meaning of youth suicide and youth suicide prevention. Between four and five groups were organized for each country (approximately eight participants in each group) and each group met for two sessions, each 1.5 – 2.0 hours long.

### Data Analysis

Quantitative data were analysed using SPSS 13.0. As the Attitudes towards Youth Suicide scale (AtYS) was a new scale (Colucci, 2008), its properties were analysed through factor analysis (oblique rotation). The resulting four factors were labelled “Negative Attitude” towards suicide, “Beliefs in Preventability” of suicide, “Acceptability/Normality” and “Beliefs in Signs of Suicide Risk”.

Qualitative data were analysed separately and then discussed by the principal investigator (Colucci) and two bilingual psychologists. The categories so developed were compared with those of a third psychologist, to create a final list of codes. The coding process was supported with the software for qualitative analysis ATLAS.ti 5.0.

In the focus groups, no direct question was asked about participants’ attitudes towards suicide but, when participants expressed judgments towards suicide while discussing the topic, the meaning unit was labeled “attitude” during the analyses. All “attitudes” extracts were then analysed and interpreted along with the other data collected during the study.

### Main Results

The MANOVA (i.e. multivariate analysis) reported a statistically significant effect of belonging to different cultures on the four subscales, and, more specifically, on the “Negative Attitudes” scale [ $F(2, 449)=113.71, p<.001$ ], “Beliefs in Preventability” [ $F(2, 449)=4.87, p<.01$ ], “Acceptability/Normality” [ $F(2, 449)=6.48, p<.005$ ] and “Beliefs in Signs of Suicide Risk” [ $F(2, 449)=13.25, p<.001$ ].

Considering the results of the MANOVA, univariate analyses of variance were performed for each item of the attitudes scale. The ANOVA showed that students from the three countries reported statistically sig-

nificant differences on 20 of the 21 items ( $p < .001$  and  $< .01$ ). For instance (on a Likert-scale where 0 was the strongest disagreement and 4 the strongest agreement), on the item "In general, suicide is an act not to be forgiven", both Italian and Australian students showed more disagreement, whereas Indians showed more agreement, [ $F(2, 677) = 97.53, p < .001$ ]. Conversely, on the item "Youth do have the right to commit suicide", Indian students showed the highest disagreement, whereas Australian students showed the highest agreement. Italians were in a middle position, [ $F(2, 678) = 22.47, p < .001$ ]. It is interesting to compare the mean values scored on this item -referring to youth suicide- with those for the more generic item "People do have the right to commit suicide". When the question was asked in this broader format, students from all countries showed a higher agreement; nonetheless, the ranking order was the same ( $F(2, 667) = 24.44, p < .001$ ), i.e. Indians were more in disagreement than Italians and Australians. Mean scores on all items for each country have been reported in Table 1.

**Table 1**  
Mean Scores on Questions from the Scale

Items (0 = strongly disagree to 4 = strongly agree)	ITALY	INDIA	AUSTR.	TOT	ANOVA
<i>It is always possible to help a young person with suicidal thoughts</i>	2.56	2.93	2.85	2.78	$F(2, 679)=6.47, p<.005$
<i>Suicide can never be justified</i>	1.57	2.48	2.09	2.05	$F(2, 675)=36.13, p<.001$
<i>Suicide is among the worst thing to do to one's family</i>	2.61	3.35	2.97	2.98	$F(2, 674)=30.18, p<.001$
<i>Once a young person has decided to suicide, no one can stop him/her</i>	0.86	0.96	0.67	0.83	$F(2, 679)=5.80, p<.005$
<i>People do have the right to commit suicide</i>	1.88	1.31	2.07	1.75	$F(2, 667)=24.44, p<.001$
<i>Youth who make suicidal threats seldom kill themselves</i>	2.06	2.28	2.02	2.12	$F(2, 678)=4.38, p<.05$
<i>Suicide is a subject that one should not talk about</i>	0.24	1.36	0.43	0.69	$F(2, 681)=90.75, p<.001$
<i>Almost everyone has at one time or another thought about killing him/herself</i>	2.17	2.77	2.32	2.43	$F(2, 673)=17.76, p<.001$
<i>There may be situations where the only reasonable thing to do is suicide</i>	0.88	1.77	0.88	1.18	$F(2, 675)=53.28, p<.001$
<i>Suicide occurs without warning signs</i>	1.13	2.03	1.02	1.40	$F(2, 678)=65.03, p<.001$
<i>Most people avoid talking about suicide</i>	2.65	2.49	2.89	2.67	$F(2, 680)=10.87, p<.001$
<i>If someone wants to suicide, it is their business and we should not interfere</i>	0.50	0.59	0.51	0.53	$F(2, 680)=1.01, p ns$
<i>A youth suffering from a severe, incurable disease expressing wish to die should be helped to do it</i>	2.02	1.32	1.77	1.70	$F(2, 674)=19.44, p<.001$
<i>Youth who talk about suicide do not suicide</i>	1.56	1.97	1.48	1.67	$F(2, 674)=17.00, p<.001$
<i>When a young person suicides it is something he/she has considered for a long time</i>	2.12	2.20	1.86	2.06	$F(2, 674)=7.40, p<.005$
<i>Youth suicide can be prevented</i>	3.00	3.12	3.24	3.12	$F(2, 677)=4.21, p<.05$
<i>I would feel ashamed if a member of my family suicided</i>	0.96	2.48	1.49	1.65	$F(2, 676)=103.16, p<.001$
<i>Potentially, every one of us can be a suicide victim</i>	2.68	2.21	2.68	2.52	$F(2, 678)=16.06, p<.001$
<i>In general, suicide is an act not to be forgiven</i>	0.90	2.11	0.90	1.32	$F(2, 677)=97.53, p<.001$
<i>Heroic suicide (e.g., the soldier in war throwing himself on a live grenade) should be viewed differently from other suicides (e.g., jumping off a bridge).</i>	2.21	2.74	2.87	2.61	$F(2, 680)=21.98, p<.001$
<i>Youth do have the right to commit suicide</i>	1.44	1.05	1.79	1.42	$F(2, 678)=22.47, p<.001$

Mean scores have also been calculated for each of the subscales and the results are reported in Table 2 where, as in the previous table, higher values mean greater agreement and lower values greater disagreement.



**Table 2**  
Mean Scores on the Subscales

SUB-SCALES (FACTORS)	Italy	India	Australia	Total	ANOVA
<i>Negative Attitude</i>	6.01	11.95	7.73	8.55	$F(2, 595)=176.94 p<.001$
<i>Beliefs in Preventability</i>	12.39	12.64	13.07	12.70	$F(2, 637)=4.54 p<.05$
<i>Acceptability/Normality</i>	11.34	10.49	11.75	11.22	$F(2, 580)=4.36 p<.05$
<i>Beliefs in Signs of Suicide Risk</i>	5.54	6.11	5.16	5.59	$F(2, 612)=14.41 p<.001$

As shown in the previous tables, both the mean scores on the 21 single items and the four factors that constitute the Attitudes towards Youth Suicide (AtYS) scale indicated more negative attitudes, progressively, in India and Australia than in Italy. Australian students also believed that suicide is preventable more so than did Italians and Indians. Italians and Australians showed more acceptability and a greater tendency to normalize suicide than did Indians. On the signs of suicide sub-scale (measuring the lack of belief that youth who threaten or talk about suicide might kill themselves), Indians scored higher, followed by Italians and then Australians. The finding that Indians endorsed more negative attitudes, followed by Australians, compared to Italians, is confirmed both by other questions in the survey (for instance, the word association task and the two questions on the characteristics of youth who attempt suicide or kill themselves, plus the use by Indians and, less, Australians of negative attributes such as “selfish”, “bad”, “wrong”, “idiot”, “stupid”, “coward” in other parts of the survey) and the focus groups. During the sessions, in fact, Italian students generally had a non-judgmental and rather accepting attitude towards suicide. This should not be interpreted to mean that Italians had positive attitudes towards suicide (apart from those few students who believed that suicide is a courageous act) but, rather, as rarely expressing negative opinions (e.g. selfish) and showing an overall empathetic attitude towards suicide, seen as something that should not be judged but understood by people. Some Australian participants expressed negative judgments stating, for instance, that suicide is selfish, bad or stupid, whereas few other participants had a more accepting/empathetic attitude. Many Indian participants reported negative attitudes towards suicide and youth who commit suicide. Apart from participants’ opinions about suicide, Indian participants pointed out that society’s negative judgments towards people who commit suicide affect the family in several ways, e.g. put shame, or a “black mark” on the family. However, despite many participants reporting negative personal or social attitudes towards suicide, some students did not express any opinion and few others expressed a more accepting attitude or believed that a person who suicides is courageous.

When attitudes towards suicide were examined in relation to participants’ suicide risk, it was observed that, both overall and in each country, participants at higher suicide risk endorsed less negative attitudes towards suicide and considered suicide as more acceptable and normal than did those students who were at lower risk. A similar result was found by Kerkhof and Nathawat (1989): the suicidal subgroup of two groups of students from India and the Netherlands held more favourable and permissive attitudes towards suicide than the group without any history of parasuicide or suicide ideation.

How can we make sense of the findings that people with more negative attitudes toward suicide are at a lower suicide risk and that overall Indians, followed by Australians, had the most negative attitudes yet Indian and Australian youth suicide rates are higher compared to Italians?

Although the literature shows that negative attitudes might be a deterrent against suicidal behaviour (e.g., Eshun, 2003; Zhang & Jin, 1996), data on this topic are ambiguous. One reason for this might be the multi-faceted consequences of negative attitudes: while, on the one hand, a person’s negative attitude towards suicide may act as a deterrent against suicidal behaviour in the individual, on the other hand, a widespread negative

attitude may also act as a suicide risk factor for the population (possibly acting as a deterrent to help-seeking and thus preventing the person from expressing suicidal intentions and asking for help). Besides this hypothesis of a non-univocal effect of negative attitudes, another issue that we believe needs more investigation is that, although a culture might endorse a general negative attitude towards suicide, nevertheless - in some circumstances - suicide might be seen as an acceptable behaviour and in others it might even be reinforced (or forced - see for instance Satee, or widow-burning, and women's suicide to save a family's honour in India) and become a socially expected behaviour.

There were some differences in attitudes towards suicide based on age, socio-economic status and gender. This latter difference generally showed more negative attitudes among males, in particular on the subscale "Negative attitudes". There was an association also with students' self-reported religiosity/spirituality. There was also an association between students' self-reported religiosity/spirituality and attitudes towards youth suicide. In particular, when considered altogether, religious/spiritual students expressed more negative attitudes [9.11 vs. 7.27,  $F(1,579)=27.65, p<.001$ ] and less acceptability towards suicide [10.65 vs. 12.25,  $F(1, 563)=17.94, p<.001$ ] than non-religious/spiritual students. When analysed separately by country, there were no statistically significant differences in India between religious/spiritual and non-religious/spiritual students, whereas in Italy religious/spiritual students believed more strongly that suicide is preventable [12.62 vs. 11.96,  $F(1, 205)=4.89, p<.05$ ] and agreed less that it is acceptable [10.83 vs. 12.36,  $F(1)=5.98, p<.05$ ]. In Australia, religious/spiritual students manifested more negative attitudes [8.37 vs. 6.94,  $F(1, 191)=10.21, p<.005$ ] and less acceptability [11.04 vs. 12.55,  $F(1, 195)=7.22, p<.01$ ]. Scores on the subscales were also analysed in terms of the specific religious affiliations, which significantly impacted the scores on each of the four attitude subscales.

There were no consistent, statistically significant associations between attitudes towards youth suicide and participants' previous exposure to suicide attempts or death of someone close.

## Conclusions

The results from this study suggest a complex relationship between attitudes towards suicide and suicidal behaviour: negative attitudes may act as a deterrent to suicidal behaviour in the person who endorses more negative attitudes, but widespread negative social attitudes may increase risk by reducing the suicidal person's chances of asking for help, and receiving understanding and compassion from society and close others. At the same time, in some circumstances, suicide is culturally encouraged and society reinforces this behaviour. This also may increase the suicide risk in cultures that, overall, have negative attitudes towards such behaviour. The complex relationship between attitudes and suicide risk requires further investigation. In particular, the hypothesis that negative attitudes are a deterrent to suicidal behaviour as well as being a deterrent to expression of suicidal intent and help-seeking should be tested. This sort of study must consider gender differences within and across cultures.

There is a need also to investigate further the cultural meanings of suicide (see also Colucci, 2006; Colucci & Martin, 2007a; 2007b; Colucci et al., 2007).

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Queensland and Queensland University of Technology in Brisbane (Australia). Students had to be at least second generation citizens, i.e. both they and their parents were born in the same country. Ninety-six participants also volunteered to take part in focus group discussions.

### Method

Qualitative and quantitative methods were used in the research to triangulate responses. The project was divided into two stages:

In the first stage, volunteers (anonymous students) received the semi-structured questionnaire “Exploring the meaning of suicide” (Colucci, 2008). The questionnaire investigated social representations, attitudes, values, views and meanings of youth suicide both through structured (attitude scale, ranking order task, multiple-answer questions) and semi-structured (case scenarios, open-ended questions, word associations) sections. The questionnaire was back-translated into Italian for the Italian sample, and completed in English by the Australian and Indian samples. The questionnaire and the focus group techniques were pre-piloted and piloted with Italian, Indian and Australian students.

Questions specifically investigating attitudes towards youth suicide were based on existing literature on this topic and tests, including Domino’s SOQ (1982), Diekstra and Kerkhof’s SUIATT (1989) and Salander, Renberg and Jacobsson’s ATTS (2002). In this way, a 21-items scale (Attitudes towards Youth Suicide- AtYS) was built, with a 5-point Likert-scale from “Strongly agree” to “Strongly disagree”. The majority of the questions referred to youth suicide and one of the questions was the same except for the group addressed, which was the general population (“People do have the right to commit suicide”) or young people (“Youth do have the right to commit suicide”).

With the questionnaire, students also received a consent form to participate in the successive stage of the project.

In the second stage, 96 students were involved in two tape-recorded focus group sessions investigating the cultural meaning of youth suicide and youth suicide prevention. Between four and five groups were organized for each country (approximately eight participants in each group) and each group met for two sessions, each 1.5 – 2.0 hours long.

### Data Analysis

Quantitative data were analysed using SPSS 13.0. As the Attitudes towards Youth Suicide scale (AtYS) was a new scale (Colucci, 2008), its properties were analysed through factor analysis (oblique rotation). The resulting four factors were labelled “Negative Attitude” towards suicide, “Beliefs in Preventability” of suicide, “Acceptability/Normality” and “Beliefs in Signs of Suicide Risk”.

Qualitative data were analysed separately and then discussed by the principal investigator (Colucci) and two bilingual psychologists. The categories so developed were compared with those of a third psychologist, to create a final list of codes. The coding process was supported with the software for qualitative analysis ATLAS.ti 5.0.

In the focus groups, no direct question was asked about participants’ attitudes towards suicide but, when participants expressed judgments towards suicide while discussing the topic, the meaning unit was labeled “attitude” during the analyses. All “attitudes” extracts were then analysed and interpreted along with the other data collected during the study.

### Main Results

The MANOVA (i.e. multivariate analysis) reported a statistically significant effect of belonging to different cultures on the four subscales, and, more specifically, on the “Negative Attitudes” scale [ $F(2, 449)=113.71, p<.001$ ], “Beliefs in Preventability” [ $F(2, 449)=4.87, p<.01$ ], “Acceptability/Normality” [ $F(2, 449)=6.48, p<.005$ ] and “Beliefs in Signs of Suicide Risk” [ $F(2, 449)=13.25, p<.001$ ].

Considering the results of the MANOVA, univariate analyses of variance were performed for each item of the attitudes scale. The ANOVA showed that students from the three countries reported statistically sig-

nificant differences on 20 of the 21 items ( $p < .001$  and  $< .01$ ). For instance (on a Likert-scale where 0 was the strongest disagreement and 4 the strongest agreement), on the item "In general, suicide is an act not to be forgiven", both Italian and Australian students showed more disagreement, whereas Indians showed more agreement, [ $F(2, 677) = 97.53, p < .001$ ]. Conversely, on the item "Youth do have the right to commit suicide", Indian students showed the highest disagreement, whereas Australian students showed the highest agreement. Italians were in a middle position, [ $F(2, 678) = 22.47, p < .001$ ]. It is interesting to compare the mean values scored on this item -referring to youth suicide- with those for the more generic item "People do have the right to commit suicide". When the question was asked in this broader format, students from all countries showed a higher agreement; nonetheless, the ranking order was the same ( $F(2, 667) = 24.44, p < .001$ ), i.e. Indians were more in disagreement than Italians and Australians. Mean scores on all items for each country have been reported in Table 1.



**Table 1**  
Mean Scores on Questions from the Scale

Items (0 = strongly disagree to 4 = strongly agree)	ITALY	INDIA	AUSTR.	TOT	ANOVA
<i>It is always possible to help a young person with suicidal thoughts</i>	2.56	2.93	2.85	2.78	$F(2, 679)=6.47, p<.005$
<i>Suicide can never be justified</i>	1.57	2.48	2.09	2.05	$F(2, 675)=36.13, p<.001$
<i>Suicide is among the worst thing to do to one's family</i>	2.61	3.35	2.97	2.98	$F(2, 674)=30.18, p<.001$
<i>Once a young person has decided to suicide, no one can stop him/her</i>	0.86	0.96	0.67	0.83	$F(2, 679)=5.80, p<.005$
<i>People do have the right to commit suicide</i>	1.88	1.31	2.07	1.75	$F(2, 667)=24.44, p<.001$
<i>Youth who make suicidal threats seldom kill themselves</i>	2.06	2.28	2.02	2.12	$F(2, 678)=4.38, p<.05$
<i>Suicide is a subject that one should not talk about</i>	0.24	1.36	0.43	0.69	$F(2, 681)=90.75, p<.001$
<i>Almost everyone has at one time or another thought about killing him/herself</i>	2.17	2.77	2.32	2.43	$F(2, 673)=17.76, p<.001$
<i>There may be situations where the only reasonable thing to do is suicide</i>	0.88	1.77	0.88	1.18	$F(2, 675)=53.28, p<.001$
<i>Suicide occurs without warning signs</i>	1.13	2.03	1.02	1.40	$F(2, 678)=65.03, p<.001$
<i>Most people avoid talking about suicide</i>	2.65	2.49	2.89	2.67	$F(2, 680)=10.87, p<.001$
<i>If someone wants to suicide, it is their business and we should not interfere</i>	0.50	0.59	0.51	0.53	$F(2, 680)=1.01, p ns$
<i>A youth suffering from a severe, incurable disease expressing wish to die should be helped to do it</i>	2.02	1.32	1.77	1.70	$F(2, 674)=19.44, p<.001$
<i>Youth who talk about suicide do not suicide</i>	1.56	1.97	1.48	1.67	$F(2, 674)=17.00, p<.001$
<i>When a young person suicides it is something he/she has considered for a long time</i>	2.12	2.20	1.86	2.06	$F(2, 674)=7.40, p<.005$
<i>Youth suicide can be prevented</i>	3.00	3.12	3.24	3.12	$F(2, 677)=4.21, p<.05$
<i>I would feel ashamed if a member of my family suicided</i>	0.96	2.48	1.49	1.65	$F(2, 676)=103.16, p<.001$
<i>Potentially, every one of us can be a suicide victim</i>	2.68	2.21	2.68	2.52	$F(2, 678)=16.06, p<.001$
<i>In general, suicide is an act not to be forgiven</i>	0.90	2.11	0.90	1.32	$F(2, 677)=97.53, p<.001$
<i>Heroic suicide (e.g., the soldier in war throwing himself on a live grenade) should be viewed differently from other suicides (e.g., jumping off a bridge).</i>	2.21	2.74	2.87	2.61	$F(2, 680)=21.98, p<.001$
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Mean scores have also been calculated for each of the subscales and the results are reported in Table 2 where, as in the previous table, higher values mean greater agreement and lower values greater disagreement.

**Table 2**  
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SUB-SCALES (FACTORS)	Italy	India	Australia	Total	ANOVA
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## **Relation between Self-Esteem Instability and Expectation and Motivation After Failure Among Japanese University Students**

**Ai Fukuzawa** (ll087080@mail.ecc.u-tokyo.ac.jp)  
The University of Tokyo, Japan

**Susumu Yamaguchi** (susumy@l.u-tokyo.ac.jp)  
The University of Tokyo, Japan

### **Abstract**

Previous studies have shown that people with unstable self-esteem react to failure in extrapunitive ways (Kernis, Cornell, Sun, Berry, & Harlow, 1993; Kernis, Grannemann, & Barclay, 1992). However, competitive situations in daily life often involve several tasks. Therefore, not only the relation between self-esteem instability and the reaction after one failure, but the relation between self-esteem instability and expectation and motivation for future tasks should also be examined. In addition, because extrapunitive reactions such as excuse making are not appropriate in Japanese culture, self-esteem instability may not be related to excuse making in this culture and may instead be related to alternative reactions after failure. Therefore, we hypothesized that at least among Japanese participants, self-esteem instability would be negatively related to expectations for future examinations. Sixty one undergraduate students (16 males and 45 females) participated in the survey. Self-esteem instability was not significantly related to excuse making. Rather, self-esteem instability was negatively related to expectations for the final examination, especially when self-evaluation of the mid-term scores was low. On the other hand, self-esteem instability was not significantly related to the motivation to perform well on the final examination. We interpreted these findings as indicating that lowered expectations functioned as a tactic to prevent failure and promote ego protection.

Taylor and Brown (1988) claimed that higher self-esteem is associated with better psychological well-being. Against this well-accepted view, some researchers argue that high self-esteem has negative effects as well. For example, Baumeister, Smart, and Boden (1996) argued that high self-esteem can cause violence and aggression when one's high self-esteem is threatened. More recently, Crocker and Park (2004) insisted that the pursuit of self-esteem is costly in terms of autonomy, competence, interpersonal relationship, self-regulation, and even physical health.

In order to resolve this apparent paradox, Kernis, Cornell, Sun, Berry, and Harlow (1993) proposed an index of self-esteem, self-esteem instability, which is independent of the level of self-esteem. According to Kernis et al. (1993), self-esteem instability is defined as the extent to which individuals' self-esteem changes across situations. The important characteristics of people with unstable self-esteem have been classified into three categories (Kernis & Goldman, 2003): (a) attentional component (the tendency to care about experiencing failure and success); (b) bias component (the tendency to perceive an event as evaluative even if the event is not); and (c) generalization component (the tendency to generalize one evaluative event to the individuals' general self-evaluation). So, for example, people with unstable self-esteem are sensitive to the result of an exam, perceive that the result of the exam shows their general ability, and feel that they have little ability after they fail in that exam.

Because the ego of people with unstable self-esteem is vulnerable to threats, those people are especially motivated to protect their ego from the threats (e.g., Kernis et al., 1993). Indeed, previous studies in the U.S. have shown that people with unstable self-esteem tend to react to failure in extrapunitive ways. First, people with unstable self-esteem make excessive excuses after experiencing failure by attributing their failure to external factors such as the difficulty of the task (Kernis et al., 1993; Kernis, Grannemann, & Barclay, 1992). Second, after experiencing failure, people with unstable self-esteem tend to derogate the person who gave them the negative feedback (Kernis et al., 1993).



The previous findings about self-esteem instability, however, are limited in the sense that they are concerned only with reactions to the result of performance on a one-shot task, and do not consider reactions concerning future tasks. In our daily lives, individuals often continue to work on the one task. For example, when students fail in one exam, it does not mean they can forget about it and never take the exam again. Usually, they need to continue studying the same subject and take the final exam for credits. In those situations, people not only protect their ego after failure, but also have to make a tactic for the future task. Therefore, this study examines the relation between self-esteem instability and the reaction at the time when participants finish the first task and anticipate a second related task in the future. We argue that people with unstable self-esteem will show a reaction other than expunitive reactions when they anticipate future performance after a failure. In this study, we predicted that participants with unstable self-esteem would lower their expectations for performance on the future task, in response to the failure.

Lowering one's expectations is a useful tactic in competitive situations for two reasons. First, according to Norem and Cantor (1986), lowering expectations for future performance makes people prepare for the future task by "harnessing anxiety as motivation" (p. 1208). In other words, when people expect that they will fail in a task, they become careful and make efforts in order to prevent the expected negative outcome. Second, lowering expectations allows individuals to mentally prepare for the anticipated failure and thus protect their ego. For example, Shepperd, Ouellette, and Fernandez (1996) demonstrated that although participants had high expectations for the score before an examination, they lowered their expectation just before they got the score. Shepperd et al. (1996) interpreted this finding as indicating that by lowering the expectation for the future performance, the participants lessened the potential damage of the anticipated failure to their ego.

Those two reasons are more relevant to people with unstable self-esteem than to people with stable self-esteem. As mentioned earlier, people with unstable self-esteem tend to be sensitive to the results of competitive situations. Therefore, people with unstable self-esteem would carefully prepare for future performance because the importance of the performance is high for them. Thus, the tendency to try to prevent negative outcomes would be higher for people with unstable self-esteem than for people with stable self-esteem. In addition, after experiencing a failure, the perceived possibility of failing again is likely to be high. Therefore, it becomes important to prevent negative outcomes and mentally prepare for the anticipated failure in that situation. We hypothesized that people with unstable self-esteem would lower their expectations for future performance, especially after failing in the previous tasks. That is, lowering the expectation for the future performance can work for ego protection.

On the other hand, we expected expunitive reactions such as external attributions and derogation after failure would be absent in Japan for two reasons. First, one need not use a socially maladaptive tactic when another more adaptive tactic is available. Second, external attributions and derogation can have higher interpersonal relationship costs in Japan, because they are inconsistent with the modesty norm prevalent in Japanese culture. In addition, we predicted that people with unstable self-esteem would lower expectations for their future performance only when they fail, but not when they succeed. As mentioned earlier, we predicted that people with unstable self-esteem would lower their expectations for future performance especially when they fail in the previous performance because they are more likely to expect to fail in related future performances in that situation. Therefore, when they succeed in the previous performance, they do not need to protect their ego by lowering their expectations.

In this study, we examined the hypothesis in a realistic setting involving a mid-term exam and final exam in a statistics course. The questionnaire consisted of two sections. At Time1, three weeks before the final exam, self-esteem instability was measured with a diary survey. At Time2, one week to two days before the final exam, self-evaluation of the results of the midterm, excuse making for the results of mid-term, expectations and motivation for future performance on the final exam were measured. We predicted that self-esteem instability would be negatively related to high expectations for the performance on the final exam especially when the self-evaluation of the midterm performance was low, but that self-esteem instability would not be related to excuse making.

## Method

### Participants

Sixty one undergraduate students (16 males and 45 females, mean age = 19.16, SD = 0.96) enrolled in an introductory statistics course for psychology majors at a private university in Tokyo voluntarily participated in this study.

### Measures and Procedure

*Time1. Three weeks before the final exam.* Daily self-esteem was measured with a modified version of Rosenberg's Self-Esteem Scale (1965). The scale included 10 modified items such as "Today I felt I was useless". We asked the participants "How much are each of the sentences consistent with your evaluation of yourself today?" The participants answered each question on a four-point scale (1 = not at all to 4 = absolutely) for seven consecutive days. The average of the seven daily self-esteem scores yielded the self-esteem level index, and the standard deviation of the seven daily self-esteem scores yielded the self-esteem instability index.

*Time2. One week to two days before the final exam.* About one week after the final day of the diary survey, we asked questions about the participants' midterm test scores. In the statistics course, students were required to take four midterm exams and one final exam. The students had been instructed that the final score would be determined based upon the total score of the four mid-term exams and the final exam.

*Self-evaluation of the midterm exams:* The self-evaluation of the mid-term exams was measured by asking "In total, how good or bad was your result on the midterm exams?" The participants answered on a seven-point scale; 1 = very bad to 7 = very good.

*Reactions to the result of the midterm exams:* We asked questions about the participants' midterm exams. (a) Excuses for the midterm results: We asked the participants how much they thought the difficulty of the class and the quality of the instructor influenced their midterm exam scores on a seven-point scale (1 = did not influence at all to 7 = influenced a lot). (b) Expectation for the final score: The participants were asked how well they expected to perform on the final exam, on a seven-point scale (1 = become much worse to 7 = become much better). (c) Motivation for the final exam: The participants were asked how long they would study for the final exam on a seven-point scale (1 = very short time to 7 = very long time).

## Results

### Correlations between the Variables

Table 1 shows the correlations between the variables. As can be seen in this table, self-esteem instability was negatively correlated with expected performance on the final exam, indicating that self-esteem instability is related to the expectation for performance on the final exam regardless of the self-evaluation of the midterm exams.

**Table1**  
Correlations between the Variables

	1	2	3	4	5	6	7
1. Self-Esteem Level	1						
2. Self- Esteem Instability	-.16	1					
3. Self-Evaluation of the Midterm	.21	.15	1				
4. Expectation for the Final	.17	-.28 *	-.16	1			
5. Motivation for the Final	.00	-.02	.18	.22 †	1		
6. Attribution (Difficulty of the Exam)	-.03	-.02	.00	.02	.19	1	
7. Attribution (Quality of the Instructor)	.06	-.01	.25 †	-.37 **	-.04	.47 **	1

\* $p < .05$ , \*\* $p < .01$ , †  $p < .10$

### Expectation for the Final Examination

A regression analysis was conducted on the expectation for performance on the exam (Table2). As can be seen there were significant effects for the main effect of self-esteem instability, the interaction effect between self-esteem instability and the self-evaluation of the midterm performance, the main effect of self-evaluation on the midterm exam, and the interaction effect between self-esteem level and self-evaluation of the midterm performance. The result of the post-hoc test (Aiken & West, 1991) indicated that when the self-evaluation of the midterm was low (one standard deviation below the mean), self-esteem instability was negatively related to the expectation for the final exam ( $\beta = -.85$ ,  $p < .001$ ). On the other hand, when the self-evaluation of the midterm performance was high (one standard deviation above the mean), self-esteem instability was not significantly related to the expectation for the final exam ( $\beta = .07$ , n.s.). These results support our hypothesis predicting that self-esteem instability would be negatively related to expectations for the final exam especially when the self-evaluation of the midterm performance was low.

### Motivation for the Final Examination

The result of the analysis on motivation for the final exam (holding constant the effects of self-esteem instability, self-evaluation on the midterm exam, and the interaction between the two) showed no significant effects on the motivation to study for the final exam. The interpretation for this result will be discussed in the following section.

**Table 2**

*Regression Analysis Summary for Self-esteem Instability and the Result of the Midterm Examination Predicting the Expectation for the Final Exam and the Motivation to study for the Final Examination*

Dependant Variables	Expectation for the Final Exam	Motivation for the Final Exam
Self-Esteem Level	.11	-.05
Self-Esteem Instability	-.34 **	-.03
Self-Evaluation of the Midterm Exam	-.28 *	.14
Self-Esteem level x Instability	.15	-.17
Self-Esteem Instability x Midterm	.37 **	-.08
Self-Esteem Level x Midterm	-.33 *	-.24
Level x Instability x Midterm	-.13	.08
R	.67	.33
R <sup>2</sup>	.46 **	.11
adjusted R <sup>2</sup>	.37	-.03

\* $p < .05$ , \*\* $p < .01$ , †  $p < .10$

### Excuse Making for the Results of the Midterm Exams

In order to examine the relation between self-esteem instability and excuse making, we conducted two separate regression analyses, because we had two indices of excuse making: attribution to the difficulty of the class and the quality of the instructor. The regression models were not significant ( $F(7, 46) = 0.51$ , n.s.;  $F(7, 46) = 1.05$ , n.s.). In addition, the results yielded no significant effects for the relationship between self-esteem instability and the two indices of excuse ( $\beta = -.06$ , n.s.;  $\beta = -.02$ , n.s.). These results are consistent with our predictions.

### Discussion

This study tested the relationship between self-esteem instability and reactions to task performance in a realistic setting. As predicted, among Japanese participants, self-esteem instability was not significantly related to extrapunitive reactions such as attributing failure to the difficulty of the class or the quality of the instructor.

Instead, self-esteem instability was negatively related to expectations for future performance, and this relation was especially salient when self-evaluations of midterm exam performances were low. This finding suggests that after failure, people with unstable self-esteem lower their expectations for future performances. However, this finding should not be interpreted as indicating that people with unstable self-esteem lower their motivation to study for the final exam, because instability of self-esteem was not related to the level of motivation for the final exam. That is, the findings in this study can be interpreted as indicating that among Japanese participants, lowering expectations is not a reaction which lowers motivation and the amount of effort expended, but is a reaction which is used as a tactic to protect the ego before future performance on a related task. These findings are consistent with our prediction that Japanese students with unstable self-esteem would strategically lower their expectations for future performance in place of extrapunitive reactions.

Future research needs to examine the cross-cultural universality of the findings of the present study. Lowering expectations after failure may be a unique phenomenon in Japan, where excuse making is not well regarded. Alternatively, individuals in the West may also lower expectations (in addition to excuse making) to protect ego when they anticipate future task.

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## Transmission and Regeneration of Sikh Self: Culture in the Making

**Preeti Kapur** (preeti.kapur@gmail.com)

University of Delhi, India

**Girishwar Misra** (misragrishwar@gmail.com)

University of Delhi, India

### Abstract

The Sikh cultural narrative was explored using social representations in the public sphere. To this end textual analysis of newspaper articles (N=200) published from January 2003 to April 2005 was done. These analyses addressed four major domains: religio-cultural, political identity, contemporary trends, and redressing self-perception. The emerging themes evinced negotiation for creating a distinct space within the multicultural society of India. The task of putting one's self-identity together, of making it coherent and presenting it to others as 'their culture', was warranted for making the boundaries of their community distinct from other existing groups. Bonding with the group emerged as the main source of motivation at the individual and community levels to assert a community's identity.

The relationship between self and culture is both intricate and complex. When we avidly search for their linkages, we tend to lose sight of the ability and adroitness with which individuals and their collectivities mould and fashion them and their cultures. Slow and steady, and hence often unobserved, are the individual and collective responses to contexts; the action in the form of resistance and struggle which takes place in everyday life. Thus the 'making of culture' needs to be explored in the context of meaning at both the symbolic level as well as in the concrete embodiments in which the self is able to cast itself. In the process of 'making culture' we are also 'making ourselves' vis-à-vis in the face of pressures and circumstances (Fox, 1985). Cultures are also transmitted because without the transmission and regeneration of the group's culture the community would cease to exist (Helweg, 1999). Against this backdrop and by referring to the case of Sikh community, the present study brings to the fore the argument that culture is to be viewed not only as a set of rules, but also as the internalized habits, life styles and skills that allow humans to continually produce innovative actions that recreate it.

The Sikh community has its origin in the 15<sup>th</sup> century as a local religion in Punjab, India. The word 'Sikh' comes from the Sanskrit word 'shishya' meaning disciple, learner. As the youngest religion worldwide the Sikh community's strong presence is noticeable both at the national and international level, even though they are just 20 million worldwide and only 1.8% of the Indian population. Since the emergence of the Sikh community from Guru Nanak (1469-1539), founder of the Sikh community, the need for self definition and representation of Sikh identity has been persistent and a perennial concern. This study illustrates how the Sikh community seeks strategic advantage by using culturally coded skills.

### Method

This work derives its data mainly from *The Tribune*, a daily newspaper which is published in Chandigarh in north India. With its English and Punjabi editions, *The Tribune* covers topics of relevance to the Sikh and Punjabi community. It has reflected the affairs of Punjab for the last 126 years. The daily newspaper along with the week-end supplements covers wide-ranging topics of political, social, religious and cultural nature, as well as publications and articles by the Punjabi community. Information germane to the subject was also gathered from *The Times of India*, *Hindustan Times*, *The Indian Express* and *The Hindu*.

The articles examined from *The Tribune* and other newspapers/magazines spanned a period of two years, from January 2003 to April 2005. The length of the articles ranged from 100 to 600 words. Various types of texts were identified and analyzed, namely, daily columns, editorials, celebrations of cultural events, issues of significance to the Sikh community, and letters to the editors.

The daily newspapers along with weekend supplements were scanned and texts of thematic relevance were identified. First, each text was categorized in terms of broad themes. Each text was thoroughly studied and categorized according to its contribution to the making/transmission/regeneration of culture. Details of the emergent categories with relevant examples of 'culture making' and 'cultural regeneration' are discussed in the next section. The analysis revealed continuous attempts by the Sikh community to negotiate a distinct space for itself. The analysis yielded four major categories: religio-cultural issues (110), political power and social identity (58) contemporary trends (22), and redressing self images of the community (12).

## Results

### Religio-Cultural Issues

This category yielded the largest single group of texts. This clearly indicates the concern of the Sikh community with its religious beliefs, customs, traditions, in short, the core of the Sikh self. For analytic purposes the texts were further divided into smaller meaning /theme units. The emergent thematic categories and their descriptions are presented below.

1. Emergence of the need to educate and enhance the awareness of Sikhs as a community at the national and international level.
2. Introduction and innovation in transmission of Sikh religion and culture to its adherents.
3. Definition and use of sacred space to define self and culture through the construction of museums, memorials, places of worship, and educational institutions.
4. Celebrations and remembering the past at national and international levels, in the form of festivals, commemorations, birth and death anniversaries of the ten Gurus. This aspect reflects the domain of social memory. A well-known and accepted way of making the presence of a community felt has been through marches, rallies, lectures, conferences and, exhibitions.

### Political Power and Social Identity

Some political issues regarding the Sikh community have hit the headlines both at the national and international level. At the national level issues included political presence, internal power struggles and control of the Sikh political parties, and religio-political activities. The latter are related to Sikh identity and its definition, that is, the *Sikh Code of Conduct* and internal struggles of power and factionalism. At the international level the issues ranged from the right to maintain Sikh symbols for Sikhs residing in a foreign land. For example, the French Government's ban on wearing the Sikh turban as an external symbol of religious identity has evoked a strong reaction from the Sikh community worldwide, as well as at the national level. In some countries such as Canada, USA and UK the Sikh communities have formed their own political parties and have won seats in the respective Governments.

### Contemporary Trends: Making of an Imagined Community

This category emphasizes the use of modern information technology to keep in touch with the growing numbers of Sikhs, at the national and international levels. The critical concerns voiced included the following: need to educate, keeping abreast with the latest developments in the political, religious and social world of the Sikh community, mobilization of the community on key matters and most importantly, allowing Sikh people to voice their individual concerns. The Internet allows communication through web sites, online chat rooms, e-mail, net to phone provisions, e-newsletters, and the like. This is perhaps leading to the construction of a new Sikh consciousness through 'virtual *sangats*' or a virtual network enabling a dialogue. This facilitates the creation of an 'imagined community' (Anderson, 1991).

### Religio-Cultural Issues: Regeneration and Transmission of Culture

*Sikh Studies and Academic Programmes.* The growth and development of Sikh studies both in India, mainly in universities of Punjab, and particularly in the Western universities is an indication of how the Sikh community has used the academic field to register a concern for cultural identity (Barrier, 2004; Shackle,

Singh, & Mandair, P.Singh, 2004). While this move has yielded disagreements in interpretation, it has also made Sikhs recognized as a distinct community at the international level with close links to disciplines like sociology, anthropology, religious studies, history, gender studies, and literary studies in India, the USA, Australia, and the UK.

*Translations of Sri Guru Granth Sahib (SGGS).* Translations of the teachings of the Gurus and related literature into the languages of countries where there is a large following have become available (“Sri Adi Granth on Barcelona agenda”, 2004). An ever-growing demand for *Sri Guru Granth Sahib*, in foreign countries especially Canada has prompted the Canadian Sikh Committee to set up a modern printing press in Canada. It would be on the same patterns as the Golden Offset Press in Amritsar (“150 ‘birs’ to be flown to Canada today”, 2004). Bibi Jaspal Kaur translated the Holy Scriptures, like *Guru Granth Sahib*, ‘*Sukhmani Sahib*’ and ‘*Panj Baniyan*’ into Thai language. *Sri Guru Granth Sahib* is also available in Spanish. *Japji* (a Sikh prayer) of Guru Nanak has been translated in Guarani, an indigenous language used in Southern Bolivia, northern Argentina and Paraguay (“And now Guru Granth Sahib in Spanish”, 2003, March 30).

*New Adherents. The Tribune* (“And now Guru Granth Sahib in Spanish”, 2003, March 30) reported that more than 130 locals in Asuncion, Paraguay learned yoga and practiced meditations from *Sri Guru Granth Sahib*. They also attended *bhangra*, (Punjabi dance) lessons conducted alongside. Special functions of installation of *Sri Guru Granth Sahib* were held in Paraguay and Buenos Aires in Argentina (“And now Guru Granth Sahib in Spanish”, 2003, March 30). The translation of the Sikh scriptures is necessary because the Sikh community follows its faith, but speaks the local language. For example, *The Tribune* (“And now Guru Granth Sahib in Spanish”, 2003, March 30) reports that Sikhs from Punjab were taken to Argentina by the British for construction of a railway line between Argentina and Bolivia. In the last 50 years this community has integrated with the locals and has a *Gurdwara* and engaged a Punjabi-speaking *granthi* (Sikh priest).

*Editing the Sikh Scriptures.* The SGPC (Sikh Gurdwara Prabandhak Committee) has initiated the re-editing of *Sri Gur Partap Suraj Parkash*, in a bid to remove the ‘mythological content’ from the text (Dhaliwal, 2004, December 8; Viridi, 2004, December 15) as it is in direct contradiction to the Sikh faith and ideology (Dhaliwal, 2004, December 8).

### **Cultural Construction of Ecology: Sacred Spaces and Construction of Self**

Since the very beginning humans have demarcated certain spaces and deemed them as sacred in order to interact with Nature and negotiate an identity for themselves. The construction of museums, memorials, places of worship, and educational institutions offer ample illustration of materials that people erect to define self and culture. A sample of such periodic attempts, as reported in the newspaper, by the Sikh community is evidence of the notion of selfhood. To quote:

- A proposal to construct a memorial in the name of Jathedar Gurcharan Singh Tohra, a well known political and Sikh leader. (“Memorial in name of Tohra”, 2004).
- Demand for national memorial to be raised in the name of Banda Bahadur, a well known soldier and historical figure, at the historic Lohgarh Fort (“Memorial at Lohgarh” (2004).
- Request by Dal Khalsa, a Sikh political party, to raise the promised martyrs’ memorial at Golden Temple to mark the 20<sup>th</sup> anniversary of Operation Bluestar (“Raise Bluestar martyrs’ memorial, SGPC urged”, 2004).
- SGPC has approached Centre for releasing a postal stamp on the occasion of the fourth centenary celebrations of the Sri Guru Granth Sahib (“SGPC to approach Centre for stamp”, 2004).

These developments characterize an expression of the need to redefine the Sikh cultural self.

### **Political and Identity Issues**

#### **Language Related Issues: Demand for Second Language Status for Punjabi**

Some of the important news items are as follows.

- Sikhs have reiterated their demand for the introduction of Punjabi as a second language in all schools of the state (“Second language status for Punjabi sought”, 2004).
- The BJP government had in 1999 as part of the tercentenary celebrations of the birth of the Khalsa taken a

decision to introduce Punjabi in schools (“Second language status for Punjabi sought”, 2004).

- The Singapore Sikh Education Foundation has been working since 1990 to develop and get government approval for a 10-year curriculum. Punjabi (and Gujarati) is recognized as one of the official languages of Singapore. The Punjabi programme is now spreading to Thailand, Malaysia, the Philippines and Indonesia. (R. Singh, 2004).

It is also important to note that the Punjab State Language Act of 1967 ensures the use of Punjabi in government offices. (J. Singh, 2004).

*Nanakshahi, the Sikh Calendar.* A significant development for the Sikh community has been the release of the Sikh calendar, called *Nanakshahi* calendar by SGPC for the year 2004 (“Nanakshahi calendar dates announced”, 2003). This calendar starts from the year 1469, the birth year of Guru Nanak. In it, the Sikh New Year starts from the first day of the month of *Baisakh* (April-May) which is the day of spring festival in Punjab. The calendar also lists the birth and death anniversaries of the ten Gurus, the dates for festivals and other salient dates such as the installation of the Sikh scriptures, *Sri Guru Granth Sahib* and this calendar accepted by the State government of Punjab (“Nanakshahi calendar dates announced”, 2003; “Punjab holidays”, 2003). The codification of the annual calendar for any community is a mark of its uniqueness.

*Frescos Whitewashed: Disappearance of Visual Evidence.* Wall paintings of Hindu Gods including Lord Rama and Lord Krishna, which were unique specimens of the Sikh school of art, of the Maharaja Ranjit Singh era, have disappeared from the upper storey of *Sri Darbar Sahib*, at Tarn Taran, in Punjab. This Gurdwara was founded by the fifth Sikh Guru, Guru Arjan Dev in 1597 A.D. Apparently, the frescos of Hindu gods were erased during the ‘*kar seva*’ (volunteer social service) being carried out by Baba Jagtar Singh at the behest of the SGPC. Now all the 16 paintings which were revived belong to the Sikh Guru, Sikh warriors and religious leaders (“Frescos whitewashed”, 2003). It is reported that in 1971 the paintings depicted mixed themes, including portraits of Sikh Gurus and scenes from Hindu mythology.

*Threat, Apprehension and Political Presence.* Sikh community members who have settled abroad recognise a need to represent their religio-political presence in the place of current residence. Yet it takes on different negotiations depending upon the context. In Britain the Sikhs want an identity distinct from the ‘Indian’ identity, whereas, in Canada, political parties are approaching the Indian community in which Sikhs form an important part. In the process Sikh individuals are entering the Canadian political arena.

In post 9/11 New York, members of the Sikh community were mistakenly targeted as members of the Taliban because of their beards and turbans. Further, they were banned from carrying the kirpan, the ceremonial dagger, at airports. Thus as a fallout of September 11 the Sikhs have been at the receiving end of racist abuse and official scrutiny. The Sikh community, particularly in United States and Britain, desperately wants to make the residents of that country aware of their Sikh identity and educate them about the differences between Sikhs and Arabs. Keeping these in mind, the Sikhs of Britain launched a Sikh political party in September, 2003. They want to “...*lobby the government and launch their own ‘agenda for change’ to improve their voice in government, particularly in education and religious rights*” (from <http://news.bbc.co.uk> 13<sup>th</sup> September, 2003). The formation of a UK Sikh political party indicates the cohesiveness of the community and concern about maintaining visibility in a world with innumerable communities.

*Diaspora: Endeavour to define self and Culture in New Contexts.* The diaspora’s feelings and concerns are of immense importance if one is to understand Sikh self-construction today. Phase I was when the Sikh community migrated from India to various parts of the world. Phase II refers to the current period when those settled abroad are concerned that the future generations keep their traditions and customs intact in such times of change and modernity.

### History in the Making: Some Contemporary Trends

At the official website of the SGPC, [www.sgpc.sgpc.net](http://www.sgpc.sgpc.net) believers can listen to live *kirtan* (renditions of hymns) from *Sri Harmandar Sahib* (Golden Temple). It gives the daily *hukamnama* of the Golden Temple; it also has details of the Sikh *Rehat Maryada*, the Sikh code of conduct. Another site is [www.srigurugranthsahib.org](http://www.srigurugranthsahib.org). It provides information about the essence of Sikhism and its teachings. Bharat Sanchar



Nigam Limited (BSNL), a Government of India enterprise, provides the 'Mukhwak' (*hukamnama*) from the Golden Temple everyday on the cell phone ("BSNL's Mukhwak service", 2003). The significance of *mukhwak*, is that it is a daily divine order given out from the SGGS everyday at the *Sri Harmandar Sahib* (Golden Temple) Amritsar, Punjab. The divine message is broadcast all over India and abroad. To ensure fast and effective communication with members of the Sikh community settled abroad or in remote parts of India, the SGPC has plans to start an e-mail service ("SGPC to upgrade communication system", 2004).

*Online Debate on Sikh Identity: Trends toward Globalization.* The topics of concern on the Internet revolve around – ritual, political history, the formation of the Khalsa, the meaning of Rahit, the role of women, the importance of the symbols especially the *kirpan* and unshorn hair. The purpose of such debate is to mobilize the community in the context of old and new problems faced by the community. The ban by the French Government on wearing religious symbols in public schools resulted in a signature campaign on the Internet. Sites are dedicated to the promotion of Sikhism and to reinforcing Sikh values and a strong sense of community ([www.chardikala.com](http://www.chardikala.com); [www.punjabilok.com](http://www.punjabilok.com); [www.sikhcybermuseum.org](http://www.sikhcybermuseum.org); [www.khalsapride.com](http://www.khalsapride.com)), to promoting Sikh businesses ([www.sikhchamber.com](http://www.sikhchamber.com), [www.waheguru.com](http://www.waheguru.com)) providing a Sikh directory, and listing global daily news ([www.sikhe.com](http://www.sikhe.com)).

*Some Future Pointers.* There is an attempt to use the Internet for distance learning and teaching. Now it is the age of the 'virtual *sangats*' (community, Mandair, 2001; I.J. Singh, 2001) where interactions take place between peers or even strangers who are closely connected because of a common, shared concern. The chat rooms have the added advantage of allowing anonymity; a Sikh individual can voice his/her concern and take an active part in debating various topics. Thus, there is a wide canvas for the community to respond to the changing circumstances.

### **Correction of Self-Perceptions: Self to be defined by Community**

Culture in the making also considers the necessary 'corrections' of the perceptions of its community members, as well as others, as to who they are and what they represent. By doing this people record their dissent and set the record straight, by stating what their culture, heritage and tradition really 'is'. It involves voicing their concern at that opportune moment.

*Where is the Temple?* The holy shrine of the Sikhs will henceforth not be called 'Golden Temple' as it has been popularly known till now. Evidently the name 'Golden Temple' was adopted during the reign of Maharaja Ranjit Singh when he had the original shrine covered with gold. Now it is to be called 'Shri Harmandar Sahib' or 'Shri Darbar Sahib', and use of any other name will attract action, says the SGPC, the apex Sikh body. The reason behind this change of name is that the "expression 'Golden Temple' is creating confusion about Sikh religion" (Walia, 2004). Apparently the term 'temple' was being mistaken as "a place of worship for Hindus". The new names are appropriate as these are the names used by the Sikh community.

*Portrayal of Self-Image by Media.* More evidence concerning feelings of harm to self-images comes from an incidence when Sikh demonstrators stormed a theatre in Central England to protest against the play, *Behzti*, meaning dishonour, which showed sexual abuse and murder in a Sikh place of worship, the *gurdwara* ("Sikhs try to storm theatre in UK", 2004; Ahmed, 2004). Sikhs have often protested against erroneous depictions of their faith. A popular soap opera aired on television titled *Des Mein Nikla Hoga Chand* showed a Sikh with a flowing beard performing a fire ritual in utter disregard to Sikh principles. Delhi Sikh Gurdwara Management Committee (DSGMC) general secretary Ravinder Singh Khurana said that performing a fire ritual was an act prohibited in Sikhism. They would seek an unconditional apology from the serial makers ("Sikhs protest against write-up in magazine", 2004). Thereafter, a code for film and serial makers was established. A non-Amritdhari artist could not play the role of an *Amritdhari* (Baptized Sikh) Sikh; neither could a Sikh be shown committing a crime or drinking liquor in films and serials. Advertisements on TV and characters in movies, depicting negative self-images of Sikhs, for example as simpletons or buffoons, are also objected to by Sikhs (Gill, 2003). The identity of Sikhs has often been distorted. "Despite over 300 years of existence as a hard working and enterprising community, Sikhs are still searching for an identity where cultural and political



clash points are resolved.” (“Sikhism suffers from negative stereotyping”, 2005, p. 4).

### Conclusion

The present research has illustrated aspects of culture making and self construction as expressed in the way the Sikh community responds, reacts, innovates, transforms, and reinvents its core in the light of changing demands of the context. The task of putting one’s self-identity together, of making it coherent and presenting it to others as ‘culture’ requires constant and enduring attention and continuous alertness so that others do not transgress into that territory, so that boundaries are well defined and not permeable to outside infiltration and influence. A well-defined and unambiguous identity is essential to let oneself and others know who you are. At the same time, be broad minded and ready to invent or transform in the changed circumstances. Thus identity formation is the core cultural task (Clark, 2002).

Culture-making thus requires an investment of resources in terms of time, money and effort on the part of any community. Making and maintaining one’s culture is a persistent, unrelenting and an on-going process. It’s an activity, a task, which is evolving in everyday activities. Culture making is also selective; it picks what is required to give it value, meaning and worth and sheds the inessentials to remain an efficient and valuable system. It responds to contexts, lives and breathes, grows and evolves, and even makes and breaks itself. In this way self and culture are both living systems. Finally, culture appears as a dynamic and not a fixed entity. Its elements -members, practices, customs, technologies and artefacts – change over time. The processes of culture making involves creating, and maintaining a difference between ‘them’ and ‘us’. In the process communities weave and create these webs of culture.

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## **Does Tolerance Reflect a More Inclusive Self-Construal? A Comparison of Poland, East and West Germany**

**Maja Schachner** (maja.schachner@uni-jena.de)

Friedrich-Schiller-Universität Jena, GSBC, Bachstr. 18k, 07749 Jena, Germany

**Toby Robertson** (toby.robertson@brunel.ac.uk)

Brunel University, Kingston Lane, Uxbridge, Middlesex, UB8 3PH, U.K.

**Fons J. R. Van de Vijver** (fons.vandevijver@uvt.nl)

Tilburg University, PO Box 90153, 5000 LE Tilburg, Netherlands

Friedrich Funke (friedrich.funke@uni-jena.de)

Friedrich-Schiller-Universität Jena, Graduiertenakademie, Jenergasse 8, 07743 Jena, Germany

**Dorota Brzezinska** (dorota\_brzezinska@tlen.pl)

University of Gdansk, Bażyńskiego 4, 80-952 Gdańsk, Poland

### **Abstract**

Past research suggests that Poland and Germany differ in the inclusiveness of their “moral universe”, i.e. the breadth of the community to which people apply moral values and rules of fairness (Schwartz, 2007). It seems likely that this difference is reflected in a more or less inclusive definition of one’s ingroup. The present study investigated (1) whether there are indeed differences in ingroup inclusiveness as manifested in differential construals of the self in East and West Germany and Poland and (2) whether those differences are reflected in differences in tolerance. As expected, participants in West Germany had the most inclusive self-construal, followed by participants from East Germany and then Poland – both in terms of their absolute scores on the most inclusive level (being a member of humanity), and in terms of the relative importance of the different levels. A relationship between a more inclusive self-construal and tolerance was observed in West Germany, but not in East Germany and Poland. The results suggest that more inclusive and abstract levels of the self-construal are more closely linked to other abstract constructs such as values rather than a true reflection of people’s ingroup. In countries with a communist past where universal values or the concern for humanity at large have been used for ideological purposes, these values may have lost their original meaning and psychological significance, and are less linked to intergroup attitudes such as tolerance towards immigrants.

### **Introduction**

Traditionally, in Western Psychology the self has been viewed as an individual’s self-comprehension as a discrete, separate entity comprising a unique configuration of internal attributes and independent of any social context. However, over the last decades it has been recognised that individuals also derive a sense of identity from social relationships with others and the groups to which they belong. Dealing with this topic, there is an apparent convergence between research into categorizations within groups and research into construals of the self across cultures (Smith & Long, 2006). The former line of research goes back to Self-Categorisation Theory (Turner, Hogg, Oakes, Reicher & Wetherell, 1987), one of the most influential theories in social psychology, whereas the latter is mainly based on the work of Markus and Kitayama (1991) in cross-cultural psychology.

#### **Social Psychological Research on the Self: Self-Categorisation Theory**

Self-Categorisation Theory, focussing on the self in a group context, posits that individuals categorise themselves and derive from this a sense of self. Specifically, they can see themselves as a member of variously inclusive social categories; for example, as a unique individual (with him- or herself being the only category member), as a human being (where all other human beings are included), or as a member of a social group at

any intermediate level of inclusiveness (e.g., as a university student).

Self-categorisation leads to an accentuation of similarities within the self-category and an accentuation of differences from other relevant categories. As members of a social group, individuals will thus tend to see themselves as relatively interchangeable with other members of their group, and this depersonalisation is considered the core process underlying group phenomena, including cooperation and cohesiveness within groups (Turner et al., 1987). Because the process applies to social self-categories at any level of inclusiveness, individuals who may have been regarded as outgroup members before will be met with greater cooperation, empathy, or liking, once they are recategorised as members of a common ingroup, i.e., a higher level social category that includes ingroup and outgroup. Indeed, a large body of research has shown the positive effects of promoting a common identity in combating prejudice (Gaertner & Dovidio, 2000; Gaertner, Dovidio, Anastasio, Bachman & Rust, 1993).

Recently, social psychologists have shifted their attention from the study of single ingroup vs. outgroup scenarios to the more realistic scenario of multiple group memberships, which may become salient at the same time, resulting in different category combinations or crossed categorisations (Ashmore, Deaux & McLaughlin-Volpe, 2004). For example, depending on the situation, one category may dominate over the others, or there may be a hierarchy of categories, or all categories may be equally salient at the same time. Previous work has established the way different categories are combined may have unique effects on intergroup phenomena such as intergroup bias and prejudice (Urban & Miller, 1998). Those effects are primarily rooted in differences in ingroup inclusiveness, i.e. where we draw the line between in- and outgroup. The more categories are equally salient at the same time, the more the boundary between the various ingroups and the outgroup will become blurred possibly even to the point of becoming indistinguishable.

In the most extreme case, all categories an individual holds may be salient at the same time (Brewer & Pierce, 2005; Roccas & Brewer, 2002). In this case, category membership does not matter anymore and as a result, the development of superordinate social identities and a global identity can be fostered in order to reduce cognitive complexity. Using their social identity complexity model, Brewer and her colleagues could confirm that individuals who defined their ingroup in a more inclusive way were more tolerant of cultural and ethnic diversity. Along a similar line of thinking, Triandis (1988) suggests that because individualistic cultures have many specific in-groups, the boundary between ingroup and outgroup may be more blurred than in collectivistic cultures, where there are a few general in-groups and this in turn may have implications for intergroup attitudes.

### **The Self in Cross-Cultural Research: The Six-Fold Self-Construal Model**

In an endeavour to integrate cultural values into conceptualisations of the self and merge empirical findings from crossed categorisation research and cross-cultural psychology, Harb and Smith (2008) propose a new six-fold self-construal model. The model extends the original conceptualisation of independent and interdependent self-construals by Markus and Kitayama (1991), which has been criticised in recent years as the dichotomy of an independent vs. an interdependent self-construal may be too broad to explain individual behaviour. The new model therefore takes into account the distinction between individual, relational, and collective identities which has been suggested by Brewer and her colleagues (Brewer & Gardner, 1996; Brewer & Chen, 2007) and adds a fourth level, humanity. The humanity level is defined as a “*supra structure*” (Harb & Smith, 2008, p.183) in which the self is merely viewed by its belonging to the human species.

Those four levels of self-representations can be distinguished by their increase in inclusiveness: The focal-personal self is at the most individuated end, followed by the relational or interpersonal self (which is dyadic), the collective self (depersonalised member of a larger social category such as nationality), and humanity, which is built on a universal representation of the self.

### **The case of Poland, East and West Germany**

Previous research suggests cultural differences between Poland, East and West Germany on a number of demographic and other variables which are potentially relevant to self-construals. First of all, there are religious differences between the three regions, with Catholicism being the dominant religion in Poland as opposed to

Protestantism in the regions to be studied within East and West Germany. Secondly, there are a number of differences between Poland and East Germany as former communist countries and West Germany. Those are manifested in differences in level and process of democratisation as well as differences in affluence and economic development. The latter is also very different in East Germany and Poland: Whereas the Polish economy suffered from an initial collapse immediately after 1989 and then annual growth rates slowly picked up, East Germany experienced an economic boom right after its reunification with West Germany with annual growth rates over 10% (International Monetary Fund, 2006; Statistische Ämter des Bundes und der Länder, 2008). It can therefore be concluded that social change after 1989 was faster in East Germany than in Poland.

Georgas, Van de Vijver and Berry (2004) demonstrated in their cluster analysis of 31 countries (including the ones of interest in the present study) that affluence was positively associated with individualism and negatively associated with power distance. A communist past on the other hand was negatively associated with autonomy and positively associated with uncertainty avoidance, whereby the latter was also associated with Catholicism. In general, religious involvement was positively related to power distance, hierarchy, and vertical relationships.

Differences in values of the three regions have also been addressed. Schwartz (2004) showed that Poland scores higher on values of hierarchy whereas East and West Germany score higher on egalitarian values. There is some evidence that the structure of values shows some differences between West Germany and the two former communist regions. Based on data that were collected soon after the fall of the communist regimes, Schwartz (2007) found that in East Germany and Poland egalitarian values mapped onto the same factor as benevolence values, whereas in West Germany they formed a distinct factor. He also found that in morally more inclusive societies (i.e. societies characterised by more universal values) those values significantly predicted people's perceived consequences of immigration and acceptance of immigrants, whereas in morally exclusive countries they did not. These findings would suggest that in East Germany and Poland, universality values could apply more to people's wider in-groups and less to humanity in general.

### **The Present Study – Hypotheses**

Relating those findings to the present study, it is expected that Polish participants score highest on the collective levels of the self-construal, followed by East German and then West German participants. West German participants on the other hand are expected to score higher than East German and Polish participants on the personal and the humanity levels of the self-construal. No differences are expected on the relational level of the self-construal. With regards to intergroup attitudes, it is expected that humanity in particular is positively related to tolerance towards foreigners and more positive attitudes towards immigration issues. It is also expected that the relative importance of those aspects of the self-construal which imply a higher level of inclusiveness predicts more positive intergroup attitude. Finally, building onto research into the effects of intergroup contact (Allport, 1954; Pettigrew & Tropp, 2006) and realistic group conflict theory (Esses, Dovidio, Jackson, & Armstrong, 2002; Sherif, 1966), it is expected that participants in Poland and East Germany are less tolerant than participants from West Germany: First of all, they should have fewer opportunities for interethnic contact since the proportion of immigrants in those areas is still very small, and secondly, since resources are scarce (e.g., higher unemployment rates), they are more likely to hold negative attitudes towards immigrants who might be seen as competing for the same resources.

## **Method**

### **Participants**

A total of 490 participants were recruited in lecture halls at universities in Poland ( $n = 193$ ), East Germany ( $n = 159$ ) and West Germany ( $n = 138$ ). Participants in all three locations belong to a similar social stratum within their society (despite differences in socio-economic status between locations); there are no tuition fees in either country and the percentage of young people attending university is relatively high in both countries (Organisation for Economic Co-operation and Development, 2008).



## Materials

A questionnaire of 84 items (some of which are not reported in this study) was devised. The original language of all items was English and they were translated into Polish and German in two panels comprising of several native speakers of either language.

*Self-construal.* In order to assess cultural differences between the three subsamples, the 30-item Sixfold Self-Construal Scale (SSCS) by Harb and Smith (2008) was used. Participants were asked to answer five statements each concerning their relationship with their family (vertical relational), their friends (horizontal relational), their social group (vertical collective), students in their department / faculty (horizontal collective), humanity in general and themselves. Answers were provided on a Likert scale ranging from 1 (“to a very small extent”) to 7 (“to a very large extent”) and individual scores were calculated for each subscale in order to determine the relative strength of each level and dimension within participants’ self-construal.

*Tolerance.* Tolerance was measured using an 11-item version (Berry, 2006) of Kalin and Berry’s (1996) scale. Participants rated their agreement with all 11 statements on a 7-point Likert scale ranging from “do not agree at all” to “agree completely”, with higher scores representing higher levels of tolerance.

*Demographic information.* In the final section of the questionnaire participants reported their age in years, gender, subject of study, nationality, country of birth and ethnic background. Finally, a subsample of the German respondents specified the federal state where they were born in order to distinguish between native East and West Germans. However, this question was only added at a later stage.

## Results

### Sample Characteristics

A closer examination of sample characteristics shows that the majority of participants in all three samples were female, with a slightly higher proportion in the two German samples than in the Polish sample. Also, German participants were on average about one year older than participants from Poland (see table 1 for details).

**Table 1**  
*Sample Demographics*

Location	Gender (%)			Age (in years)		Nationality (%)		Ethnicity (%)	
	Male	Female	Unspecified	Average age	Range	Host	Other	Host	Other
PL	38	59	3	20.38	18 - 33	100	0	97	3
GER (E)	31	67	2	21.33	18 - 42	98	2	96	4
GER (W)	36	62	2	21.60	18 - 41	81	19	75	25

*Note.*  $N_{PL} = 193$ ,  $N_{GER(E)} = 159$ ,  $N_{GER(W)} = 138$ ; PL = Polish sample, GER (E) = East German sample, GER (W) = West German sample.

In terms of nationality and ethnic background, the Polish sample was the most homogenous, followed by the East German and then the West German sample. Out of the German participants, 115 of those recruited in Jena and 82 of those recruited in Tübingen stated the federal state where they were born. Out of those, 81% of participants in Jena were born in the area of the former German Democratic Republic, whereas 97% of participants in Tübingen had been born in the federal states belonging to the Federal Republic of Germany before 1989.

### Scale reliability and equivalence

Prior to the main analyses, reliabilities were compared across the regions and equivalence of the Polish and German scales was tested.

*Sixfold Self-Construal Scale.* In the present study, 13 of the 30 items revealed item bias in an analysis of the six subscales using a regression technique (Van de Vijver & Leung, 1997). Nine items showed uniform bias and four items showed nonuniform bias. However, only two revealed medium to large effects and were excluded.

ed from further analyses. Exploratory factor analyses (EFA) with principal axis factoring and varimax rotation were conducted in the Polish and German samples separately and mostly confirmed the six-factor solution. In order to test for structural equivalence, EFA with target rotation were carried out as recommended by Van de Vijver and Leung (1997). After a further three items were excluded, acceptable values for Tucker's phi could be obtained for all subscales. Individual subscales by country generally revealed acceptable to good reliability, with alphas ranging from .73 to .89. In three of the subscales, alpha coefficients significantly differed between Poland and Germany but the differences were very small and inconsequential. Reliability coefficients on the refined subscales by country and values for Tucker's phi are displayed in Table 2.

**Table 2**

*Reliabilities of SSCS Subscales after Item Bias Analysis and Tucker's Phi*

Scale (n remaining items)	Alpha by Country		Difference in Alpha	Tucker's Phi
	Poland (n valid cases)	Germany (n valid cases)		
Personal (3)	.73 (187)	.80 (258)	$p < .05$	.87
VR (4)	.82 (183)	.88 (258)	$p < .05$	.97
HR (4)	.91 (187)	.85 (258)	$p < .01$	.95
VC (5)	.89 (187)	.89 (258)	<i>ns</i>	.95
HC (4)	.84 (187)	.86 (258)	<i>ns</i>	.93
Humanity (5)	.86 (187)	.83 (258)	<i>ns</i>	.97

*Note.*  $N_{PL} = 187$ ;  $N_{GER} = 258$ ; after excluding participants with nationalities other than German or Polish. VR = Vertical Relational. HR = Horizontal Relational. VC = Vertical Collective. HC = Horizontal Collective.

*Tolerance.* The scale was devised for use in a range of cultural settings and is currently tested in a number of countries (Berry, 2008). Five items were found to be culturally biased, with two showing nonuniform bias and three showing uniform bias. Out of those, two of the reversed items were excluded which showed medium and large effects. EFA with principal axis factoring were conducted in the Polish and German samples separately. After excluding one item that had a loading on a second factor in Poland, Tucker's phi was computed comparing the factor loadings in both countries; its value was .97, thereby supporting the structural equivalence of the scale. The reliability of the remaining eight items was good in both countries and the difference not significant, with  $\alpha_{German} = .77$  and  $\alpha_{Polish} = .78$ .

### **Descriptive Statistics and Regional Differences**

The vertical and horizontal dimensions of the relational and collective levels were merged to simplify the analyses and increase the focus of this study on inclusiveness. The resulting four subscales can be ranked along a continuum of ingroup inclusiveness. Interscale correlations and descriptive statistics for the four self-construal subscales and tolerance are displayed in Table 3.

**Table 3**  
Correlations and Descriptive Statistics by Country

Location	Scales	Scales					
		Personal	Relational	Collective	Humanity	Inclusiveness	Tolerance
	Personal	-					
	Relational	.29**					
	Collective	.08	.34**	-			
	Humanity	.16**	.24**	.46**	-		
	Inclusiveness (slope)	-.46**	-.06	.50**	.78**	-	
	Tolerance	.02	.18**	.07	.14**	.09*	-
PL	M	6.07	6.08	3.76	3.83	-.90	5.51
	SD	.86	.82	1.11	1.34	.49	.97
	N	183	183	183	183	183	183
GE	M	6.17	6.26	3.83	4.02	-.89	5.48
	SD	.86	.78	1.03	1.13	.45	.88
	N	153	153	153	153	153	153
GW	M	6.21	6.32	3.78	4.28	-.83	5.42
	SD	.87	.62	1.09	1.22	.45	1.02
	N	103	103	103	103	103	103

Note.  $N_{Total} = 445$  after excluding participants with nationalities other than German or Polish; PL = Poland, GE = East Germany, GW = West Germany; \* $p < .05$ , \*\* $p < .01$ , all two-tailed.

As a first step, a MANCOVA was conducted with participants' age and gender as covariates, region (three levels: Poland, East Germany, and West Germany) as independent variable, and the SSCS subscale scores as the dependent variables. Using Pillai's trace, significant multivariate effects were found for age ( $F(6, 429) = 2.75, p < .05$ , (partial)  $\eta^2 = .04$ ), gender ( $F(6, 429) = 3.78, p < .01, \eta^2 = .05$ ) and region ( $F(12, 860) = 2.00, p < .05, \eta^2 = .03$ ).

Univariate tests revealed significant main effects for region on the relational ( $F(2, 434) = 4.85, p < .01, \eta^2 = .02$ ) and humanity subscales ( $F(2, 434) = 5.71, p < .01, \eta^2 = .03$ ). Only scores on the personal and the relational self were affected by age ( $F_{personal}(1, 434) = 2.00, p < .05, \eta^2 = .03$ ;  $F_{relational}(1, 434) = 2.00, p < .05, \eta^2 = .03$ ) and gender ( $F_{personal}(1, 434) = 2.00, p < .05, \eta^2 = .03$ ;  $F_{relational}(1, 434) = 2.00, p < .05, \eta^2 = .03$ ); younger participants scored higher on both and female participants scored higher on the relational self and lower on the personal self. Tolerance was only significantly related to gender ( $F(1, 434) = 16.30, p < .001, \eta^2 = .04$ ), with female participants reporting higher levels of tolerance.

Bonferroni-corrected post-hoc comparisons revealed significant differences between Polish and West German participants on the humanity ( $p < .01$ ) and relational subscales ( $p < .01$ ), with the Polish participants scoring lowest and the West German participants scoring highest on both. As expected, those differences were much smaller between Polish and East German participants and only the difference on the relational subscale reached significance ( $p < .05$ ). There were no significant differences between the samples on tolerance.

### The Relationship between Individual Levels of the Self-Construal and Tolerance

In order to examine the relationship between self-construal subscales and tolerance, a multiple regression with age and gender (0 = male, 1 = female) as control variables in the first step ( $b_{age} = -.05, ns$ ;  $b_{gender} = -.18, p < .001$ ;  $\Delta R^2 = .03$ ) was conducted across the three regional samples. Across samples, higher scores on personal and collective self predicted lower scores on tolerance ( $b_{personal} = -.08, n.s.$ ;  $b_{collective} = -.05, ns$ ), whereas higher

scores on the relational self and humanity predicted higher levels of tolerance ( $b_{\text{relational}} = .16, p < .01$ ;  $b_{\text{humanity}} = .15, p < .01$ ). However, the positive relationships were much stronger than the negative ones and only the former reached significance. The combined self-construal scales could only explain an additional 1% of variance in tolerance.

Since humanity is at the most inclusive end of the continuum and it was expected that it would be most strongly linked to tolerance towards strangers, separate regressions with age and gender as covariates in the first step and humanity in the second step were conducted for the three regional samples. Interestingly, humanity only significantly predicted tolerance in West Germany ( $b = .29, \Delta R^2 = .08, p < .01$ ) whereas it was unrelated to tolerance in East Germany ( $b = .11, \Delta R^2 = .01, p > .05$ ) and Poland ( $b = .10, \Delta R^2 = .01, p > .05$ ).

### The Relative Importance of Self-Construal Levels

We were interested to what extent the relative importance of self-construals would be predictive of tolerance. All individuals can be expected to find the focal-personal aspect of self-construals most important, going from focal to humanity the strength can be expected to decrease. The level of decrease across the four self-construal scales could be associated with tolerance. Individuals with a smaller decrement can be expected to be more tolerant, as they differentiate less across inclusiveness levels. The reasoning was tested by computing a regression line through the four scale points. Each individual has his or her own regression line. The predictors were the levels of inclusiveness (here somewhat arbitrarily defined as linearly increasing from 1 to 4 across the four scales) while the dependent variable was the average of the scale scores of the individual.

The variable represented by the slope was termed inclusiveness. Since participants generally identified more strongly with the levels at the lower end of inclusiveness which are characterised by interpersonal relationships as opposed to more anonymous social categories, the average slope across participants on inclusiveness was negative (see Table 3 for descriptive statistics). Negative values closer to zero therefore represent flatter regression lines and thereby a stronger relative identification with the more inclusive levels of the self-construal.

Before analyzing the relationship relative inclusiveness and tolerance, an ANCOVA was conducted in order to test for cultural differences in inclusiveness. The means in Table 3 suggest small differences in the expected direction (the average West German slope was closest to zero); yet, the differences were not significant.

In the next step, a multiple hierarchical regression with age and gender as covariates in the first step and inclusiveness as the independent variable in the second step was conducted across the three regional samples. As expected, higher levels of inclusiveness significantly predicted higher levels of tolerance ( $b = .12, \Delta R^2 = .01, p < .05$ ). However, when the analyses were conducted separately in the three subsamples, it appeared that the relationship between inclusiveness and tolerance was only significant in the West German sample ( $b = .20, p < .05$ ) where inclusiveness explained another 4% of the variance in addition to the covariates. On the other hand, the relationship was non-significant and a lot weaker in the East German sample ( $b = .08, \Delta R^2 = .01, p > .05$ ) and in the Polish sample ( $b = .11, \Delta R^2 = .01, p > .05$ ).

## Discussion

This study aimed at revealing the link between a more inclusive self-construal and more positive attitudes towards foreigners and immigration issues, bringing together research from social and cross-cultural psychology. German participants scored higher on the personal and the humanity levels of the self-construal than Polish participants, as expected; this difference was most pronounced for participants from West Germany. Surprisingly, the Polish participants scored lowest also on the collective self. East Germans scored higher than West Germans on the collective self, which was in line with expectations. However, German participants scored higher on all scales, which suggests the influence of response tendencies like acquiescence. We dealt with this problem by computing an inclusiveness score that was independent of acquiescence and that reflected the relative importance of the four levels for every individual. As expected, inclusiveness of the self was highest in West Germany, followed by East Germany and then Poland; yet, the differences were small and not significant.

A similar pattern of means that showed expected, though nonsignificant differences was found for tolerance. A first explanation for this finding could be that the hypothesized effect is very small and would require much larger sample sizes to reach significance. A second explanation might be higher levels of impression management in East Germany and Poland. East Germany in particular has a reputation of having problems with racism and violence against foreigners. Eastern German and Polish students, who were informed about the international context of this study and of the British affiliation of the principal researcher at that time, may have shown more socially desirable responding. An alternative explanation might be that attitudes held by West German participants are more “real” and less idealistic than they might be in regions where ethnic diversity is not really part of everyday life. Finally, the lack of differences in tolerance could be due to the nature of the sample; student samples may not show the differences in tolerance that were found in other parts of their societies.

Our hypotheses about the relationship between self-construal and tolerance were partly supported; as expected, people who felt more connected to humanity at large were also more tolerant. Similarly, people who are more inclusive are more tolerant. However, although both links were clearly existent in the West German sample and strong enough to be observed even in the overall sample, they were not found when the East German and the Polish samples were analysed separately. The relationship between cultural group, self-construal, and tolerance therefore does not seem to be mediational as expected but cultural group seems to moderate the relationship between self-construal and tolerance. This is in line with findings by Schwartz (2007) who reported that in some Eastern European countries, including Poland and the area of the former German Democratic Republic, universalism values were not linked to intergroup attitudes such as attitudes towards immigrants. He explained this as resulting from the communist past, where universalistic values had been part of the mainstream ideology. In support of this, Bardi and Schwartz (1996) found that in those countries universalism values often had a meaning similar to conformity. Since most of the former Eastern European countries were quite isolated from the rest of the world, it seems plausible that the ingroup to which people apply their moral values, or their “moral universe”, as Schwartz (2007) put it, was also narrower and more exclusive. When people thought of “humanity”, they may have thought of other Polish or German people but not necessarily immigrants moving to their country. This interpretation suggests that at least the higher levels of the self-construal should rather interpreted as abstract values than a true reflection of people’s ingroup.

As opposed to Schwartz’s (2007) research which was based on data from the early 1990s shortly after the breakdown of the former Soviet Union, this study was based on participants who are too young to even have memories of the time when their country was communist. However, the parents of the participants lived their entire lives in a communist regime and inevitably the values they teach their children – consciously and unconsciously – are still a reflection of the culture in the society in which they grew up.

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# The Relationship Between Collectivism and Climate: A Review of the Literature

**Alfred Presbitero** (alfredpresbitero@gmail.com)  
Macquarie University, Australia

**Peter H. Langford** (peter.langford@voiceproject.com.au)  
Macquarie University, Australia

## Abstract

Collectivism is one of the well-researched dimensions of culture that pertains to an individual's relationship to an in-group. Organisational climate, on the other hand, is predominantly defined as the shared perceptions of employees about their working environment. In spite of the long tradition of both constructs in the literature, the conceptual relationship between collectivism and climate has oftentimes been neglected. This paper explores this relationship by presenting (1) the conceptual overlap between culture and climate; (2) the congruence between collectivism and climate in terms of levels of conceptualisation and analysis; (3) the apparent influence of collectivism on organisational processes and practices that have been the domain of climate studies; and (4) the apparent influence of collectivism on climate outcomes. This paper also offers some recommendations to guide future studies including suggestions to have more empirical investigation to strongly establish the relationship between collectivism and climate, to investigate facets of climate simultaneously, to extend the link between climate and other work outcomes, to engage in multi-level research, and to explore how collectivism influences climate formation and change.

## Introduction

Collectivism is the most commonly researched dimension of culture. It has received considerable attention since the seminal work of Hofstede (1980) and has attained the status of paradigm in the social sciences. Collectivism is a construct that focuses on how integrated a person is towards an in-group (Hofstede, 1980; Triandis, 1995). The in-group can be the family, neighbourhood, or other social groups. An individual's identity is defined in part by the membership in any of these in-groups.

Collectivism has also been studied within the organisational context. The literature shows that collectivism influences organisational practices and behaviours. For example, Ramamoorthy and Carroll (1998) studied collectivism in relation to human resources management practices such as selection, performance appraisal, reward system, training, employment security, and career management practices. In another study, Gibson (1999) found support for the moderating influence of collectivism on the relationship between group efficacy and group effectiveness such that when collectivism was high, group efficacy was positively related to group effectiveness. Van de Vliert et al. (2004) also found that when it comes to the interpretation of supervisory feedback, collectivists responded more positively to group-focused than individual-focused feedback. While these studies have demonstrated collectivism as a viable construct in the organisational literature, there is still a dearth of studies that look into collectivism and how it relates to organisational members' perceptions of organisational processes, practices, and experiences. This paper explores the relationship between the constructs of collectivism and organisational climate and demonstrates how collectivism can influence perceptions of working environment and experience.

## Collectivism

Triandis (1995) explained the four defining attributes of collectivism in terms of: (1) how individuals perceive and define themselves, (2) how they relate to others, (3) the structure of goals they follow, and (4) the determinants of their social behaviours. First, collectivists generally view themselves as interdependent with others which is accompanied by sharing of resources. This can be manifested in defining oneself like "I am a member of my family, a member of my community, a member of my church". The feature of interdependence

is similar with Markus and Kitayama's (1994) claim that some cultures have distinct conceptions of individuality that focuses on the underlying principle of relatedness of individuals to each other. Fischer et al. (2009) posited that interdependence may be the core feature of the collectivism construct considering the centrality of the self for human agency. Second, collectivists give importance to unconditional relatedness among members of the in-groups. The in-group can be any group (e.g., family, neighbourhood) where one exhibits loyalty and mutual interdependence. As Kim (1994) describes it, collectivism emphasises a "we" versus "they" distinction. Third, for collectivists, goals are usually consistent with the goals of the in-groups to which they belong. Personal goals are typically in consonance with the goals of the in-group. Lastly, social behaviours among collectivists are typically determined by duties and mutual obligations. Personal choices and decisions can be set aside to give way to the choices and decisions of the in-group. Fulfilling one's duty is somehow complementary with vertical collectivism which according to Triandis (1995) involves a sense of serving the in-group and could mean giving up and sacrificing one's preference for the sake of fulfilling obligations and duties to the in-group.

### **Climate**

The interest in climate dates back from the time of Kurt Lewin who developed the classic formulation of behaviour being a function of the person and his/her psychological environment:  $B = f(P, E)$  (Lewin, 1951). Litwin and Stringer (1968) then explained that their climate model "hopes to provide a quantification, or rather, a diagram of the total situational variables – a diagram that is relevant to the analysis and prediction of the total effects of the environment on groups of individuals" (p. 38). Another conceptualisation was made by Howe (1977) who referred to climate as a wide array of organisational and perceptual variables that reflect individual-organisational interactions. These interactions are said to affect individuals' behaviour in organisations (Jones & James, 1979; Schneider, 1975). Over the years, organisational climate has been dominantly defined as the shared perceptions of employees about their working environment (Schneider, 1975; Schneider & Reichers, 1983; Schneider & Snyder, 1975). These perceptions were assumed to be primarily descriptive of organisational practices and processes. Recent works on climate have expanded the descriptive view and highlight the evaluative and affective nature of organisational climate (e.g., James, James & Ashe, 1990; Patterson, Warr, & West, 2004; Langford, 2009) and linked these collective work perceptions with work outcomes such as job satisfaction, commitment, well-being, motivation, and performance (e.g., Parker et al., 2003).

### **The Relationship between Collectivism and Climate**

Despite a long presence in the literature on both collectivism and climate, the relationship between these variables is not clear and often neglected. In the succeeding section of this paper, we explore the conceptual relationship of these two constructs and explain how collectivism can influence perceptions of the working environment and experience. We present four reasons why collectivism and climate are related. These include (1) the conceptual overlap between culture and climate; (2) the congruence between collectivism and climate in terms of levels of conceptualisation and analysis; (3) the influence of collectivism on climate domains; and (4) the influence of collectivism on climate outcomes.

*The Conceptual Overlap between Culture and Climate.* Culture and climate in organisational contexts are known to be rooted in the fields of psychology, sociology, and anthropology. Interestingly, culture and climate did not come into prominence at the same time. Organisational climate was introduced some 25 years before organisational culture came to prominence. As explained earlier, climate is part of Lewin's (1951) formulation of the field theory. The main interest of field theory is to understand the individual and group phenomenon and its interaction with the organisational context. Climate studies became popular in the fields of industrial and organisational psychology and organisational behaviour. Rensis Likert invented the Likert scale for measuring attitudes and perceptions of managers (Likert, 1961). Likert's scale and his survey methodology became the common technique used to describe perceptions of processes within organisations.

By the 1970s, organisational culture started to attract attention among scholars mainly in the field of anthropology. As such, organisational culture was conceptualised in relation to systems of meanings and values. Organisational culture was initially defined as a common set of shared meanings or understandings within a group or an organisation. It is along these lines that Hofstede (1980) explored culture as the manifestation of

symbols, heroes, rituals, and values. He described culture as the “collective programming of the mind” and explored how nations are different from one another in terms of systems of meanings and values. He further identified the dimensions of culture including the well-researched construct of collectivism.

Ashforth (1985) argued that culture and climate are related in such a way that culture informs climate in two ways: (1) it directly helps individuals in defining what is important and in making sense of their organisational experiences, and (2) it informs climate indirectly through its impact on the objective work environment which may become the norm because of the underlying cultural assumptions and values. However, the different scholarly traditions and perspectives used in conceptualising organisational culture (including collectivism as one of its dimensions) and organisational climate led to constant confusion and frequent erroneous use of the constructs. In an effort to end the paradigm war between culture and climate, Denison (1997) made a strong proposition which clarified that culture and climate are two distinct but related constructs. He further explained that climate differs from culture in such a way that the former refers to a situation and its relationship to thoughts, feelings, and behaviours of individuals in organisations while the latter refers to an evolved context within which a situation may be embedded. He argued that the difference lies more in the interpretation rather than differences in phenomenon and further explained that both constructs share a common goal which is to determine the influence of the individual and social contexts in organisations. He highlighted that the common ground calls for greater integration than differentiation. Given these arguments, we can assume that collectivism, being a dimension of culture, is conceptually related to climate.

*The Congruence between Collectivism and Climate in terms of Levels of Conceptualisation, Measurement, and Analysis.* Aside from the conceptual link between collectivism and climate, it is evident in the literature that the levels of conceptualisation, measurement, and analysis for both constructs are congruent. Collectivism was initially conceptualised at the national level (also referred to as the societal level). As mentioned earlier, in the seminal work of Hofstede (1980), country-level variables were measured, individual responses were averaged within each country and the findings demonstrated differences among nations in terms of how individuals are related and integrated into an in-group. The conceptualisation of collectivism has been extended to include the individual and psychological level. Triandis (1995) conceptualised collectivism at the individual level where he argued that collectivism can be reflected in the dimensions of personality which he referred to as allocentrism. Allocentrism is characterized by interdependence, belongingness to in-groups, and subservience to the wishes of the in-group (Triandis, Leung, Villareal, & Clark, 1985). Oyserman and Uskul (2008) describe collectivism at the individual level to imply that the self is socially sensitive, malleable, context-dependent, and group memberships are ascribed and fixed. Collectivism has also been conceptualised at the organisational level. Robert and Wasti (2000) posited that collectivism is a meaningful dimension of organisational contexts. They developed and coined the term “organisational collectivism” which they had argued to be observed across a wide range of organisations.

In a similar manner, climate also has two levels of conceptualisation, measurement, and analysis: (1) psychological climate which refers to the individual perceptions of the work environment and (2) organisational climate which refers to the collective perceptions of the work environment and experience. Psychological climate has been conceptualised as a molar construct comprising an individual’s psychologically meaningful representations of proximal organisational structure, processes, and events (James, Hater, Gent, & Bruni, 1978; Rousseau, 1988). It has been posited that such psychological representations are an interpretation of organisational processes and practices that is based on an individual’s knowledge structure (James & Sells, 1981). On the other hand, organisational climate can have either a subjective or objective focus (Ekval, 1987; Glick, 1998; James, Joyce, & Slocum, 1988; Rousseau, 1988). The subjective perspective posits that organisational climate is an aggregated and collective construct through which organisation members’ understand and make sense of organisational events. The objective perspective represents the employee’s descriptions of a particular process or practice and such can be viewed as a property of the organisation which distinguishes one organisation from the other. Although climate is not conceptualised at the societal level, the congruence in how collectivism and climate are conceptualised, measured, and analysed (at both individual and organisational levels) leads us to



think that these constructs share salient characteristics and features.

*The Apparent Influence of Collectivism on Organisational Processes and Practices that have been the Domains of Climate Studies.* Kuenzi and Schminke (2009) comprehensively reviewed the climate literature and found climate studies on diversity, ethics, involvement, justice, and leadership. While none of these climate studies have directly included collectivism, we can see in the literature an apparent influence of collectivism on organisational processes and practices that have been the domain of climate studies. For example, Chatman, Polzer, Barsade, and Neale (1998) demonstrated that the extent to which an organisation emphasised collectivistic values interacted with demographic composition to influence social interaction, conflict, productivity, and perceptions of creativity. In another study, Jackson (2001) found that there is some variation among national groups in the difference between self-judgments of ethicality and respondents' perceptions of others' judgments of ethicality. In addition, the phenomenon of rating others less leniently than oneself was found to happen more among collectivists. Meanwhile, Beekun, Stedham, and Yamamura (2003) found that Brazilians (collectivists) evaluate and judge the content of actions and decisions more ethically than Americans (non-collectivists) when utilitarian criteria are applied. They argued that utilitarianism (pursuit of common good) is related to collectivism as it is characterized by the common good of the in-group. In a related study, Gomez, Kirkman, and Shapiro (2000) showed that after controlling for country, collectivism (measured at the individual level) had a positive relationship with the evaluation of a teammate. Furthermore, the evaluation was higher for in-group members among the Mexican respondents than among the US respondents. Another study by Ramamoorthy and Flood (2002) indicated that the dimension of collectivism moderated the relationships between equity perceptions and effort and equity perceptions and obligations towards teamwork.

Other studies showing the apparent influence of collectivism on organisational processes and practices that have been the domains of climate studies include the study of Galang (1999) who showed that Philippine samples (collectivists) registered more positive reactions to participation in decision making than Canadian samples (non-collectivists). In a related study, Lam, Chen, and Schaubroeck (2002) found that allocentrism moderated the relationship between perceptions of group participative decision-making opportunity and group performance. Meanwhile, in terms of justice, Murphy-Berman and Berman (2002) examined cross-cultural differences in perceptions of distributive justice from two collectivistic cultures: Hongkong and Indonesia. They found that Hong Kong respondents viewed the use of merit as fairer than the use of need. On the contrary, the Indonesian respondents saw the use of need as fairer than the use of merit. They suggested the need for a nuanced differentiation among nations generally belonging to the same cultural cluster. Perceptions of leadership are also found to differ across cultures. Ensari and Murphy (2003) found that leaders' prototypical characteristics were more effective in the formation of leadership impression in a non-collectivistic culture (US). Meanwhile, company performance was more effective in leadership attributions in a collectivistic culture (Turkey). These findings in the literature lead us to think that collectivism has a role to play in influencing organisational processes and practices that have previously been the domain of climate studies.

*The Apparent Influence of Collectivism on Climate Outcomes.* Recent works have linked the collective perceptions of work environment with outcomes (e.g., Parker et al., 2003). In a recent review of climate studies, Kuenzi and Schminke (2009) found common work outcomes such as job satisfaction, organisational commitment, and turnover intentions to be part of organisational climate models.

Studies have shown that job satisfaction, organisational commitment, and turnover intentions are influenced by collectivism. For example, Hui and Yee (1999) demonstrated that a positive workgroup atmosphere resulted in low satisfaction among individualists but not among collectivists. They also found a positive correlation between collectivism and job satisfaction but only among members of congenial workgroups. In another study, Wasti (2003) found that satisfaction with one's supervisor was found to be a significant commitment antecedent over and above satisfaction with work and promotion, among employees with collectivist values. Huang and van de Vliert (2003) examined the moderating role of collectivism in the relationship between job characteristics and job satisfaction using a sample comprising 49 nations. They found a strong relationship between intrinsic job characteristics and job satisfaction in less collectivistic countries. Ramamoorthy, Kulkarni, Gupta, and Flood (2007) examined the effects of collectivism on affective commitment,



normative commitment, extra effort, and tenure outcome. Results showed that Indians (collectivists) exhibited greater commitment to the organisation and more willing to demonstrate extra effort than the Irish employees (non-collectivists). At the individual level, the study indicated that individuals with collectivist values tended to exhibit higher commitment to their organisations, tended to have lower turnover intentions, and were likely to exert more effort on the job. These findings clearly demonstrate that collectivism plays an important role in influencing work outcomes such as job satisfaction, organisational commitment, and turnover intentions. Since work outcomes have become an integral part of organisational climate models, we can argue that collectivism can influence climate through its influence on work outcomes.

### Recommendations

This paper explored the conceptual relationship between collectivism and climate. Both constructs have been in existence in the literature for many decades now. However, the conceptual relationship between the constructs has oftentimes been neglected. In this paper, we explained four main reasons to examine the relationship between collectivism and climate: (1) the conceptual overlap between culture and climate; (2) the congruence between collectivism and climate in terms of levels of conceptualisation, measurement, and analysis; (3) the apparent influence of collectivism on organisational processes and practices that have been the domain of climate studies; and (4) the apparent influence of collectivism on climate outcomes.

Now, we would like to offer some recommendations for how this relationship can guide further studies. First, it is necessary to further investigate the influence of collectivism on facet-specific climate. Facet-specific climates are those related to a particular aspect of the organisational context including diversity, ethics, involvement, justice, and leadership, which have been mentioned earlier. But other than these facet-specific climate studies, it may also be important to extend empirical tests of the influence collectivism has on other facets and domains of organisational climate. For example, it may be relevant to conduct studies on the influence of collectivism on climate for safety or climate for innovation. Doing so can bring greater clarity to our understanding of the extent to which collectivism influences other facets of organisational climate.

Second, aside from extending empirical tests to other facets of climate, it may also be interesting to investigate the influence of collectivism on the various facets of climate simultaneously. This means studying one facet of climate alongside the others. Kuenzi and Schminke (2009) explain that “exploring single climates in isolation is unlikely to be the most productive path to creating a full and accurate understanding of how work climates affect individual and collective outcomes within organisations” (p. 706). Investigating climate simultaneously can reveal some interesting interactions between and among various facets of organisational climate. The recent works that have compressed the wide variety of perceptions on work practices and outcomes (e.g., Langford, 2009) can pave the way for this kind of simultaneous investigation.

Third, we have seen that climate has been linked with work outcomes such as job satisfaction, organisational commitment, and turn-over. The link between work practices and work outcomes already represents advancement in the field. It responds to the recommendation of Kraut (2006) who highlighted the importance of demonstrating and determining the relationship between work practices and outcomes. But in spite of these advances, it is also important to explore the relationship of collectivism to other work outcomes that focus on non-employee factors such as organisation objectives, change and innovation, and customer satisfaction.

Fourth, as we have discussed earlier, there is congruence between collectivism and climate in terms of the level of conceptualisation, measurement, and analysis. Collectivism which was originally conceptualised at the societal level has also been conceptualised at the individual and organisational level. The same is true for climate which has been conceptualised at both individual and organisational levels. With these levels of conceptualisation and measurement, it is now possible to explore and engage in multi-level designs to study the relationship between collectivism and climate. Adopting multi-level designs can yield interesting patterns and results potentially revealing how the constructs interact at different levels of analysis.

Finally, it may be interesting to explore how collectivism influences organisational climate formation and change. Schneider and Reichers (1983) offered the structural approach as a potent explanation for under-

standing organisational climate formation and change. The structural approach basically posits that changes in organisational structures and settings can influence and change organisational member's values, beliefs, and perceptions of organisational events. In exploring this approach, it may be interesting to determine how collectivism plays a role in the formation and change of organisational members' perceptions of the organisational environment.

In summary, this paper identifies the need to conduct more empirical investigations to more strongly establish the relationship between collectivism and climate; the need to investigate facets of climate simultaneously; the need to extend the link between climate and other work outcomes such as organisational objectives, change and innovation, and customer satisfaction; the need to engage in multi-level research; and the need to explore how collectivism influences climate formation and change. Through this paper, we hope to stir some fresh and new insights as well as renew enthusiasm towards the seemingly old but robust and promising constructs of collectivism and climate.

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## The Impact of Social Context on Preschoolers' Flexibility

Li Qu (quli@ntu.edu.sg)

Lin Shuhui Audrey (h060027@e.ntu.edu.sg)

Low Pei Jun (lowp0006 @ntu.edu.sg)

Ng Hui Qun (ng0003un @ntu.edu.sg)

Nanyang Technological University, Singapore

### Abstract

The current study investigates whether social interaction without communication between partners may influence preschoolers' flexibility. Fifty-three 5 year old Singaporean children were randomly assigned to three conditions of a block sorting task (Fawcett & Garton, 2005): playing individually, cooperating with another player, and competing against another player. To control for individual differences, before the block sorting task children were given four cognitive tasks testing vocabulary, short-term memory, and executive function, as well as two affective scales on mood and motivation. Separate one-way Analysis of Variance (ANOVA) showed that although they performed the same on the cognitive tasks and the affective measures, children in the competition condition sorted blocks along significantly more dimensions compared to children in the individual condition. These results suggest that preschoolers' flexibility is sensitive to social contexts.

### Introduction

Cognitive flexibility, or "switching", is the ability to switch between representations based on changing relevant cues in the environment (Jacques & Zelazo, 2005). It is one of the major components of executive function, which refers to the processes required for the conscious control of thought, emotion, and action (Miyake et al., 2000; Zelazo, Qu, & Müller, 2005). Cognitive flexibility plays an essential role in the acquisition of language (Deak, 2003), arithmetic skills (Bull & Scerif, 2001), theory of mind (Müller, Zelazo, & Imrisek, 2005), and interpersonal interactions (Bonino & Cattclino, 1999). Hence, it is important to develop cognitive flexibility at an early stage.

Flexibility improves during preschool years (Zelazo et al., 2005). For example, Blaye and Bonthoux (2001) have shown that 5-year-olds are more flexible than younger preschoolers. With a categorization task, they have found that 3-year-olds can spontaneously group objects, but they only rely on one criterion, which usually is the most salient one at the moment of testing. Four-year-olds can use a thematic criterion to group objects, but they often fail to switch to a different criterion. Five-year-olds are more able to respond to the specific demands of the task and classify objects based on the context. Similar results have been obtained with the Dimensional Change Card Sorting task (DCCS; Zelazo, 2006), a widely used executive function task. In this task, children are asked to sort cards by one dimension (e.g., color) and then switch to the other dimension (i.e., shape in this case). Zelazo's group have found that by 4 years of age, children are able to sort cards by one dimension but fail to switch to the other dimension, whereas by 5 years of age, children are able to switch the two sorting dimensions. Nevertheless, 5-year-olds still experience difficulties when the task involves three dimensions (Jacques & Zelazo, 2001; Zelazo, Müller, Frye, & Marcovitch, 2003).

Block sorting is another way to examine the development of flexibility (Fawcett & Garton, 2005; Garton & Pratt, 2001). For preschoolers, this task uses a 3 (color) x 2 (shape) x 2 (size) combination of blocks that can be sorted in six different ways. For 7-year-olds, width dimension is added, which creates 14 possible ways of sorting. Children are asked to sort blocks in as many ways as possible. It was found that out of a maximum of 6 possible sorts, 4-year-olds could sort between 0 and 4 correct sorts; out of a maximum of 14 possible sorts, 6- to 7-year-olds could sort between 0 and 9 correct sorts. These indicate that flexibility is developing rapidly during preschool years; however, even old preschoolers still lack flexibility. This is possibly because flexibility largely relies on the dorsolateral prefrontal cortex, which does not become mature until late adolescence (Bunge & Zelazo, 2006).



Nevertheless, working with another person can improve a number of children's abilities including categorization, free recall, utilization of strategies, and understanding of questions (Burton, 1941; Foley & Ratner, 1998; Garton & Pratt, 2001; Perlmutter, Behrend, Kuo, & Muller, 1989; Vygotsky, 1978). Teaming up with another person may facilitate children's performance both cognitively and affectively. Cognitively, working with another person may increase children's awareness of the essential goal of the task as well as the other individual's perspectives and problem-solving methods. Such awareness may be integrated into children's own awareness and further facilitate their behavioral control. Affectively, working with another person may increase children's enjoyment of the activity. Such suggestions are consistent with functional magnetic resonance imaging (fMRI) studies in adults. Compared to playing a game independently, playing with another person seems to be associated with more brain activity in the frontoparietal network, which is related to executive function and theory of mind, and the anterior insula, which is related to autonomic arousal and feelings of reward (e.g., Decety, Jackson, Sommerville, Chaminade, & Meltzoff, 2004; Rilling, Gutman, Zeh, Pagnoni, Berns, & Kitts, 2002).

Likewise, working with another player can increase children's flexibility. For instance, Burton (1941) asked a preschooler to play a peg-board game until the child felt bored, at which point a second child was brought in to play the game with the first child. In this situation, it was found that the previously bored child continued to play the game for one-third of the initial play time. Similarly, compared to playing alone, a preschooler would play with a set of toys for a longer period of time and play with the toys in a greater variety of manners when teaming up with another child (Perlmutter et al., 1989; Simmel, Baker, & Collier, 1969).

However, it is unclear whether playing with another player cooperatively and competitively have similar impacts on flexibility, especially if players are not allowed to verbally communicate with each other. Fawcett and Garton (2005) found that 6- to 8-year-olds' performance on the block sorting task can be improved when collaborating with another child. However, such improvement was only significant when the pairs were allowed to talk to each other. While actively cooperating, children have more opportunities to view the blocks from different perspectives and take the suggestions from other players. This suggests that verbal communication is essential for the facilitation effect during cooperation. Hence, without verbal communication, (passive cooperation), preschoolers may not benefit from playing with a partner.

On the other hand, unlike cooperation, during competition, opponents seldom communicate or exchange perspectives with each other. In addition, unlike adults and older children, competition does not decrease preschoolers' intrinsic motivation. For instance, Butler (1989) found that in a competitive atmosphere, while first and fourth graders showed lower interest afterwards, young preschoolers aged 4 and 5 actually showed a greater interest in the task. It seems that during comparison, preschoolers become more engaged in the task and tend to observe their competitors more (Butler & Ruzany, 1993; Mosatche & Bragonier, 1981). Hence, even without verbal communication, during competition, preschoolers may benefit from playing with a competitor and become more flexible. This proposition has yet to be tested.

Thus, the current study investigates whether social context, such as cooperating with or competing against another player without communication, may influence 5-year-olds' flexibility. A between-subject design was used. To control for individual differences, children's vocabulary, memory span, and executive function were tested as well.

## Method

### Participants

Fifty Singaporean children ( $M = 66.13$  months,  $SD = 3.11$ , *Range*: 60 – 71 months; 24 girls) participated the study. All children were recruited from a database of parents who expressed interest in participating in the research, and the children received stationery as tokens of appreciation.

### Materials

*The Block Sorting.* Adapted from Fawcett and Garton (2005), this task is a measure of cognitive flexibility. The task consisted of 12 blocks which can be sorted according to three basic dimensions, namely co-



four (orange, yellow, blue), shape (circular, square), and size (small, large). A total of 6 possible sorts can be derived – by colour (3 piles), by shape (3 piles), by size (2 piles), by colour/shape (6 piles), by shape/size (4 piles), by colour/size (6 piles). Children’s performances were scored by the number of accurate sorts and the complexity of sorting dimension.

*The Peabody Picture Vocabulary Test, Fourth Edition* (PPVT-IV; Dunn & Dunn, 2006). This task is a measure of receptive vocabulary. Participants were asked to select one picture out of four that best represents the meaning of a stimulus word presented orally.

*The Digit Span task* (Davis & Pratt, 1996). This task measures the development of short-term memory. Children are asked to repeat a set of numbers after the experimenter.

*The Less is More task*. This task was adapted from Boysen and Berntson (1995) and Carlson, Davis and Leach (2005). It is a reverse-reward contingency task and measures children’s inhibitory control under conflicts. Children are shown two boxes with two and six treats (stickers or marbles) respectively. In order to obtain big rewards, children have to point to the box with small rewards. There are 16 trials in total. The final score is the proportion of trials in which the child chooses the box with the smaller number of treats. Children were tested either individually or with a second experimenter as a partner.

*The Dimensional Change Card Sort* (DCCS; Frye, Zelazo, & Palfai, 1995). This task is a measure of rule switch. Children are asked to sort cards that can be sorted by two dimensions, color or shape. Children who successfully sort 5 out of 6 trials during both pre- and post-switch phases are considered to have successfully switched sorting dimensions, and are scored as “pass”.

*The Motivation Scale*. This scale includes five pictures of a cartoon boy (or a girl when the participant is female) posing in five postures: 1) the boy spreading his arms out to a near 180 degree to show that he “really really wants”; 2) the boy spreading his arms out to an angle of approximately 60 degrees to show that he “really wants”; 3) the boy spreading his arms out slightly leaving only a palms’ distance to show that he only “wants a little bit”; 4) the boy using his fingers to show his desire with a small space between the thumb and the index finger to depict he only “wants a little, little bit”; and 5) the boy folding his arms to indicate that he “does not want it”. Children were asked to point to the picture that best illustrated how much they wanted to play the game(s).

*The Mood Scale*. This scale includes five cartoon facial expressions, illustrating a number of emotional states: very happy, happy, neutral, sad, and very sad. Children were asked to point to the face that best reflected how they felt at that moment.

## Design

A between-subject design was used. Children were randomly assigned to three conditions: self, cooperation, and competition conditions (see Table 1 for the details). To control for individual differences in vocabulary, memory span, and executive function, children were given four control tasks: the PPVT, the Digit Span, the Less is More, and the DCCS. To control for individual differences in affective states, children were asked to use the Motivation Scale and the Mood Scale to report their motivation and mood states at three time points: after warm-up and before starting the study, after the demonstration but before the real test of the block sorting task, and after the Block Sorting task.

**Table 1**  
*Instructions Given for Manipulation of Social Contexts*

Condition	Instruction Given
Self Condition	“If you do well, you will receive a prize from me.”
Cooperative Condition	“If both of you (together with the 2nd experimenter) do well, both of you will each receive a prize from me.”
Competitive Condition	“If you (looks at child) do well, you will receive a prize from me. If you (looks at second experimenter) do well, you will receive a prize from me.”

## Procedure

Each child was tested by one or two female experimenters in a quiet corner of the child's daycare. The total testing time was about 30 minutes. The test order was warm-up, motivation and mood check 1, the four control tasks (i.e., Less is More, PPVT, DCCS, Digit Span), the demonstration of the Block Sorting, motivation and mood check 2, and the real test of the Block Sorting, and motivation and mood check 3. The condition of the Block Sorting and the DCCS dimension were counterbalanced between the participants fully.

## Results

The preliminary analysis did not show any gender difference for the Block Sorting task (the number of accurate sorts  $F(1, 51) = 2.77, p > .05$ ; the complexity of sorting dimension demonstrated  $\chi^2(1, N = 53) = 2.36, p > .05$ ). Hence, data for both genders were combined.

Separate one-way analysis of variance (ANOVA) tests did not show any significant condition difference on the control tasks (see Table 2 for the details).

In addition, separate Kruskal-Wallis tests did not show any significant condition differences in terms of children's motivation check 2 and mood states check 2 before conducting the real tests of the Block Sorting task (see Table 3 for the details).

A one-way ANOVA showed that there was a main effect of social context on the number of accurate sorts  $F(2, 53) = 5.39, p < .05$ . Tukey's HSD test ( $p < .05$ ) showed that the children in the competition condition sorted significantly more blocks ( $M = 2.00, SD = 1.33$ ) than the children in the self condition ( $M = 1.06, SD = 0.83$ ). The children in the cooperation condition ( $M = 1.71, SD = 0.85$ ) did not differ from the children in the other two conditions significantly.

**Table 2**

Mean (and Standard Deviation) of Performances on the Control Tasks by Condition.

Task	Condition			Condition difference
	Self	Cooperation	Competition	
Less is More	11.29 (4.31)	11.71 (4.17)	10.32 (4.49)	$F(2, 50) = 0.49, p > .05$
Peabody Picture Vocabulary Test	84.06 (10.50)	80.88 (11.67)	85.16 (14.19)	$F(2, 50) = 0.57, p > .05$
Dimensional Change Card Sorting: # of correct trials during post-switch	5.24 (1.99)	3.47 (3.00)	3.37 (2.99)	$F(2, 50) = 2.60, p > .05$
Digit Span	3.47 (1.38)	3.35 (1.27)	3.47 (1.68)	$F(2, 50) = 0.04, p > .05$

**Table 3**

Mean (and Standard Deviation) of the Ratings on the Motivation and Mood Scales by Condition.

Scale	Condition			Condition difference
	Self	Cooperation	Competition	
Motivation Check 1	4.18 (1.29)	4.06 (1.35)	4.42 (0.84)	$X^2(2, N = 53) = 0.25, p > .05$
Motivation Check 2	4.53 (1.01)	4.06 (1.30)	4.26 (1.10)	$X^2(2, N = 53) = 1.41, p > .05$
Mood Check 1	4.59 (0.51)	4.29 (0.77)	4.42 (1.02)	$X^2(2, N = 53) = 1.58, p > .05$
Mood Check 2	4.47 (0.72)	4.53 (0.62)	4.42 (0.77)	$X^2(2, N = 53) = 0.12, p > .05$

## Discussion

The current study has shown that compared to playing alone, children appeared to be significantly more flexible when playing with a competitor; however, without verbal communication, playing with a passive-cooperator did not improve preschoolers' flexibility.

These findings are consistent with previous results that children are sensitive to social context. Children become more engaged and more flexible while playing with other players compared to playing alone (Burton, 1941; Perlmutter et al., 1989; Simmel, Baker, & Collier, 1969).

Verbal communication and exchange of opinions with the competitor are not needed during competition. It is possible that during competition, preschoolers are cautious about their competitor's behaviors (Bulter, 1989; Butler & Ruzany, 1993; Mosatche & Bragonier, 1981). Although children cannot see what their competitor is doing, they may guess what the competitor will do. Such attempts may make preschoolers take various perspectives, which may improve their flexibility. On the other hand, verbal communication and exchange of opinions are essential components of cooperation. In the current study, preschoolers were not allowed to communicate with each other. Furthermore, the cooperator was passive as she did not sort the blocks or make any suggestions. In this case, the preschoolers in the current study did not need to imagine what their cooperator would think or would do. Hence, the presence of the partner did not increase their ability to view the blocks from various perspectives. Consistent with Fawcett and Garton's findings (2005), their flexibility was not improved.

The long-term effect of facilitation associated with co-playing is another aspect deserving further examination. Additionally, the current study was conducted in Singapore, an Asian country with intermingled Eastern and Western cultures. The samples may be unique. Cross-cultural studies are needed to examine this aspect further.

Taken together, the current study adds another piece of evidence that preschoolers' executive function is sensitive to social context.

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## **A Psycholexical Study of Personality Trait Structure of Hindi Speaking Indians**

**Jitendra Kumar Singh** (jitendrasingh08@gmail.com)  
Defence Institute of Psychological Research (DIPR), Delhi, India

**Girishwar Misra**  
University of Delhi, Delhi, India

### **Abstract**

This study adopted a psycholexical approach to uncover the personality trait structure of Hindi speaking Indians. The endorsement for personality descriptive adjectives was obtained from young adults (n=240) using a Likert-type 5-point rating scale. The principal component analysis using varimax rotation revealed a six-factor structure comprised of (I) rajasic (passion and mobility), (II) sattvic (goodness and harmony), (III) tamasic (dullness and inertia), (IV) competence, (V) neuroticism, and (VI) extraversion. The six-factor structure of personality in Hindi language has broader psycholexical space than what is proposed in the “Big Five” personality theory.

The origins of contemporary psycholexical studies are found in the classic list of personality descriptive adjectives developed by Allport and Odbert (1936). The same list has been revised, modified and supplemented by researchers in subsequent studies (e.g. Cattell, 1943; Goldberg, 1981, 1982; Norman 1967; Tupes & Christal, 1961). In the course of a span of about seven decades researchers have reported varied factor solutions (e.g. five, six, eight and sixteen). The popular view tends to suggest that across the world personality converges on a five-dimensional space (see Goldberg, 1981; John, Nauman & Soto, 2008; McCrae & Costa, 1997). The dimensions of the five-factor structure largely conceptualize the psycholexical space of personality in the Euro-American languages (e.g., Caprara & Perugini, 1994; DeRaad, 1992; DeRaad & Szirmak, 1994; Saucier, Georgiades, Taousis & Goldberg, 2005; Szarota, 1996). The questionnaire measure of five factors, popularly known as the NEO-PI-R (Costa & McCrae, 1992), has also received wide attention and has been substantiated in different cultures including Chinese (e.g., McCrae, Costa, & Yik, 1996), French (McCrae, Costa, del Pilar, Rolland, & Parker, 1998), Greek (Tsaousis, 1999), and Russian (Martin, Oryol, Rukavishnikov, & Senin, 2000) cultures.

Nonetheless an inconsistent pattern in the emergence of a fifth factor tapping intellect/imagination/culture/integrity has also been noted (Caprara & Perugini, 1994; Peabody & De Raad, 2002; Szirmak & De Raad, 1994) questioning the assumed and projected universality of the five-factor structure (see Block, 1995). Studies conducted in non-Western cultures highlighting the significance of language in describing personality have received little attention (Church, 1987). Psycholexical investigation of person-descriptive adjectives in Filipino language has revealed a seven-factor structure (Church, Katigbak & Reyes, 1996). The extension of earlier studies has yielded ten factors (Imperio, Church, Katigbak & Reyes, 2008). These factors involving social and physical attributes are characteristically different from the Big- Five (Goldberg, 1981), HEXACO (Lee & Ashton, 2004), and ML7 (Saucier, 2003). There is growing evidence that personality may not share the same characteristics across cultures (Church & Katigbak, 1988; Markus & Kitayama, 1998; Misra & Gargen, 1993; Shweder, 1999).

This study explored the pattern of personality structure in a Hindi speaking Indian sample belonging to the South Asian Cultural context. Hindi is one of the most popular languages of India spoken in a large region of the country comprising eight States. It has a rich literary tradition. The majority of the National daily newspapers, television programs, cinemas, and scientific literature are prepared in this language. Hindi is taught up

to high school level in all the educational institutions of the country. It is one of the official languages of India. It belongs to the Indo-Aryan family of languages. The script of this language is *Devanagari* and the majority of the words of this language have been derived from Sanskrit.

## Method

### Sample

A sample of 240 young adults ( $M= 22.67$  years,  $SD= 2.71$ ) whose mother tongue was Hindi from north India participated in the study. Among them 141 were male (58.75%) and 99 were female (41.25%). The majority of the participants came from an urban middle class background.

### Measure and Procedure

A personality descriptive adjective checklist consisting of a list 295 adjectives (presented in Hindi and English together with a 5-point rating scale) was used. The adjectives were identified using a thesaurus of Hindi and a few contemporary Hindi novels. Initially, a total of 827 adjectives were selected using exclusion criteria such as (1) non-descriptive words of persons or behaviours (e.g. *nouns*); (2) complicated, unusual, outdated, and jargon terms (e.g. *rustic*); (3) role oriented words that did not have direct bearing on traits (e.g., *plumber*); (4) words denoting a group of individuals (e.g., *doctor*); and (5) words reflecting ideological overtone (e.g., *extremist*). The list of 827 adjectives was further screened using some additional exclusion criteria (1) physical features having no trait connotation (e.g., *tall*); (2) physical and mental health (e.g., *paralytic, depressive*); (3) power and status (e.g., *feudal, anarchist*), and (4) politics and religion (e.g., *Naxali, blasphemous*). Using these exclusion criteria a list of 465 adjectives was selected. Also, the list of 465 adjectives was given to a team to scrutinize each adjective on three criteria i.e. obscurity, ambiguity, and unfamiliarity (see De Raad, Perugini, Herbickova & Szarota, 1998). Only those adjectives on which the team had almost 80% agreement were considered for inclusion. Out of 465 adjectives only 357 adjectives could be retained. The 357 adjectives were rated on the criterion of “appropriateness” for personality description using a 3- point rating scale ranging from “least appropriate” to “most appropriate”. The adjectives with mean ratings from 2 to 2.5 were retained. Finally, a set of 295 personality descriptive adjectives were retained.

Considering the bilingual nature of Indians 295 adjectives were translated into English and again back translated into Hindi. They had 90% agreement on the translation of the adjectives. The adjectives which did not have an exact English equivalent were kept in Hindi. The adjectives were arranged alphabetically.

### Procedure

Participants were instructed to indicate to what extent they thought each of the adjectives described themselves on a 5-point rating scale ranging from “least descriptive” (1) to “most descriptive” (5). They took around two hours to give their response. In case the participants had any difficulty in understanding the adjectives, the meaning of those adjectives was explained to them.

## Results and Discussion

The data were factor analyzed following principal components analysis with varimax rotation. The scree plot of Eigen values revealed extraction of as many as six factors. The Eigen values for the first six factors were 31.47, 23.39, 16.73, 8.17, 7.14, and 5.44. While analyzing the factors only those adjectives whose loading was .40 or above were considered.

The six-factor solution explained 31.3% of the total variance. The highest loading factor had 48 adjectives with positive or negative loadings. It explained 8.63% of the variance. The positively loaded adjectives on this factor characterized a general tendency to be friendly, generous and judicious towards others. The adjectives with negative loadings indicated hypocritical, deceptive and cunning tendencies. They highlighted an opportunistic tendency to use others to serve one’s vested interests. This factor was termed as *rajasic*.

Factor II explained 6.33% of the variance and was termed as *sattvic* which is the characteristic of an individual who possesses the social and spiritual qualities or virtues. A total of 40 adjectives loaded on this factor which included well-behaved, impartial, virtuous, understanding etc.

Factor III explained 5.93% of the variance. It comprised 32 adjectives such as uncivilized, inconsiderate, arrogant, jealous and intolerant. The adjectives loading on this factor indicated for a socially undesirable tendency which is characterized as *tamasic*.

Factor IV explained 4.12% of the variance. It had 18 adjectives collectively representing self-confidence and dynamism aiming towards making progress. Hence this factor was labeled as *competence*. It had adjectives such as successful, talented, perseverant, disciplined, concentrated etc.

Factor V explained 3.37% of the variance. It comprised of a cluster of 12 adjectives implying emotional instability, anxiety, feeble-mindedness, withdrawal, and distractedness. This factor was named as *neuroticism*.

Factor VI explained 2.92% of the variance. It consisted of 10 adjectives like assertive, extrovert, fearless, courageous and diplomatic. Collectively they indicated *extraversion*.

The present findings indicate that personality in Hindi language can be described in a six-dimensional psycholexical space. However, the constituents of these dimensions present a different conceptualization of personality. Thus the findings of the present study may be examined in the light of a six-factor structure in English language (Ashton, Lee & Goldberg, 2004), an eight-factor structure in Dutch language (De Raad & Barelds, 2008), and a five-factor model of personality (Costa & McCrae, 1992).

The six-dimensional psycholexical space that emerged in the present study is constituted by the following factors (I) *rajasic*, (II) *sattvic*, (III) *tamasic*, (IV) competence, (V) neuroticism and (VI) extraversion. The adjectives that loaded positively on the *rajasic* factor indicate a tendency towards maintaining a modest and polite attitude towards others in order to be acceptable. On the other hand, the negatively loaded adjectives reveal a manipulative tendency with the desire to please others to gain benefit out of it. The individuals high on these attributes have a materialistic orientation, strong sense of gratification, and passion for seeking power and authority. *Rajasic guna* has been conceptualized in *Bhagavad-Gita* in terms of intense activity, desire for a sense of gratification, restlessness and craving for material objects, little interest in spiritual elevation, dissatisfaction with one's present position or state, greed, violence, an envious and cunning attitude and a materialistic orientation in life.

The *rajasic* factor shares a sizeable amount of similarity with other psycholexical studies. Some of the negative adjectives loaded on this factor (such as flatterer, deceptive, cunning, busy-body, and showy) share similarities with negatively loaded adjectives from the sixth factor named honesty-humility in the English language (Ashton, et al., 2004). These adjectives were cunning, unwise, crafty, tricky, sneaky and foxy. Also, some of the adjectives loading positively on this factor such as friendly, tender-minded, empathetic, and kind partly share the characteristics of tender-mindedness which is one of the facets of agreeableness in NEO-PI-R (Costa & McCrae, 1992).

The adjectives loaded on the *sattvic* factor share characteristics that are indicative of a generous, altruistic, and humane attitude with an element of self-regulation. This quality indicates a state in which an individual maintains balance across different domains of life. In *Bhagavad-Gita* the *sattvic* factor has been described by qualities such as truthfulness, gravity, dutifulness, detachment, discipline, mental balance, respectfulness and sense of control.

With regard to *the sattvic* factor vis-à-vis the factors of Western psycholexical studies it was observed that the positively loaded adjectives on the agreeableness factor in the six-factor solution (Ashton, et al., 2004) of the English language (e.g. patient, non-hostile, tolerant, non-explosive, good-tempered, undemanding, and gentle) are similar to the adjectives from the *sattvic* factor (such as tolerant, gentle, levelheaded, balanced and understanding) in this study. The adjectives belonging to the *sattvic* factor also resemble 'virtue' which is the first factor in an eight-factor structure of Dutch trait taxonomy (De Raad & Barelds, 2008). Virtue, in Dutch trait taxonomy, is characterized by the terms friendly, trustworthy, loyal, decent, sincere, good, honest, reliable, sympathetic, civilized and polite.

The attributes that loaded on the *tamasic* factor reflect a cynical and destructive tendency where the individual hardly enjoys good relations with others. Such individuals have less control than others have over negative emotions and they have low self esteem which finally leads to a self-destructive tendency.

Qualities such as anger, arrogance, depression, laziness, procrastination and a feeling of helplessness characterize a *tamasic* person as described in the *Bhagavad-Gita*. The adjectives constituting this factor partly share the characteristics of impulsiveness which is one of the facets of neuroticism in the NEO-PI-R (Costa & McCrae, 1992) and hedonism which is the sixth largest factor in the Dutch trait taxonomy (De Raad & Barelds, 2008) characterized by sensation-seeking, beast like behaviour, horniness, and impulsivity.

The adjectives loaded on *competence* characterize a pattern of self-efficacy with commitment and discipline. The shared pattern of these attributes points towards the application of intellect in the proper direction with energy and motivation for excellence. The adjectives partially resemble the adjectives from the conscientiousness factor that emerged in the six-factor solution in the English language (Ashton, et al., 2004). Competence is also one of the facets of conscientiousness in the NEO-PI-R (Costa & McCrae, 1992) with defining adjectives such as efficient, self-confident, thorough, resourceful, confused (negative loading), and intelligent. These adjectives indicate a person's intellectual potential. In the Dutch trait taxonomy (De Raad & Barelds, 2008) 'competence' has emerged as the second largest factor in an eight-factor solution.

The adjectives forming the neuroticism factor collectively define a negative affective state characterized by being anxious, perplexed, unsuccessful, and withdrawn. These adjectives share certain common characteristics with adjectives (such as emotional, fearful, weepy, sensitive, worrying, self-pitying, and over-nervous) that have negative loadings on the emotionality factor from the six-factor solution in the English language (Ashton, et al., 2004) and traits (such as anxious fearful, worrying, tense, and nervous) from the anxiety facet of the neuroticism dimension in the NEO-PI-R (Costa & McCrae, 1992).

Extraversion, as the sixth factor, is dissimilar to the factor found in Western psycholexical studies where it has emerged either as the first largest factor of the Big Five (Goldberg, 1981) or as the second largest factor in the six-factor solution (Ashton, et al., 2004). Extraversion in the English lexicon is described by adjectives, like talkative, bubbly, vocal, jolly and perky, which indicate a sociable tendency in the individual. On the contrary, extraversion is the sixth factor in the present study and is characterized by adjectives such as assertive, fearless, *jujharoo* (One who does not give up in spite of setbacks), flamboyant, hilarious and diplomatic. These adjectives indicate boldness and assertiveness to lead others, mixed with a humorous and diplomatic attitude.

The emergence of a six-factor structure comprising some indigenous dimensions (*rajasic*, *sattvic*, and *tamasic*) as well as some dimensions found in other languages (*competence*, *neuroticism*, *extraversion*) indicates a relatively larger psycholexical space in Hindi. The adjectives characterizing the first three largest factors share the conceptualization of *triguna* theory in the Indian context. This theory postulates a set of three primary qualities *sattva*, *rajas*, and *tamas*. They are roughly translated as luminosity, activity and inertia. The relative intensity and combination of *gunas* characterize stable individual differences. The dynamic nature of *gunas* make them partly like states and partly like traits. The term *triguna* at first appeared in the text of *Swethaswathara Upanishad* and thereafter in *Ayurveda* and other texts like the *Bhagavad Gita*. It has drawn the attention of many researchers interested in indigenous constructs (e.g. Marutham, Balodhi & Mishra, 1998; Mathew, 1995; Murthy & Kiran Kumar, 2007; Pathak, Bhat, & Sharma 1992; Wolf, 1998).

The findings also indicate a partial resemblance of the Hindi six-factor structure with the six-factor structure of the English language, eight-factor structure of the Dutch language and facets of some of the dimensions on the NEO-PI-R. However, the adjectives describing these six factors of Hindi language are also remarkably different from the characteristics of their counterparts in other languages. On the whole, the findings of the study indicate that these six factors are specific to the Indian-socio cultural context. It points towards the need for examining developmental changes in the factor structures as it is largely confined to description of the personality structure of young adults. It also indicates the possibility for developing an indigenous tool of personality assessment.

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# The Effectiveness of Two Treatments to Enhance Academic Self-Concept among Low-Achieving Secondary School Students in China

**Lan YANG** (yanglan@hkusua.hku.hk)  
The University of Hong Kong, Hong Kong

**David Watkins** (drdawatkins@gmail.com)  
The University of Hong Kong, Hong Kong

## Abstract

The present research focused on investigating the effectiveness of two treatments to enhance academic self-concept among low-achieving junior middle school students, who continue their learning in the secondary vocational education (SVE) system of China. The results demonstrated that the intervention delivered in natural classroom settings significantly enhanced English self-concept, the targeted facet of the academic self-concept. Moreover, the intervention did not change Chinese and Mathematics self-concepts (two control facets of academic self-concept) significantly, lending support to the multidimensional conceptualization of self-concept. It should be noted that the improvement in English achievement among the two experimental classes was statistically significant as well, providing more empirical evidence for the effectiveness of feedback intervention. Future use of the two treatments to enhance academic self-concepts in natural classroom settings is discussed.

*Keywords:* academic self-concept, internally focused performance feedback, attributional feedback, academic achievement

## Rationale to Enhance Academic Self-concept

Based on recent advances in self-concept theories, researchers have identified the relationship between academic self-concept and academic achievement appears to be reciprocal (Marsh & O'Mara, 2008; Marsh, Tracey, & Craven, 2006; Marsh & Yeung, 1997). For example, Marsh and Yeung (1997) found prior self-concept affects subsequent achievement after controlling for the effects of prior achievement. Also, prior achievement in specific subject areas affects subsequent academic facets of the self-concept. Consistently, Marsh, Byrne, and Yeung (1999) identified that there is clear support for a reciprocal effects model (REM) based on existing studies that employed strong methodology. According to the REM, the long-term gains of a positive academic self-concept can be maintained when corresponding academic achievement is improved, and vice versa (Craven et al., 2003; Marsh & Craven, 1997; Marsh & O'Mara, 2008). In other words, academic self-concept enhancement will lead to desirable learning outcomes, reciprocally, successful learning experiences will help students generate positive feelings of competence and learning enjoyment and maximize their potential to learn (Craven et al., 2003; Guay, et al., 2003).

## The Present Study

The present study focused on enhancing the academic self-concept of low-achieving secondary vocational students in mainland China. To understand the low-achievement of students in secondary vocation education (hereafter called SVE), we had conducted two other studies investigating student personal factors that would have an influential impact on academic achievement, from which the likely major role of academic self-concept emerged. More specifically, on one hand, we found academic self-concept (measured by Marsh's SDQ-I) of secondary vocational students is the best predictor of academic achievement ( $\beta = .39, p < .001$ ) compared with their approaches to learning ( $\beta = .17, p < .05$ ) and internal locus of control ( $\beta = .07, p < .05$ ). On the other hand, we also found students in SVE experience the lowest academic self-concept. In particular, English self-concept scores of SVE students were lowest ( $M = 20.80, SD = 7.66$ ) compared with scores on Chinese and mathematics self-concepts ( $M = 25.37, SD = 7.04$  and  $M = 21.65, SD = 8.53$ , respectively). Additionally, in contrast

to English Self-Concept scores among students in senior secondary education, those of students in SVE are substantially lower,  $t(509) = 4.64, p < .001$ . Hence, the English self-concept of secondary vocational students is proposed to be the first targeted facet of the self-enhancement intervention.

### Methods

#### Sampling

Participants in this study were 120 students (boys = 41, girls = 79), aged from 15 to 18 years ( $M = 16.17, SD = 0.89$ ). The sampled school was a typical SVE school in Guizhou, Southwest China.

#### Procedure

*Intervention Administered in Natural Classroom Settings.* To administer the intervention in natural classroom settings, the author was initially permitted to work as a regular teacher to teach participants English. The author was also requested to teach strictly according to the teaching objectives proposed by the sampled school based on SVE students' poor prior knowledge of English.

*Intervention Conducted Through Two Treatments.* During the 16 weeks' regular teaching, the combined feedback and performance feedback alone were delivered to the two experimental classes respectively through two types of learning activities aiming to assist students in fulfilling their learning intentions. The first type of activities focused on assessing students' spoken English performance, in which pronunciation and reading exercises concerning vowel and consonant sounds of English with the International Phonetic Alphabet (IPA), words and sentences were designed. All spoken exercises were required to be finished in regular classroom time. Immediate performance feedback by using positive words of reinforcement (see Table 1) was given to students to inform how well they had performed in the relevant spoken exercises. In other words, immediate performance feedback was contingent on oral performance of the targeted students.

**Table 1**

*A partial sample of student worksheet concerning pronunciation exercises (e.g., IPA)*

Pronunciation Exercises: The 48 sounds of English with IPA				
Vowels	Try Again	Good	Very Good	Excellent
[i:]	1	2	3	4
	1	2	3	4
	1	2	3	4
[e]	1	2	3	4
...	...	...	...	...

There are several noteworthy features of the immediate performance feedback to spoken performance. First, worksheets with feedback were given to the targeted students as soon as they finished the assigned spoken exercises. Second, the feedback was task-focused. The content of the targeted tasks can be linked to each item of pronunciation/reading exercises, such as a vowel or a consonant sound of English in the IPA, an English word or a spoken sentence in a situated dialogue. Third, it was internally focused performance feedback focusing on guiding students to recognize their personal best and appreciate their task accomplishment. To fulfill this purpose for the large number of participants, each was provided two more opportunities to try again when they were not able to pronounce the targeted item correctly at the first attempt (see Table 1). This design aims to help students with low-achievement to focus their attention on task improvement and avoid self-defeating behaviors. Some of the students may have already reached a 'good' level at the targeted item (s), however, if they were not satisfied with their prior achievement they could practice consistently and try again to reach an 'excellent' level of performance. Fourth, items of pronunciation/reading exercises vary from the 48 English sounds with the IPA (illustrated in Table 1) to words and sentences based on teaching objectives and student learning intentions. Fifth, the four evaluation levels of immediate performance feedback remain unchanged across pronunciation and reading exercises. It should be noted, to help the large number of low-achieving

students achieve their personal best in the targeted tasks, the two extra opportunities for them to improve prior task accomplishment were provided in a given period of time (i.e. after all students had finished the targeted pronunciation/reading exercises for the first time).

The second type of activities aimed to evaluate students' English performance in written forms. Exercises to help students master the pronunciation rules of the 48 English sounds with the IPA, to build vocabulary, and to be familiar with spoken sentence structures were developed and assigned to the targeted students. In the second type of activities, performance feedback alone was administered to one experimental class. Performance feedback in the present study focuses on not only highlighting students' strengths in fulfilling the targeted tasks, but also providing advice/strategies to assist them in correcting mistakes they had made at the key points of learning intentions. The combined approach, namely, performance and attributional feedback, was delivered to the other experimental class. Consistently, performance feedback using praise words contingent on successful performance was given to students in this class. Also, advice on how students could correct their mistakes or strengthen their weak points was suggested. Besides performance feedback, attributional feedback was also provided on worksheets to help students attribute their academic success and failure to effort and concentration on learning. Unlike immediate performance feedback given for spoken English performance in the regular class time, feedback to the written form of tasks was commented on students' worksheets after class. Subsequently, worksheets with the teacher's feedback were handed out to students in the two experimental classes at the same day within the same week of their tasks accomplishment.

It should be noted all exercises were identical across the three classes involved in the present study. In the control class, the worksheets providing immediate feedback to students' spoken performance were kept by the English teacher (the author) rather than given to students. In addition, neither internally focused performance feedback nor the combined feedback to written exercises was delivered to students in the control class.

## Data Analyses

Pre- and post- tests on the academic scale of SDQ-I were administered to all participants right before and after the feedback intervention conducted for 16 weeks. A repeated measures MANOVA was conducted to test changes in English self-concept (the targeted facet of the intervention) and Chinese and Mathematics self-concepts (two control facets) simultaneously among students in experimental and control classes. Due to missing data, analyses were conducted for 108 participants (boys = 31, girls = 77).

## Results

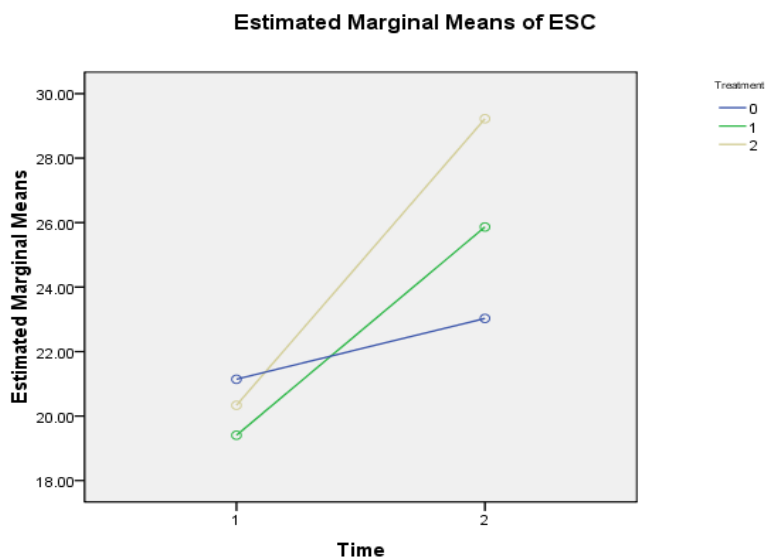
### Effects on targeted and untargeted facets of academic self-concept

The pre- and post- test scores on English, Chinese, and Mathematics self-concepts (ESC, CSC, MSC) by Treatment are listed in Table 2. Figure 1 illustrates the differences between pre- and post-test scores on English self-concept by Treatment. The slopes of Treatment 1 and 2 are significantly different from the control, suggesting that the treatments had an effect, specifically, enhancing the English self-concept.

**Table 2**  
Pre- and Post- Test Means and Standard Deviations of ESC, CSC, MSC

Measures	Treatment	Pre-test (Time 1)		Post-test (Time 2)		N
		Mean	SD	Mean	SD	
ESC	0	21.14	9.45	23.03	8.67	37
	1	19.41	9.28	25.86	6.58	35
	2	20.33	8.22	29.22	6.58	36
	Total	20.28	8.94	26.06	7.68	108
CSC	0	26.77	7.56	26.06	6.99	37
	1	26.84	7.84	27.41	6.50	35
	2	27.69	7.96	29.81	5.80	36
	Total	27.10	7.73	27.77	6.57	108
MSC	0	20.66	8.58	20.46	7.64	37
	1	16.30	8.79	17.54	7.08	35
	2	19.78	9.32	19.00	10.3	36
	Total	18.87	9.02	18.97	8.47	108

Note. Scores of each scale ranged from 8 to 40.



**Figure 1:** Profile plot of Time and Treatment for changes in English self-concept.

The results of repeated measures multivariate tests showed the treatment effect (indicated by the interaction effect) was statistically significant ( $\Lambda = .81, F(6, 206) = 3.94, p = .001, \eta^2 = .10$ ). Specifically, univariate tests (see Table 3) revealed significant Time x Treatment effects ( $F(2, 105) = 10.93, p = .000, \eta^2 = .17$ ) were identified for only English self-concept of the experimental classes. The results supported the main prediction of the present study that significant effects occur on the targeted facet of the academic self-concept (ESC). The two control (non-targeted) facets of academic self-concept, Chinese and Mathematics self-concepts were not changed significantly by the feedback intervention (see Table 3). According to the construct validity approach to address intervention effects (see Marsh & Craven, 1997; Marsh, Craven, Burnett, 2003; Marsh, 2007), this result provides strong evidence of good within-construct validity for the feedback intervention conducted in the present study.



**Table 3**  
*Univariate Tests on Changes in ESC, CSC, MSC*

Source	Measure	Sum of Squares	df (105)	Mean Square	F	Sig.	$\eta^2$
Time	ESC	1781.161	1	1781.161	86.941	.000	.453
	CSC	23.141	1	23.141	.956	.331	.009
	MSC	.423	1	.423	.019	.891	.000
Time * Treatment	ESC	447.907	2	223.954	10.931	.000	.172
	CSC	71.110	2	35.555	1.468	.235	.027
	MSC	39.623	2	19.812	.879	.418	.016

### Difference Between the Effectiveness of the Two Treatments to Enhance Esc

Based on a repeated measures MANOVA at a subscale level, we found the combined feedback worked better than performance feedback alone to enhance the affective facet of ESC ( $F(71,1) = 4.17, p = .05$ ), although the two approaches did not differ significantly from each other in changing the competence facet of ESC. The results suggested the combination of performance and attributional feedback played a more important role in improving low-achieving students' interest/enjoyment in learning English than using performance feedback alone. Moreover, performance feedback tended to play a fundamental role in changing low-achieving participants' perceived competence of learning English positively.

### Effects to Matching and Non-Matching Domains of Academic Achievement

Analysis of Variance was conducted to examine the changes in English, Chinese and Mathematics Achievement by the feedback intervention. It should be noted that academic achievement was indicated by corresponding school grades obtained by students in the first semester of the academic year. The results showed achievement scores in English improved significantly ( $F(2, 107) = 15.51, p = .001, \eta^2 = .23$ ), whereas those of Chinese and Mathematics were unchanged ( $F(2, 107) = 2.35, p = .05$ , and  $F(2, 107) = 2.95, p = .05$ , respectively). More specifically, a follow-up post-hoc test showed that the English achievement mean scores of both experimental classes were substantially higher ( $p = .001$ ) than those of the control class. However, there was no significant difference between the English achievement scores of the two experimental classes receiving Treatment 1 and 2, respectively.

### Discussion and Implications

The present study not only provided consistent support for the significant effects of the combined feedback, but also the effectiveness of internally focused performance feedback alone to enhance one's English self-concept, the targeted facet of the academic self-concept. In previous research, only the combined feedback was administered to enhance the targeted facet of the self-concept, which made it impossible to test the effectiveness of performance feedback or attributional feedback individually. The present research separated performance feedback from the combined feedback to examine its effect on enhancing the targeted self-concept. The results clearly showed the utilization of internally focused performance feedback alone can also significantly enhance the English self-concept of the targeted students, in contrast to non-targeted students in the control class. Importantly, this finding complements Craven and her colleagues' research in which performance feedback was intentionally combined with attributional feedback. In particular, this result indicates a self-mediating process whereby students transfer performance feedback from teachers to an internal self-concept; this appears to be naturally occurring even among low-achieving as well as low self-concept Chinese learners. In other words, attributional feedback, which has been suggested to be an important component of self enhancement interventions for Western children with low self-concepts (Craven et al., 1991) may not be similarly important to Chinese students. The value of education and effort in Chinese culture may shed some light on our understanding this phenomenon. In China, education is highly valued. To become a well-educated person, diligence plays a key role in developing ability, knowledge seeking and successful learning (Li, 2001).

Effort, in Chinese culture, has been perceived as “an extremely internal, controllable, stable and global cause (Hau & Salili, 1996, p.132)” of personal achievement. Although participants in the present study were those with low-achievement, it is highly plausible that they also perceive effort as a key factor in their learning, at least to some extent. It should also be noted that because it is self-enhancement that is the focus of the present study rather than self-attribution retraining, more emphases have been put on multi-dimensional self-concept measures with sound psychometric properties. It would be worthwhile for future research to employ related instruments of causal attribution to investigate to what extent the attribution patterns of low-achieving students might be changed by self-enhancement treatments.

The significant effects of the combined feedback on low self-concept primary students in a Western culture have been extended to both low-achieving and low self-concept secondary students in a non-Western culture. For example, the subjects in Craven and her colleagues' studies were primary students ranging from grade 3 to 6. Moreover, only those students who scored lowest on the self-concept (measured by SDQ-I) in each experimental class participated in the self-enhancement intervention (Craven et al., 1996; Craven, 1991). However, participants in the present study included a large number of low-achieving junior secondary students who failed in the entrance examinations for admittance to academic-level senior high schools and recently enrolled in a secondary vocational school for the purpose of obtaining early employment. Measured with SDQ-I, we found low academic self-concept among all participants. Although it is not surprising to find this, their low-achievement as well as low academic self-concept made it extremely important and meaningful to conduct a relevant self-enhancement intervention to foster their positive feelings of academic competence and help them succeed in secondary vocational learning. The results indicated a combination of performance feedback and attributional feedback not only enhanced their self-perceived competence with English, the targeted subject, but also improved interest/enjoyment in learning this subject. The results also suggest that secondary students with low prior achievement scores as well as low academic self-concepts would benefit most from corresponding self-concept enhancement interventions in a non-Western culture.

The effects of self-enhancement interventions on a very small group of students per class in Western literature have been extended to a large group of students in the present research. For example, there were typically 6 to 8 members (maximum) in the experimental groups of previous research. In the present research, over 30 students in each experimental class received corresponding feedback. More importantly, the significant effects of the two treatments to enhance the targeted facet of academic self-concept were identified among the large groups of students. This result has important implications for secondary education, especially, contemporary secondary vocational education in China, given that students enroll in secondary vocational schools are usually those with extremely low achievement levels. It suggests that it would be more suitable and productive to deliver self-enhancement programs to a large number of students, to change the overall situation of low-achievement challenging secondary vocational schools, than to an extremely small number of students only.

The two treatments were delivered by the author through regular teaching in natural classroom settings rather than separated rooms on the school ground. To deliver proposed treatments in a natural classroom setting is a desirable goal of self-enhancement researchers, because findings from natural classrooms likely have more direct and practical implications for teachers than those generated from laboratories (see Craven, 1991; Craven, et al. 2003). Moreover, to expand the effectiveness of teacher-mediated treatments to a majority of low-achieving students in SVE, or other educational settings, it is useful to deliver workshops or other forms of training to introduce the multidimensional and hierarchical nature of the self-concept, to reinforce the value of self-enhancement, and to teach effective feedback interventions.

Although, in contrast to the control class, both the combined feedback and the internally-focused performance feedback classes were able to significantly enhance the targeted facet of academic self-concept, the combined approach was shown to more effectively enhance the affective dimension of one's academic self-concept than performance feedback. Hence, teachers should take students' characteristics of affective and competence components into account when they make a decision to deliver either of the two treatments in a natural classroom setting. For example, the combined approach would be more appropriate to secondary vocational school students, given that (1) they comprise a large proportion of low-achieving secondary students in Chi-

na and (2) they are more likely to suffer chronically negative feelings of academic incompetence and may be particularly vulnerable to losing interest in learning a variety of school subjects. However, internally-focused performance feedback, the direct approach to enhancing academic self-concept, could play a more important role in non-vocational senior secondary schools. Given that senior secondary students need to pass the national entrance examination with high achievement scores in order to enter their desired universities, they would have already placed a higher value on diligence, persistence and concentration on successful learning, albeit implicitly. Explicitly, they may need timely performance feedback from teachers to reflect what they need to refine (where they should allocate more effort to improve). Also, teachers' performance feedback is likely important for reinforcing students' strengths and making school learning more meaningful (e.g., It is worth trying no matter how difficult the targeted tasks are considered to be.). Taken together, the adoption of the combined feedback or performance feedback alone not only depend on the personal characteristics of students, but also contextual factors to ensure a more practical and significant intervention.

In summary, the targeted facet of academic self-concept benefited more from the feedback intervention than non-targeted facets. Recent advances in self-concept theories, measurements, and practices have played an integrated and determinant role in the significant effects of the two treatments. It would be worthwhile for future investigations to assess the generalizability of the two treatments to the mathematical domain of the academic self-concept among low-achieving secondary vocational students, as this would help this group of students generate positive feelings of competence in more subjects and maximize their potential to succeed in their learning endeavours across subjects.

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## **Argumentation among Family Members in Italy and Switzerland: A Cross-Cultural Perspective**

**Francesco Arcidiacono** (francesco.arcidiacono@unine.ch)  
University of Neuchâtel, Neuchâtel Espace L. Agassiz 1 2000 Switzerland

**Antonio Bova** (antonio.bova@usi.ch)  
University of Lugano, Lugano Via G. Buffi 13 6900 Switzerland

### **Abstract**

The main goal of this study is to analyze to what extent family members engage to resolve differences of opinion during everyday interactions at home. Our aim is to point out the importance of the context in the analytical reconstruction of argumentation carried out by parents and children at dinnertime. Through the examination of everyday interactions, we analyze qualitatively how argumentation shapes the communicative practices of Italian and Swiss family members and how it can foster a critical attitude in their processes of decision-making. We integrate two theoretical and methodological approaches: the first one is the model of the critical discussion, derived from the pragma-dialectical perspective. It represents an ideal argumentative discussion against which real-life interaction can be analytically reconstructed and evaluated. The second one is the conversational and discursive approach that aims at identifying the sequential patterns of discourse produced by participants. The present study shows that within the setting of dinnertime conversations pragma-dialectical and conversational analyses are powerful tools to understand how argumentation fosters a critical attitude in the process of decision-making and of the building of consent. The results open a space of investigation about the management of family debates in different contexts, taking into account a double perspective on argumentation.

### **Introduction**

Argumentation is a mode of discourse in which interlocutors are committed to reasonableness, i.e. they accept the challenge of reciprocally founding their positions on the basis of reasons (Rigotti & Greco Morasso, 2009). Traditionally, some forms of institutionalized interactions have been clearly recognized as contexts in which argumentation plays an essential role: political and media discourse, public controversy and juridical justification, conflict resolution practice of mediation and financial proposal.

In this paper, we will focus on the less investigated context of family conversations. In particular, our goal is to analyze to what extent family members engage in resolving differences of opinion during everyday interactions at home. By the presentation of case studies, we will analyze qualitatively how argumentation shapes the communicative practices of Italian and Swiss family members and how it can foster a critical attitude in their processes of decision-making.

### **Family Argumentation**

Family encounters including children should deserve more attention as an important context of argumentative development in empirical as well as theoretical investigation. Research on children's argumentation seems to have been focused primarily on peer interactions and based on conversation samples elicited either in experimental clinical settings or in semi formal pedagogic contexts (Maynard, 1985; Benoit, 1992; Felton & Kuhn, 2001). However, in recent years, besides a growth in the number of studies which highlight the cognitive and educational advantages of reshaping teaching and learning activities in terms of argumentative interactions (Pontecorvo, 1993; Grossen & Perret-Clermont, 1994; Mercer, 2000; Schwarz et al., 2008), the importance of the study of argumentative dynamics which are involved in the family context is gradually emerging as a relevant field of research in social sciences. Indeed, the family context has a particular significance for the study of argumentation, as the argumentative attitude learnt in the family, in particular the capacity to deal with disagreement by means of reasonable verbal interactions, can be considered the matrix of all other forms of argumentation (Muller-Mirza & Perret-Clermont, 2009). Furthermore, despite the focus on narratives as the first genre to appear in communication with small children, caregiver experiences as well as observations of



conversations between parents and children suggest that family conversations can be a significant context for emerging argumentative strategies.

In conversation with children, parents use language in order to convey norms and rules governing linguistic, social and cultural behavior. By focusing on Swedish family dinner table conversations, Brumark (2006a) revealed the presence of certain recurrent argumentative features in family conversations, also showing how some argumentative structures may differ depending on the ages of children. Other recent works have shed light on the relevance of an accurate knowledge of the context in order to evaluate the argumentative dynamics of family conversations at dinnertime (Arcidiacono, Pontecorvo & Greco Morasso, 2009; Bova, forthcoming). Indeed, argumentation constitutes an intrinsically context-dependent activity which does not exist unless it is embedded in specific domains of human social life. Argumentation cannot be reduced to a system of formal procedures as it takes place only embodied in actual communicative and non-communicative practices and spheres of interaction (Rigotti et al., 2009). Thus, when we have to work with family conversations, the knowledge of the context has to be integrated as part of the argumentative structure itself in order to properly understand the argumentative moves adopted by family members. Accordingly, the apparently irregular, illogical and incoherent structures emerging in these natural discourse situations (Brumark, 2006b) require a “normative” model of analysis as well as specific “empathy” towards the object of research, in order to properly analyze the argumentative moves which occur in the family context.

### **The Model of “Critical Discussion”**

This model is a theoretical device developed in pragma-dialectics to define a procedure for testing standpoints critically in the light of commitments assumed in the empirical reality of argumentative discourses (van Eemeren & Grootendorst, 1984). The model of critical discussion provides a description of what argumentative discourse would be like if it were optimally and solely aimed at methodically resolving a difference of opinion about the soundness of a standpoint. In this study, the model is taken as a basis for the analysis of argumentative strategies in the family context. The notion of critical discussion does not refer to any empirical phenomena and the pragma-dialectical procedure to conduct a critical discussion constitutes a theoretically based model to solve differences of opinion. As suggested by van Eemeren (2010), in argumentative reality no “tokens” of a critical discussion can be found.

The model of critical discussion foresees four ideal stages, which do not mirror the actual temporal proceedings of the argumentative discussion, but the essential constituents of the reasonable, i.e. critical discussion. The first step is the confrontation stage in which a difference of opinion emerges: “it becomes clear that there is a standpoint that is not accepted because it runs up against doubt or contradiction” (van Eemeren & Grootendorst 2004, p. 60). In the opening stage, the protagonist and the antagonist try to find out how much relevant common ground they share (as to the discussion format, background knowledge, values, and so on) in order to be able to determine whether their procedural and substantive zone of agreement is sufficiently broad to conduct a fruitful discussion. In the proper argumentation stage of critical discussion, arguments in support of the standpoint(s) are advanced and critically tested. Finally, in the concluding stage, the critical discussion is concluded, “in agreement that the protagonist’s standpoint is acceptable and the antagonist’s doubt must be retracted, or that the standpoint of the protagonist must be retracted” (ibid., pp. 60-61).

In the last decade, van Eemeren and Houtlosser (2003) have developed the notion of strategic maneuvering. They have observed that in empirical reality discussants do not just aim at performing speech acts that will be considered reasonable by their fellow discussants (dialectical aim), but they also direct their contributions towards gaining success, that is, to achieving the perlocutionary effect of acceptance (rhetorical aim). This notion allows reconciling a longstanding gap between the dialectical and the rhetorical approach to argumentation, and takes into account the arguers’ personal motivations that move them to engage in a critical discussion.

### **Conversational and Discursive Approach**

The notion of conversation as the common discursive practice in everyday interactions and as a process of language socialization (Ochs, 1988), have been the topic of various studies in psychology, anthropology and



sociology. The study of conversations “represents a general approach to the analysis of the social action which can be applied to an extremely varied array of topics and problems” (Heritage, 1984, p. 291).

The approaches of Conversation Analysis (Sacks, Schegloff & Jefferson, 1974) and Discourse Analysis (Antaki, 1994; Edwards, Potter & Middleton, 1992) aim at analyzing conversations in their actual contexts, in order to identify the sequential patterns of discourse produced by participants. The main idea is to study social life in situ, in the most ordinary settings, examining routines and everyday activities in their concrete details (Psathas, 1995). These approaches try to assume the participants’ own perspective, in order to explore the structures of expressions used in conversation (such as words, sounds, movements), as well as the structures of meanings (overall topic, their organization in talk, local patterns of coherence in the sequence, implication, assumptions).

Within the framework of family conversations and inspired by the theoretical paradigm of ethnomethodology (Garfinkel, 1967), the analysis of talk-in-interaction involves a focus not only on structures and strategies, but also on processes that activate knowledge and different opinions among family members (Ochs & Taylor, 1992; Pontecorvo, 1996; Pontecorvo, Fasulo & Sterponi, 2001; Sterponi, 2003).

## Method

### Data

The present study is part of a large project<sup>1</sup> devoted to the study of argumentation in the family context. The general aim of the research is to verify the impact of argumentative strategies for conflict prevention and resolution within the dynamics of family educational interactions. The data corpus is constituted by the video-recordings of thirty dinnertime interactions held by five Italian middle class families from different cities and five Swiss families living in Lugano. All participant families are Italian-speaking.

Researchers met families in a preliminary phase, to inform the participants about the general lines of the research and the procedures, and to get informed consent. Further, families were informed that we were interested in “ordinary family interactions” and they were asked to try to behave “as usual” at dinnertime. During the first visit, a researcher was in charge of placing the camera and instructing the parents on the use of technology (such as the position and direction of the camera, and other technical aspects). In order to minimize the researchers’ interferences, the recordings were performed by the families on their own while the researchers were not present<sup>2</sup>. Families have been asked to record their interactions at the dinner table when all members were present. Each family videotaped their dinners four times, over a four-week period. Lengths of recording vary between approximately 20 and 40 minutes. The first videotaped dinner was not used for the aims of the research, in order to allow the participants to familiarize themselves with the camera. The other three dinnertime conversations were fully transcribed<sup>3</sup> using the CHILDES system (MacWhinney, 1989), and revised by two other researchers until a high level of consent was reached (80%).

### Criteria of Analysis

In order to analyze the argumentative exchanges, we have selected the conversational sequences occurring in family interactions. As suggested by Schegloff (1990) “the organization of sequences is an organization of actions, actions accomplished through talk-in-interaction, which can provide to a spate of conduct coherence and order which is analytically distinct from the notion of topic” (p.53). Moreover, to consider these sequences as relevant for our study, we refer to the concept of “participants’ categories” (Sacks, 1992), in order to avoid

<sup>1</sup>The ProDoc project “Argumentative Practices in Context (Argupolis)” is a doctoral program, jointly designed and developed by scholars of the Universities of Lugano, Neuchâtel, Lausanne (Switzerland) and Amsterdam (The Netherlands) that is specifically devoted to study argumentation practices in context. The Research Module “Argumentation as a reasonable alternative to conflict in family context” is the specific field in which this study takes place, thanks to the support of the Swiss National Science Foundation (project n. PDFMP1-123093/1).

<sup>2</sup>From a deontological viewpoint, recordings made without the speakers’ consent are unacceptable. It is hard to assess to what extent informants are inhibited by the presence of a tape recorder. However, we tried to use a data gathering procedure that would minimize this factor as much as possible. For a more detailed discussion, cf. Arcidiacono & Pontecorvo (2004), and Pontecorvo & Arcidiacono (2007).

<sup>3</sup>For the transcription symbols, see the Appendix.

predictive assumptions regarding interactants' motivational, psychological, and sociological characteristics. These factors can only be invoked if the participants themselves are "noticing, attending to, or orienting to" them in the course of their interaction (Heritage, 1995, p. 396).

We present below two excerpts as representative sequences of argumentation among parents and children, with the aim to show to what extent family members engage in resolving differences of opinion during everyday interactions at home. The first example concerns an Italian family (case 1) and the second is related to a Swiss family (case 2). In the excerpts, fictitious names replace real names in order to ensure anonymity.

## Analysis

### Case 1: Italian family

Excerpt1: Family TAN, dinner 2; participants: MOM (mother, age: 35); DAD (father, age: 37); FR1 (child 1, Marco, age: 9); FR2 (child 2, Francesco, age: 6).

All family members are seated at the table waiting for dinner.

- 1 \*FR2: mom. [=! a low tone of voice]  
 2 \*MOM: eh.  
 3 \*FR2: I want to talk:: [=! a low tone of voice]  
 → \*FR2: but it is not possible [=! a low tone of voice]  
 → \*FR2: because <my voice is bad> [=! with a very low tone of voice]  
 4 \*MOM: why?  
 → \*MOM: no::  
 5 \*FR2: please:: mom: [=! with the tone of someone who is saying something obvious]  
 6 \*MOM: no absolutely.  
 7 \*FR2: [=! nods as to say he knows what he is saying]  
 8 \*MOM: I do not think so.  
 → \*MOM: a beautiful voice like a man.  
 → \*MOM: big, beautiful::  
 9 \*FR2: no.  
 \*pau: common 2.5  
 → \*FR2: an idiot ((voice))  
 10 \*MOM: you feel like an idiot?  
 11 \*FR2: the voice.  
 \*pau: 6.0  
 12 \*MOM: tonight: if we hear the sound of "bread schioccarello"  
 ((the noise when hard bread being chewed)) [=! smiling] [=! ironically]  
 13 \*FR2: well bu: but not:: to this point.  
 %pau: common 4.0

The relevant part of the sequence starts in turn 3 when the child tells his mother that he cannot speak because his voice is bad. The mother does not agree and in turn 4 she asks the child for the reasons of such an idea. In turn 5 Francesco makes an attempt to escape the burden of proof, since his assumption needs no defense: *Please mom*. The mother does not accept the child's assumption (turn 6: *No absolutely*) and in so doing she assumes the burden of proof. In other words, she starts to provide arguments in order to defend her standpoint (*The voice is not bad*), telling her child that his voice is beautiful, as that of a grown-up man. Finally, the sequence is closed by a long common pause (4 seconds).

From an argumentative point of view, we could reconstruct the difference of opinion between the child and his mother in the following terms:

Issue: *My voice is bad*

Protagonist: mother  
 Antagonist: child 2  
 Standpoint: *No absolutely*  
 Argument: *you have a beautiful voice* (principal argument)  
*Big, beautiful, like a man* (coordinative argument).

In the course of the sequence, Francesco does not accept the mother's argument, and in turns 9 and 11 he replies that he has the voice of an idiot. At this point, the mother uses an ironic expression, an argument with a high degree of implicitness. Indeed, she tells the child that if that evening she would hear strange noises, such as that of hard bread being chewed, it would be her child's voice. In turn 13 Francesco maintains his standpoint but he decreases its strength in a way. Indeed, we could paraphrase Francesco's answer as follows: Yes, I have a bad voice, but not so much! Not to that point, not as strange as the noise of hard bread being chewed! According to leading scholars, commenting ironically on the attitudes or habits of children appears to be a socializing function adopted by parents in the context of family conversation (Brumark 2006a). In this case we can note how when the implicit meaning is clear and shared by both arguers (i.e. the child understands the implicit meaning of the mother's utterance), commenting ironically on the child's behavior could also represent an argumentative strategy adopted by parents in order to withdraw or to decrease the strength of the child's standpoint.

We can conclude that, from an argumentative point of view, the sequence is characterized by two elements. Firstly, it is the mother who assumes the burden of proof. More precisely, she is called upon to be the protagonist of the discussion and she provides arguments in order to defend her standpoint. On the other hand, the child does not defend his initial assumption by providing arguments, but he denies to assume the burden of proof since, for him, his assumption needs no defense. Thus, it is clear that it is up to the mother to decide to start a (critical) discussion. Secondly, the important function of irony and implicitness in the argumentative exchange of this Italian family has to be noted. We have seen in the last part of the sequence (turn 12) how the mother makes clear use of an ironic expression with a high degree of implicitness, in order to withdraw or decrease the strength of the child's opinion. In cross-cultural terms, we could consider the use of irony as a peculiar feature of the Italian families' conversations.

### Case 2: Swiss family

Excerpt2: Family GEV, dinner 3; participants: MOM (mother, age: 32); DAD (father, age: 34); FR1 (child 1, Luca, age: 9); FR2 (child 2, Bernardo, age: 4) All family members are eating, seated at the table.

%sit: FR2 touches and looks at the container with the pills

1 \*FR2: I'm going to take one of these

→ \*FR2: yes.

2 \*MOM: you can't Bernardo.

3 \*FR2: eh?

4 \*MOM: you can't.

%act: shakes his head

5 \*FR2: why not?

6 \*MOM: because children have to take special drugs

→ \*MOM: they can't take the same drugs as adults

→ \*MOM: otherwise they will make themselves ill.

7 \*FR2: and before you < > also felt ill?

8 \*MOM: no because I'm an adult

%sit: FR2 gets close to MOM

9 \*FR2: and me?

10 \*MOM: you are still a child

%pau: common 1.0

%sit: FR2 bangs the drugs' container on the table. MOM extends her hand towards him to try and make him

eat a piece of fruit. FR2 turns his head away quickly and slowly leaves the kitchen to go towards DAD and FR1

The sequence starts when Bernardo tells his mother that he is going to take one of the pills which are in the container of drugs. The mother in turns 2 and 4 does not agree with the child's behaviour: Bernardo cannot take the pills. At this point, the child asks his mother the reason why he cannot take the drugs (turn 5: *why not?*). From an argumentative point of view the exchange is particularly interesting, since the child is asking the reasons for the mother's opinion. We could say that in this case the "why" used by the child has an argumentative function. The mother does not avoid justifying her position. Indeed, in turn 6 she puts forward her argument (*because children have to take special drugs*). In other words, we could say that she accepts the role of protagonist in the discussion and, consequently, she assumes the burden of proof.

In argumentative terms, we could reconstruct the difference of opinion between the child and his mother as follows:

Issue: *I want to take one of the drugs*  
 Protagonist: mother  
 Antagonist: child 2  
 Standpoint: *You can't Bernardo*  
 Argument: *because children have to take special drugs* (principal argument)  
*they can't take the same drugs as adults, otherwise they will make themselves ill* (subordinative argument).

In turn 7 the child makes a request for clarification. We could paraphrase the child's question as follows: *Has it happened before to you as well?* His mother's answer is clear and explicit in turn 8: *no because I'm an adult*. In turn 9 the child makes a further request for clarification in order to understand what is his status: adult or child? The mother's answer is still clear and explicit: Bernardo is still a child. At this point, a non verbal act (Bernardo bangs the drugs' container on the table) concludes the sequence, showing how Bernardo accepts the mother's standpoint and does not take the drugs. In pragma-dialectics terms, this is a concluding stage. As for the previous case, it is the mother who assumes the burden of proof. Indeed, she accepts the "challenge" to defend her opinion on the basis of reasons. However, regarding the argumentative style, this Swiss family, compared to the Italian one, seems to make less use of irony and implicitness, more aimed at giving the reasons rather than to convince. Certainly, this aspect requires further empirical evidence. Another important aspect that characterizes this sequence is the fundamental function of the "why" used by the child in turn 6. Indeed, by asking the reason why he cannot take the drugs, the child has favoured the beginning of an argumentative exchange with the mother, using a linguistic indicator to start a critical discussion.

### Discussion and Conclusions

The general context of family interactions is given by the overarching goal of socialization (Arcidiacono & Pontecorvo, 2009). Thus the triggers of family debates are often given by the need to have children complying with some more or less explicit parental prescriptions, as well as to have them not enacting some forbidden behaviours. In both cases, children try in most cases to oppose parents by giving the verbal accounts they consider necessary or at least possible in the given setting (Sterponi, 2003). The common goals of family conversations at the dinner table (concerning rules, tastes and language socialization) should be taken into account in reconstructing argumentation and evaluating the argumentative strategies adopted by family members.

In this study we qualitatively analyzed how argumentation shapes the communicative practices of Italian and Swiss family members and how it can foster a critical attitude in their processes of decision-making. At this point it seems appropriate to take stock of the acquisitions of the research presented here, listing also the approximately drawn solutions, which need to be specified.

Considering the two cases as part of a large research project, some questions about the argumentative moves of family members at dinnertime still remain unanswered. Firstly, we have seen in both Italian and

Swiss families that it is the parent who often assumes the burden of proof, called upon to be the protagonist of the discussion, and provide arguments in order to convince the child to accept his/her opinion. Secondly, we have observed some differences in the argumentative styles adopted by Italian and Swiss families. Indeed, the Italian families seem to make more use of irony and implicitness, while the Swiss families seem to adopt a style more “rational” and explicit in their argumentation. Finally, it is very important to consider the fundamental function of specific linguistic features (such as the “why” used by a child in our excerpts) in order to initiate argumentative debates in the family context.

Our research suggests further lines of investigation. In particular, we need to understand to what extent family argumentation can correspond to a reasonable resolution of the difference of opinion; to highlight the specific nature of argumentative strategies used by family members; and to define whether it is possible to consider young children as reasonable arguers, also considering their cognitive skills as a relevant topic in both psychological and linguistic studies.

### Appendix: Transcription conventions

*	indicate the speaker's turn
< >	non-transcribing segment of talk
(( ))	segments added by the transcriber in order to clarify some elements of the situation
[=! ]	segments added by the transcriber to indicate some paralinguistic features
:	prolonging of sounds
,	continuing intonation
?	rising intonation
.	falling intonation
→	maintaining the turn of talk by the speaker
%pau:	pause
%act:	description of speaker's actions
%sit:	description of the situation/setting

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## Time Horizon in German Management: Goal-Orientated Helix

**Erich Hölter** (erich.hoelter@fh-koeln.de)  
Cologne University of Applied Sciences, Germany

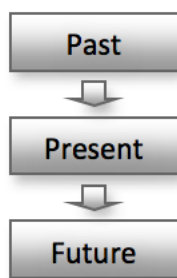
### Abstract

Business Planning can be viewed either from a long-term orientated perspective as strategic planning or from a short-term orientated perspective as operative planning. For both levels of planning, the factor of time is crucial with respect to a process-related analysis. This is especially captured in the four approaches to a continuous improvement process focusing on employees, on costs, on time, or on quality.

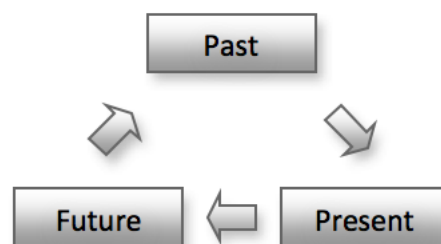
### Linear and Cyclical Conception of Time in Business Planning

Business management focuses on planning the future. It develops the fundamentals of prospective company actions, taking into account the changing context and changing conditions. As a result of change estimations, forecasts and prognoses are made. Due to the uncertainty of the future, planning is characterized by incomplete information. Therefore, forecasts and prognoses about the future are usually based on past experiences (cf. Macharzina, 1999). The main characteristic is a simple linear concept of time that consists of three steps: past, present and future. Time is therein perceived as a sequence of single periods, for example, on the basis of fiscal years. As a precondition of this linear time calculation, one or more reference points (or events) must be specified. These reference points may be more or less arbitrarily chosen and are viewed as “zero points”. In practice, the perception of time is characterized by the perceiving of changes. The repetition of the same events can also be viewed as a return to the starting point (that means, the zero point) while omitting the change or the changes in between. If the impression of repetition dominates, the “cyclical concept of time” emerges (cf. Mieg, 2005), in which change is perceived as a circle or cycle (Figure 1). This is not a contradiction to the linear concept, because it represents a framework that at the same time describes simultaneity and succession as well as past, present, and future.

#### Linear conception of time



#### Cyclical conception of time



**Figure 1:** Linear vs. cyclical conception of time.

### Strategic and operative planning

The aim of Business Planning is to achieve the best possible results by improving efficiency in decision-making and action. Business Planning is supposed to support risk identification and risk reduction and thus open new fields of action in advance (cf. Glaister and Falshaw, 1999; Kaplan and Beinhocker, 2003). It reduces the complexity of reality and contributes to the development of new ideas and actions. In simple terms, two questions are addressed: “Do we (that means the company) do the right things?” and “Do we do things right?” In finding the answers, the time horizon must be taken into account. With respect to a long-term perspective (for example over three or five years), the selection of the right strategy must be emphasized, whereas, with respect to a short-term perspective (for example in the operative field), the right implementation of the strategy

must be focused.

Figure 2 contrasts strategic with operative planning. Strategic planning is characterized by an irregular, event-oriented rhythm that focuses on the entire company. The planned measures are hardly revisable and therefore contain a high potential for risk. In contrast, the operative, rather short-term orientated, planning refers to the single divisions of the company and is highly detailed. It structures the individual business processes and therefore is easier to revise and improve in a step-by-step process (cf. Hahn and Hungenberg, 2001).

Dimension	Strategic planning	Operative planning
Time horizon	Rather long-term orientated	Rather short-term orientated
Rhythm	Rather irregular, event-related	Regular, process-related
Object	Total company	Divisions of company
Characteristics	Hardly revisable, risky	Revisable, step-wise improvable
Slogan	“Do we do the right things?”	“Do we do things right?”

Figure 2: Strategic vs. operative Business Planning.

### Time and Strategic Business Planning

Let us take a look at a typical model of strategic planning with a long-term time horizon, characterizing both German and American approaches within the Boston Consulting Group (Figure 3). Typically, a product “runs” through five stages of sales-development: introduction, growth, maturity, saturation and decline. Each stage is characterized by different chances and risks of the marketing-strategy and the realization of sales volume potentials. Although only few products exactly follow the product life cycle curve, the concept provides relevant cues for long-term business planning (cf. Hahn, 2006; Henderson 1976).

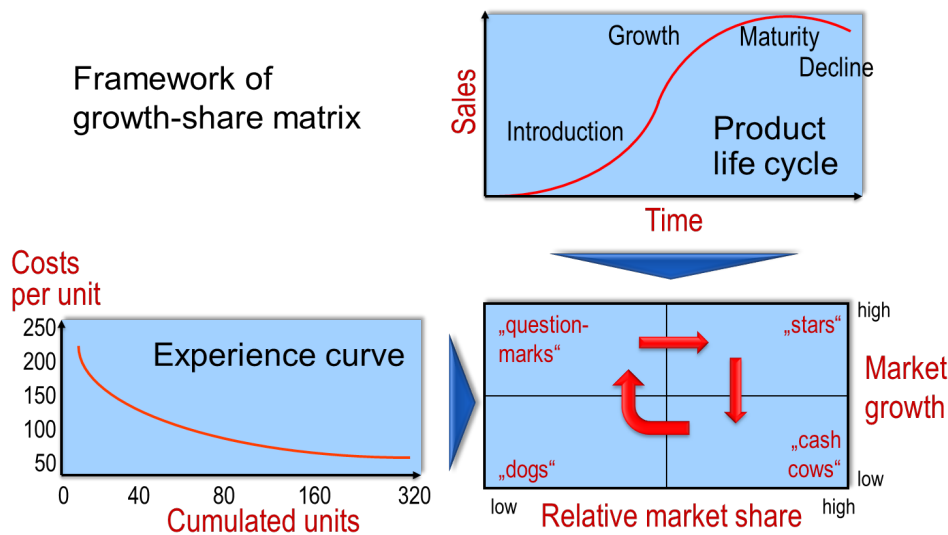


Figure 3: Time and strategic Business Planning.

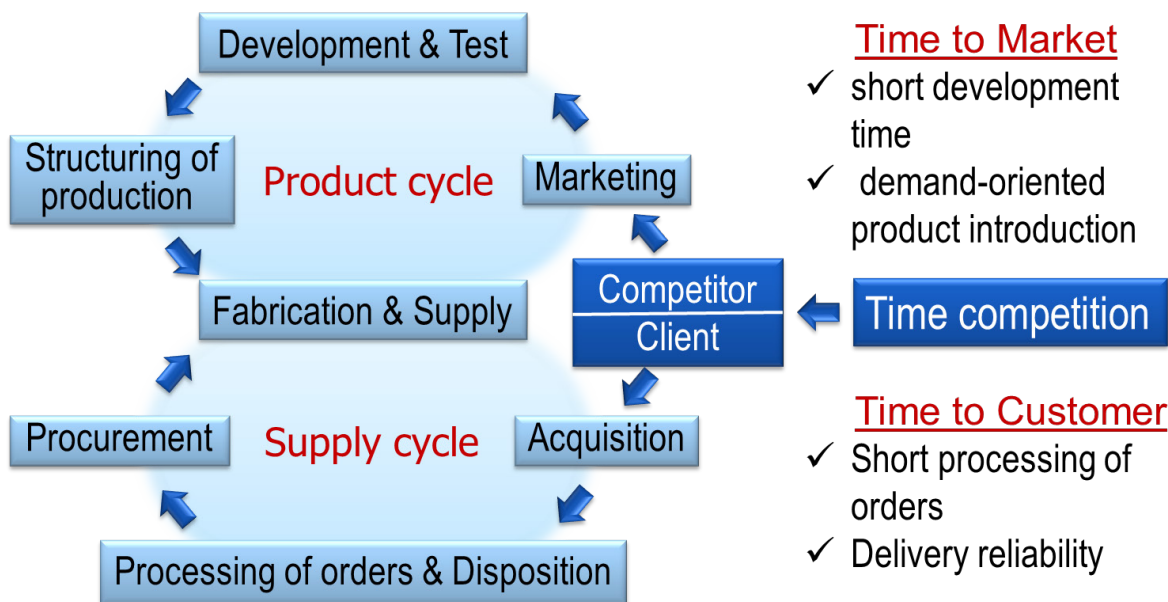
In the first stage (Introduction) the costs per unit of the product are high and the market share is, by nature, small. Therefore, the introduction of a new product is risky. Best chances are provided by emerging markets. Once the product has been accepted by customers, the product enters the next stage: growth. The costs per unit decline and thus offer the potential to lower prices. This, in turn, improves the chance to increase the market-share. The increasing sales volume then leads to saturation tendencies in the market, so that in spite of decreasing costs a further investment in the product is not profitable. Instead, cash flow should be used to

support new products, which are still in the introduction stage.

This concept shows in a simplified manner the interaction of linear and cyclical temporal perspectives: Within a linear long-term time horizon, a cyclical generic strategy consisting of investment in new products and discontinuing investment in mature products helps to achieve business success.

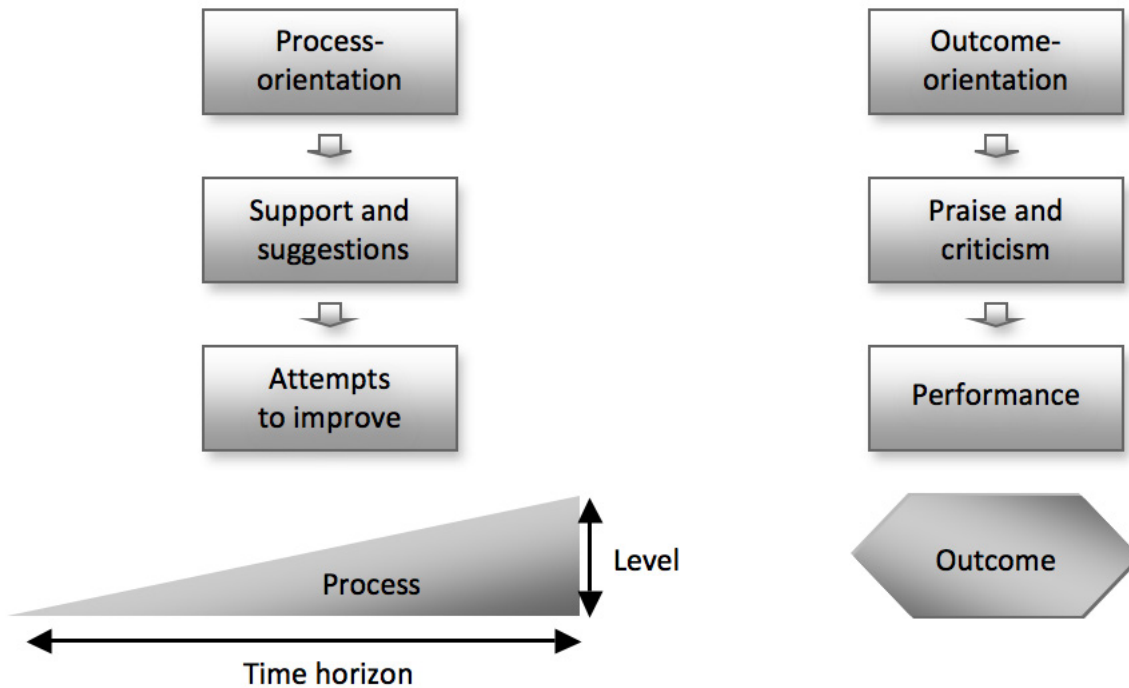
### Time and Operative Business Planning

Let us take a look at an example of process-orientated operative Business Planning (Figure 4). Based on the prescriptions of strategic planning, two time-critical cycles can be deduced. From the perspective of the market and the competitors, it is important to shorten the development time and to orientate the production according to the customer demands. In contrast, from the perspective of the single customer, short processing of orders and delivery reliability determine the purchase decision to a high degree. Both planning cycles coincide in an optimization of the fabrication and the value chain of the company (cf. Handfield et al, 2009).



**Figure 4:** Time and operative Business Planning.

As already mentioned, operative planning is rather short-term orientated and is more easily adaptable to changing environmental conditions. Within operative planning, the orientation may be either process- or outcome-focused (Figure 5). The process-orientation enables fast reactions to support and accept suggestions from the employees, and thereby leads to an improved level of outcome. If the outcome is the main focus, the attention of the employees directly focuses on the outcome of performance. A systematic and continuous improvement of the activities leading to the outcome will not result.




**Figure 5:** Process- vs. outcome-orientation.

Within the context of goal-orientation of Business Planning there are four approaches to an improvement process, which can contribute to a continuous increase in company results. They focus on employees (Total Employee Involvement, TEI), on costs (Total Productive Maintenance, TPM), on time (Just in Time, JIT), or on quality (Total Quality Control, TQC). These principles are similar to those found in the Japanese KAIZEN approach (cf. Imai, 1997, Menzel, 2009; Radina, 1995). This approach was first implemented in the automotive- and machine industries (cf. Robinson and Ginder, 1995).

If you focus on the employee (Figure 6), empirical investigations show the importance of systematically collecting and implementing improvement suggestions. This can be organized by moderated discussion groups for each working-step. These are not organized by the employees themselves, but led by the head of the working group.

By intensive involvement in the planning process the employees are not only required to participate in, but are also supported, by appraisals. Suggestions for quality-improvements and reduction of process-time are especially positively rewarded.

► **Total Employee Involvement (TEI)**

- 
**Suggestions for improvement and support**
  - positive supporting rather than financial payments
- 
**Quality Circles (moderated meetings)**
  - normally paid and integrated into regular business hours

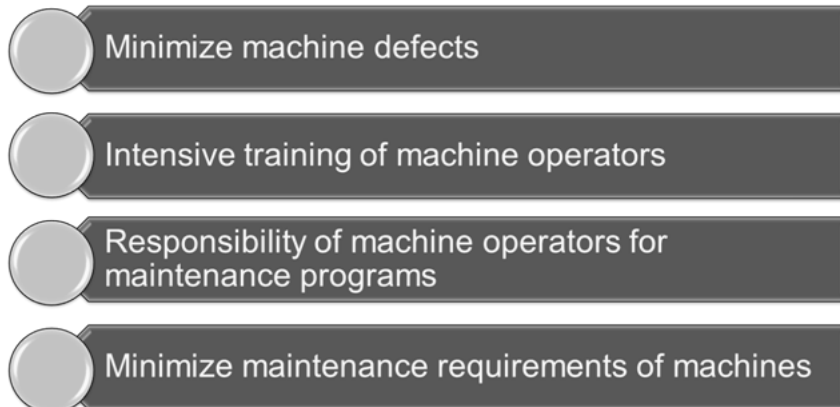
**Figure 6:** Focus on employees.

Focusing on cost reduction (Figure 7), the technical equipment of the production is especially important. Here, not only the machine operation and maintenance are regarded, but also the intensive training of machine operators must be taken into account. The operators should be able to predict possible machine defects and to react with preventive maintenance. This requires giving way to independent decision-making among the em-



ployees, so that they can perform maintenance functions on their own. This may lead to some breakdowns of the plant section or machines in individual cases, but overall it will increase the production capacity.

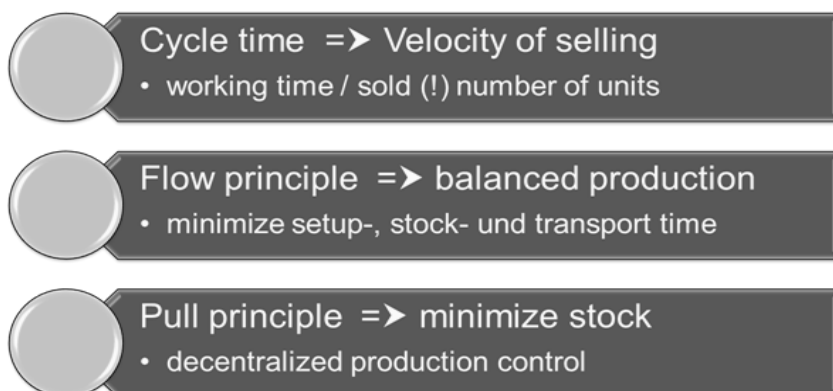
► **Total Productive Maintenance (TPM): Prevent waste of resources**



**Figure 7:** Focus on costs.

This leads directly to the focus on time and expands the view to the value chain as a whole (Figure 8). A balanced production, with minimized transport and stock time, is the focus of this approach. To achieve this, the cycle time (relation of working time to number of units sold) is important. This enables an immediate relation of the production planning to the market. Another important aspect is to ensure that production is centrally controlled according to the pull-principle, which means that the receiving production-stage controls the preceding production-stages. This should enable the amount of sales to directly control the production (cf. Wildemann, 2001).

► **Just in Time (JIT): Avoid waste of time**



**Figure 8:** Focus on time.

At last, Business Planning is strongly determined by quality planning (Figure 9). Not only is the quality of the product essential, but so too is the customers' satisfaction. Along the whole value chain, from the sale of products, to production planning until service, all production-steps are shaped by quality control. Thus, it is obvious that a cyclical view of planning, where the focus on the process dominates, can lead to an improved end result (cf. Haak, 2003; Oess, 1993; Soltani et al., 2008).

► Total Quality Control (TQC): Quality according to customers perception

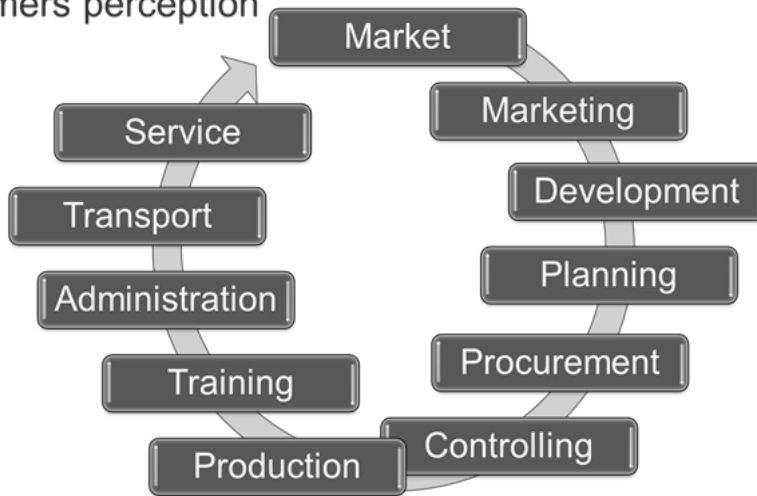


Figure 9: Focus on quality.

Summarizing, it should be demonstrated that the time horizon plays an essential role in business management (Figure 10). Based on a linear-structured time horizon in strategic planning, the operative detailed planning leads to the implementation of cyclical elements. As a result, a helix develops which by means of a newly-found definition of standards will lead to the achievement of a continuous improvement process.

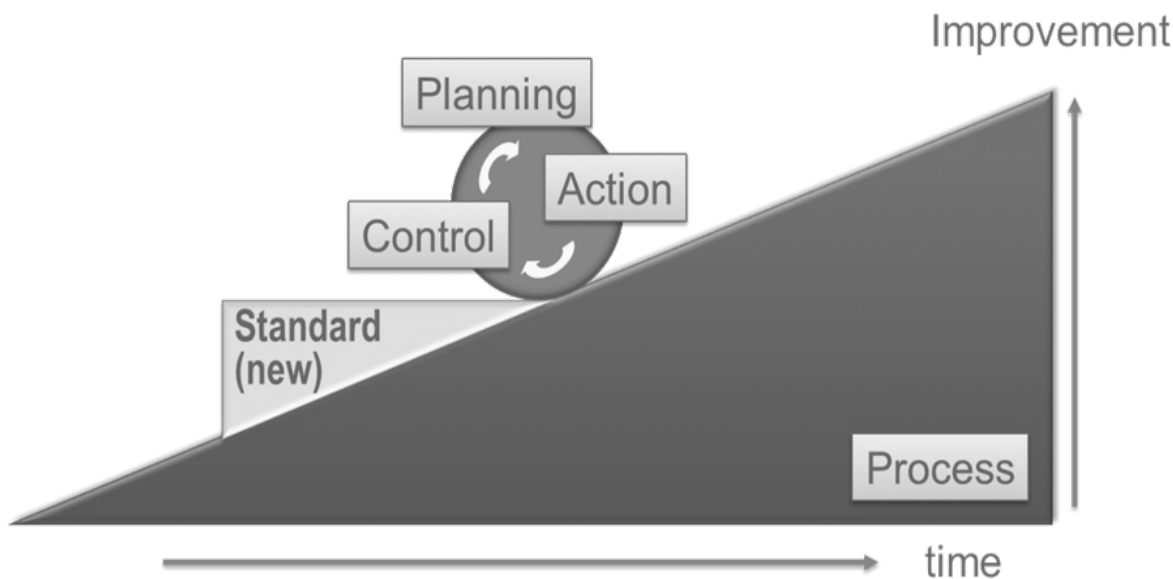


Figure 10: Goal-orientated helix: how it works.

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## Worker Wellbeing in Malaysia: Prediction of Wellbeing from Psychosocial Work Environment, Organizational Justice and Work Family Conflict

R Zirwatul Aida R Ibrahim (rzirwatulaida.ribrahim@live.vu.edu.au)

Keis Ohtsuka (Keis.Ohtsuka@vu.edu.au)

Victoria University, Australia

### Abstract

The current study investigates if psychosocial work environment, organizational justice and work family conflict predict Malaysian workers' wellbeing. The current study expands previous research by assessing wellbeing using composite measures of job satisfaction, life satisfaction, positive affect and negative affect as well as job affective wellbeing, psychological and spiritual wellbeing. One thousand one hundred and sixty five Malaysian workers in the manufacturing sector (551 men, 614 women, age range: 18-59 years) answered questionnaires. Hierarchical multiple regression analyses indicated that psychosocial work environment, organizational justice and work family conflict predicted wellbeing. With regard to ethnic and cultural differences in wellbeing, Indian-Malaysians reported significantly higher levels of wellbeing compared to Malays. However, Chinese-Malaysians were not different from Indian-Malaysians or Malays. There was no significant gender difference on wellbeing. The interpretation of this cultural difference requires caution due to the small number of Indian-Malaysians in the sample.

This research investigates the predictors of employee wellbeing in Malaysia, that is, whether the psychosocial work environment (job control, psychological job demands, social support), organizational justice (procedural, interactional, distributive) and work family conflict can reliably predict levels of employee wellbeing. In the work place, employees are the most valuable asset to the organization. Their dissatisfaction with their job and life will significantly affect their commitment and dedication to their job, family and organization. This study examines how employees perceive both work and non-work domains affect their wellbeing. Numerous studies have linked wellbeing with: decreased workplace turnover (Wright & Bonett, 2007), physical health (Richman et al., 2005) and high employee performance (Wright & Cropanzano, 2000). As low employee wellbeing can also adversely affect both workers and their organizations, a clear understanding of predictors of worker wellbeing is required to formulate a theoretical framework for understanding worker wellbeing in Malaysia.

### Psychosocial Work Environment and Wellbeing

In organizational studies, the Job-Demand-Control (JDC) model (Karasek, 1979) provides the most crucial determinants of work related wellbeing and health (Lindfors, Meretoja, Toyry, Luukkonen, Elovainio & Leino, 2007). This model identifies two essential aspects of work environments: job control (decision latitude) and psychological job demands. Later, Johnson and Hall (1988) proposed an extension of Karasek's (1979) JDC model, resulting in the Demand-Control-Support (JDCS) model. They found that employees in high strain jobs experience high job demands, low job control and low social support.

A review of 20 years of empirical research using Karasek's (1979) JDC model reported that high demands and low control in work environments are associated with lower psychological wellbeing and job satisfaction, burnout and other forms of psychological distress (Doef and Maes, 1999), and significantly impact employee wellbeing (Noblet, 2003). Jobs characterized by high psychological demands and low social support have also been found to have a negative impact on employee mental health, vitality and burnout (Escriba-Aguir & Tenias-Burillo, 2004) and job satisfaction (Huda, Rusli, Naing, Tengku, Winn, & Rampal, 2004). These jobs are also positively associated with anxiety, stress and depression (Edimansyah, Rusli, Naing, Rusli, Winn & Ariff, 2008). In agreement, Escriba-Aguir and Tenias-Burillo (2004) found that low job control and low co-worker support were associated with poor psychological wellbeing, as job control can reduce fatigue in high psychological job demands among nurses (Yperen & Hagedoorn, 2003). Gimeno, Benavides, Benach, and Martinez (2004) indicated that in high strain conditions, high psychological job demands and low job control were associated with higher absenteeism among non permanent employees.

## Organizational Justice and Wellbeing

Cropanzano, Bowen and Gilliland (2007) as well as Cropanzano, Byrne, Bobocel, and Rupp (2001) reported that employees appraise the outcomes in the workplace based on three components of justice: distributive, procedural and interactional justice. Examples of distributive justice relate to outcomes such as pay, promotions and professional development (Cropanzano et al., 2001). Examples of procedural justice relate to management practices which rely on consistency, bias suppression, accuracy, correctability, representativeness, and ethicality (Sutinen, Kivimaki, Elovainio, & Virtanen, 2002). Examples of interactional justice concern the quality of supervisor and subordinates interpersonal relationships which may be indicated by the attention, truthfulness and trustfulness of the supervisor in dealing with employees (Sutinen et al., 2002).

Researchers believe that if employees receive fair treatment from the organization, they tend to possess positive attitudes towards their job outcomes and their supervisors (Moorman, 1991). For example, a study on Thai health centre workers showed a clear association between the higher levels of perceived work performance and the levels of perceived support from the organization (Bhanthumnavin, 2003). Most studies on organizational justice tend to focus on selected dimensions such as the relational component (Kivimaki, Ferrie, Brunner, Head, Shipley & Vahtera, 2005), distributive and procedural justice (Shamsuri, 2004), as well as procedural and relational justice (Sutinen et al., 2002). The present study measures a composite of three important aspects of justice: distributive, procedural and interactional justice developed by Moorman (1991). Organizational justice is an important predictor of wellbeing because previous research (Kivimaki, Elovainio, Vehtera & Ferrie, 2003) has shown that justice is a new independent aspect of psychosocial environment that needs to be given priority in health and well being promotion.

## Work Family Conflict and Wellbeing

Work family conflict is defined as a form of inter-role conflict which occurs when an individual has to face incompatible role pressures from work and family (Greenhaus & Beutell, 1985). There are three forms of work family conflict: time-based, strain-based and behaviour-based conflicts. Time-based conflict refers to overlapping schedules and tasks. Strain-based conflicts indicate mental and emotional strain demands related to the roles and behaviour-based conflicts concern the of acceptability of individuals' behavioural patterns (Rantanen, Pulkkinen, & Kinnunen, 2005). Examples of time based conflict in previous studies are working hours (Greenhaus & Beutell, 1985; Kinnunen & Mauno, 1998), work schedules and shift work (Greenhaus & Beutell, 1985) as well as the responsibility for young children (Hill, 2005). In contrast, strain based conflict arises from lack of supportive work group and organizational culture (Hill, 2005) and low spouse support (Greenhaus & Beutell, 1985).

Various studies consistently show that individuals report higher levels of work family conflict compared to family work conflict (O'Driscoll, Brough, & Kalliath, 2004). In addition, the combination of work and non work life appears essential to accurately evaluate work related psychological wellbeing and has received increasing attention (Brough & O'Driscoll, 2005; O'Driscoll et al., 2004). Indeed, work family conflict was found to be a longitudinal predictor of employee wellbeing and a negative predictor of psychological wellbeing (Brough & O'Driscoll, 2005).

Numerous studies have revealed negative outcomes of work family conflict on individuals, including decreased life satisfaction (Aryee, 1992) and heavy drinking (Ross, Lahelma, & Rahkonen, 2006) as well as negative outcomes for the organization including absenteeism and stress (Chapman, Ingersoll-Dayton, Neal, 1994) and higher turnover intentions (Fuß, Nübling, Hasselhorn, Schwappach, & Rieger, 2008; Haar, 2004). However, the majority of researchers have focused on women respondents in investigating work family conflict studies. Thus, one aim of the present study was to include both men and women respondents, to address concerns that have been raised by several scholars (Bardoel, Cieri, & Santos, 2008; Hill, 2005).

So far, these three variables (psychosocial environment, work family conflict and organizational justice) have been investigated separately. There has been little discussion on the combination of these variables in prior research: work family conflict and psychosocial work environment (Pal & Saksvik, 2008); psychosocial work environment and organizational justice (Lawson, Noblet, & Rodwell, 2009). Similarly, most studies



on employee wellbeing in Malaysia have only been carried out among professional (Ahmad, 1996), professional-academic and secretarial-clerical (Noor, 2002) workers, thereby mainly focusing on women. Thus, the present study accommodates the need for research on blue collar workers as noted by Sparks et al., (2001) and Oil-ling Siu (2004).

In the Malaysian workplace, workers' wellbeing is examined from a composite of workers' job satisfaction (Makikangas & Kinnunen, 2003; Noor, 2004), job affective wellbeing (Daniels, 2000), life satisfaction (Gallagher & Vella-Brodrick, 2007; Noor, 2006), positive and negative affect (Gallagher & Vella-Brodrick, 2007; Noor, 2006), psychological wellbeing (Fujishiro, 2005; Noor, 2002) and spiritual wellbeing (Robert, Young, & Kelly, 2006). By including this comprehensive range of wellbeing measurements, the current study aims to develop a prediction model of worker wellbeing that captures a broad dimension of workers wellbeing relevant in the socio cultural context of Malaysia.

The present study investigates whether psychosocial work environment, organizational justice and work family conflict, can reliably predict wellbeing among Malaysian workers. Specifically, it was hypothesized that psychosocial work environment (psychological job demands, job control and social support), organizational justice and work family conflict would predict the employee wellbeing.

## Method

### Participants

A sample of 1165 Malaysian manufacturing employees including 551 men (47.3%) and 614 women (52.7%) were recruited. Their ages ranged from 18 to 59 years, with 24.1% between 18-29 years, 46.4% between 30-39 years, 27.3% between 40-49 years, and 2.2% between 50-59 years. The ethnic backgrounds of participants were: Malay ( $n=972$ , 83.4%), Chinese ( $n=82$ , 7%), Indian ( $n=102$ , 8.8%) and others ( $n=9$ , 0.8%). Regarding marital status, 74.4% ( $n=867$ ) were married, 22.4% ( $n=261$ ) were single. The remainder includes: 2% divorced ( $n=23$ ), 1% widowed ( $n=12$ ) and 0.2% ( $n=2$ ) did not report marital status. Out of 1165 respondents, 43.9% ( $n=511$ ) were assembly or frontline workers, 35.4% ( $n=412$ ) were supervisors (i.e. foreman or woman, team leader), whereas, 20.5% ( $n=239$ ) were managers. Three respondents (0.3%) did not indicate their employment level. The majority of respondents' (45.8%,  $n=533$ ) highest level of education was secondary school: The Malaysia Certificate Examination (MCE). The remainder of participants completed primary school education and the Malaysia Certificate of Education (LCE) (13%,  $n=152$ ), general certificate (11.3%,  $n=132$ ), diploma (14.5%,  $n=169$ ), first degree and above qualification (15.3%,  $n=178$ ). One respondent (0.1%) did not state his/her education level.

### Measures

*Demographic Information.* The following demographic information was included in the survey: gender, age group, ethnic background (Malay, Chinese, Indian and others), marital status (married, single, divorced, and widowed), number of children, education level (ranged from 1= primary school, 2= the Malaysia Lower Certificate of Education (LCE), 3= the Malaysia Certificate of Education (MCE), 4= Certificate, 5= diploma, and 6= a Bachelor Degree and above). Levels of appointment (1= manager, 2= supervisor/team leader, and 3=assembly workers) and employment status (1= for permanent, 2= temporary, and 3= contract basis) were also measured.

*Psychosocial Work Environment.* Twenty two items from the Job Content Questionnaire (JCQ), by Karasek (1985) were used to measure psychosocial work environment constructs: job control or decision latitude (9 items), psychological job demands (5 items) and social supports (8 items). JCQ items were scored on a 4 point Likert-type scale, ranged from 1= strongly disagree to 4= Strongly Agree. In the present study, Cronbach's alphas were .60 for job control, .51 for psychological demands and .84 for social support. The low alpha value for the psychological job demands construct is comparable with previous research (Cheng, Luh, & Guo, 2003).

*Organizational Justice.* The components of organizational fairness measure was adopted from Moorman (1991). This scale contained 18 items with three subscales: the procedural (7 items), interactional (6 items)

and distributive justice (5 items) scales. Responses were made on a 5 point Likert-type scale ranging from 1= strongly disagree to 5= strongly agree. Thus, higher scores represent higher levels of perceived organizational justice. Cronbach's alphas were .91 for total justice, .88 for procedural, .85 for interactional and .93 for distributive justice.

*Work Family Conflict.* Work family conflict was measured using the Work Family Conflict Scale (Netemeyer, Boles & McMurrian, 1996). The scale consists of two subscales: work to family conflict (WFC) and family to work conflict (FWC). There were 10 items measuring general demand, time and strain conflict. Respondents were asked to give ratings from 1= strongly disagree to 7= strongly agree. Total scores for each subscale could range between 5 and 35, where the higher scores reflect greater perception of conflict. Cronbach's alpha coefficients were .92 for total conflict, WFC and FWC.

The following measures comprised the composite indicators of employee wellbeing:

*Job Satisfaction Scale (JSS).* The JSS comprise 36 items to assess job satisfaction, using 9 subscales: pay, promotion, fringe benefits, contingent rewards, supervision, co-workers, operating procedures, nature of work and communication. Respondents rated the favorable and unfavorable aspects of their jobs using a 6 point Likert-type scale ranging from 1= Very strongly disagree to 6= Very strongly agree. Higher scores on the JSS indicate higher levels of job satisfaction. The internal consistency of total job satisfaction in this study was .84.

*Job Affective Wellbeing.* This study adopted a multi dimensional measurement of job affective wellbeing from Daniels (2000). Thirty items represent five aspects of affective wellbeing: anxiety-comfort (A-C), depression-pleasure (D-P), bored-enthusiastic (B-E), tiredness-vigor (T-V) and angry-placid (A-P). Participants rated frequencies of affective responses to each item recalling the previous week "Thinking of the past week, how much of the time has your job made you feel each of the following?" Respondents were asked to rate a score ranging from 1= "You have never felt this way over the past week" to 6= "You have felt like this most of the time". Internal consistencies of the scale for the present sample were all acceptable. Cronbach's alphas ranged between .62 and .83.

*Life Satisfaction.* The Satisfaction With Life Scale (SWLS) was derived from Diener, Emmons, Larsen, and Griffin (1985) and consisted of 5 items. Respondents indicated the level of agreement or disagreement on a 7 point Likert-type scale ranging from 1= Strongly disagree to 7= Strongly agree. Higher scores indicate greater in life satisfaction. Cronbach's alpha was .82 in the present study.

*Positive Affect Negative Affect Schedule (PANAS).* The PANAS developed by Watson, Clark and Tellegen (1988) measures general factors, Positive Affect (PA) and Negative Affect (NA), two dominant dimensions in emotional experience. The PANAS can be administered with a variety of time instructions such as "Indicate to what extent you feel this way right now"(or at the present moment, today, over the past few days, this week, the past few weeks, this year or in general). In the current study, respondents were asked to indicate the extent to which they felt each emotion during the past few weeks. The PANAS includes ten items for positive affect (PA) and ten items tapping negative affect (NA), using a 5 point Likert-type scale: ranging (1= Not at all/very slightly, 2= A little, 3= Moderately, 4= Quite a bit and 5= Extremely). Higher scores indicate higher frequencies that respondents feel positive and negative affect: higher scores of PA indicate better functioning and higher scores of NA indicate lower functioning. Cronbach's alphas were .85 (PA) and .87 (NA).

*Psychological Wellbeing.* The Mental Health Continuum-Short Form (MHC-SF) developed by Keyes (2005) was used to measure psychological wellbeing. The 14 items are comprised of 3 emotional wellbeing items, 5 social wellbeing items and 6 psychological wellbeing items. Respondents indicated how they felt during the past month on a 6 point Likert-type scale: 0= never, 1=once or twice, 2= about once a week, 3= about 2 or 3 times a week, 4= almost every day, and 5= everyday. Since the current study investigated only the overall psychological wellbeing, the six psychological wellbeing items were summed - these represented the most prototypical items in each dimension of psychological wellbeing (Ryff, 1989). Cronbach's alpha for the psychological wellbeing dimension was .85.

*Spiritual Wellbeing.* The Spiritual Wellbeing Scale (SWB), developed by Paloutzian and Ellison (1982) was used. This scale contains of 20 items with two subscales: religious wellbeing (RWB) and existential well-

being (EWB). Responses are made on a 6 point scale ranging from 1= Strongly agree to 6=Strongly disagree. There were nine negative items requiring reverse scoring. Higher scores indicate greater purpose in life and life satisfaction. Cronbach's alpha coefficients were .87 for total spiritual wellbeing, .82 for religious wellbeing and .74 for existential wellbeing.

All the original English versions of the instruments were translated into Malay and checked through back translation for equivalency. Both translation processes were carried out in consultation with staff from the Psychology and Counseling, and English Departments, at the University Malaysia Terengganu.

### Procedure

Approval from the Human Research Ethics committee was obtained. Permission was sought from human resource officers in 12 companies to distribute surveys. The return rate of the questionnaire was 63% (1220 returned out of 1950 surveys distributed). Excluding incomplete questionnaires, 1165 useable questionnaires were coded for analysis.

### Results

All statistical inference tests used an alpha level of .05 to determine statistical significance. Both job control and social support were positively correlated with overall employee wellbeing:  $r = .15$  and  $r = .36$ , respectively, whereas, psychological job demands was negatively correlated with wellbeing:  $r = -.24$ . Although the correlations were small to moderate, these correlations were statistically significant. A moderate significant correlation was found between organizational justice and wellbeing ( $r = .40$ ). As expected, there was a significant negative correlation between work family conflict and wellbeing ( $r = -.31$ ).

**Table 1**

*Means, standard deviations, and correlations between the variables of the study*

Variables	M	SD	1	2	3	4	5	6
1. Demands	33.79	4.26	-					
2. Control	37.75	4.75	.07**					
3. Support	23.31	3.37	-.21**	.25**				
4. Justice	60.78	10.01	-.19**	.24**	.55**			
5. Work family conflict	33.77	12.34	.17**	-.06*	-.21**	-.19**		
6. Wellbeing	436.74	48.38	-.24**	.15**	.36**	.40**	-.31**	-

Note. \*  $p < .05$ , \*\* $p < .01$

Hierarchical multiple regression analyses were carried out to test the hypothesis (Table 2). The predictor variables comprising psychological job demands, job control and social support were entered in the first step of the analyses and accounted 17% of the variance in employee wellbeing,  $F(3, 1161) = 77.77$ ,  $p < .001$ . In Step 2, organizational justice was added to the model which produced an additional 5% increase in the variance of wellbeing successfully explained. The expanded model at Step 2 explained 21.7% of the variance in wellbeing,  $F(4, 1160) = 80.29$ ,  $p < .001$ . In Step 3, work family conflict was added to the model resulting in a further 4% increase in the explained variance of wellbeing. The full regression model including all predictor variables was statistically significant,  $F(5, 1159) = 80.37$ ,  $p < .001$  and accounted for 25.7% of the variance of employee wellbeing ( $R^2 = .257$ ).

The levels of employee wellbeing in the present study differed by ethnic background as indicated by analysis of variance (ANOVA),  $F(3, 1161) = 4.28$ ,  $p = .005$ . Furthermore, Scheffe's post hoc tests revealed Indian-Malaysians ( $M = 451.22$ ,  $SD = 48.97$ ,  $p = .012$ ) reported significantly higher levels of wellbeing compared to Malays ( $M = 434.61$ ,  $SD = 47.89$ ). However, Chinese-Malaysians ( $M = 443.41$ ,  $SD = 47.80$ ) were not different from Indian-Malaysians or Malays. There was no statistically significant gender difference regarding wellbeing: men ( $M = 436.21$ ,  $SD = 45.99$ ) and women ( $M = 437.24$ ,  $SD = 50.46$ ),  $t(1163) = -.364$ , n.s.

## Discussion

The current findings supported the hypothesis regarding reliable predictors of employee wellbeing. Upon examination of the direct contribution of psychological job demands, job control and social support as predictors of employee wellbeing, the current findings corroborate the findings reported in the literature (Escriba-Aguir & Tenias-Burillo, 2004; Huda et al., 2004; Noblet, 2003). However, social support, which is a significant predictor of employee wellbeing in the current findings, was not previously recognized in Pomaki and Anagnostopoulou's (2003) study. Social support did not emerge as a significant predictor of wellness/health outcomes in their article. It is possible that a number of methodological differences may have contributed to the inconsistencies in findings with regard to the role of social support on wellbeing. For instance, the measurement of social support in Pomaki and Angnostopoulou (2003) was specifically designed for teachers.

**Table 2**

*Hierarchical multiple regression analyses predicting employee wellbeing using psychosocial work environment (psychological job demands, job control, social support), organizational justice and work family conflict*

Predictor	$\Delta R^2$	B	SE B	$\beta$
Psychological job demands		-4.864	.711	-.189***
Job control		1.644	.095	.095**
Social support	.17***	4.234	.408	.296***
Psychological job demands		-4.181	.694	-.163***
Job control		1.067	.476	.062*
Social support		2.285	.457	.160***
Organizational justice	.05***	1.310	.153	.271***
Step 3				
Psychological job demands		-3.466	.682	-.135***
Job control		1.021	.463	.059*
Social support		1.871	.448	.131***
Organizational justice		1.219	.149	.252***
Work family conflict	.04***	-.820	.103	-.209***

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

In terms of organizational justice as a predictor, the findings are in agreement with Lawson, Noblet and Rodwell (2009) who found that organizational justice was the most effective predictor of wellbeing in their study. Kivimaki et al., (2003) also stated in ensuring the wellness of employees, it is important to emphasize organizational justice aspects such as management procedures and how employees have been treated rather than focus on previous concerns only: work characteristics, social support and personality. The present findings further emphasize the important role of organizational justice in promoting employee health and wellbeing.

Research on employee wellbeing in Malaysia, even in South East Asia, is still scarce. Most studies have been conducted in Western countries such as Australia, UK, USA and several European countries. Research on worker wellbeing in Eastern cultures is underrepresented (Suhail & Chaudhry, 2004). The present findings contribute to the corpus of literature on the reliable predictor variables of employee wellbeing, in particular in Malaysia. In addition, this study has demonstrated the theoretical frameworks used to predict worker wellbeing in Western countries could also be applied in Malaysia, which is a very different socio cultural context. Incorporating Job-Demands-Control-Support variables with additional work and non work (work to family and family to work conflicts) aspects as predictors, the present study has contributed the theory of worker wellbeing since few studies investigate both factors (Loretto et al., 2005).

Contrary to expectations, the current study found a difference between Indian and Malay wellbeing scores. It is difficult to interpret this result, but it might be related to several possible explanations. Malaysia is a multiethnic country that receives world recognition for ethnic integration ("Pengukuhan perpaduan negara," 2010). Being attached with the majority group might cultivate a sense of belongingness and satisfaction (Men-



doza-Denton & Page-Gould, 2008). Similarly, Ng, Lim, Jin, and Shinfuku (2005) also reported that the highest total quality of life scores were among Indians compared to Chinese and Malays in Singapore. However, with a small number of Indian-Malaysians within the sample, the interpretation of this cultural difference requires caution.

The study employed a cross sectional design. Thus, all the data were gathered within a limited period of time. The ability to draw a firm conclusion pertaining to the predictor variables on employee wellbeing would be further strengthened by a longitudinal study. Further research on Malaysian workers' wellbeing outside the manufacturing sector would also help validate the prediction model investigated in the current study. The present study makes a contribution to research on worker wellbeing by combining the three predictors: psychosocial work environment, organizational justice and work family conflict, and expands the indicators of wellbeing in the Malaysian context.

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## Relationship between Leader-Member Exchanges with Organizational Citizenship Behaviour

**E. S. Jaya** (edojaya@hotmail.com)  
University of Indonesia, Depok, Indonesia

**W. L. Mangundjaya** (wustari@yahoo.com)  
University of Indonesia, Depok, Indonesia

### Abstract

An organization's success is influenced by its performance and one way of enhancing organizational performance is by improving the workers' rate of Organizational Citizenship Behavior (OCB). In this regard, most research on OCB has been done in the West and there has been little research on Indonesian specific OCB, even though Organ, Podsakoff, & MacKenzie (2006) have stated the frailness of OCB theory in the face of cultural differences. Consequently, Team 9 compiled a set of Indonesian specific dimensions of OCB in 2009 from both the Western (Podsakoff, MacKenzie, Paine, & Bachrach, 2000) and Eastern dimensions (Farh, Earley, & Lin, 1997; Farh, Zhong, & Organ, 2004) of OCB. The objective of this research was to examine the relationship between OCB and leader-member exchange (LMX) - the importance of the leader's relationship with the workers, by using the newly composed OCB Questionnaire. The sample consisted of 235 permanent staff who worked at financial institutions in Jakarta, Indonesia. The results showed a significant and positive correlation between LMX and OCB. The result suggests that the leader plays an important role in the employee's OCB in Indonesia.

**Key words:** Organizational Citizenship Behavior, Leader-Member Exchange, Indonesian OCB.

Along with the trends of globalisation and fast technological progress, competition between organisations has intensified. Such intense competition drives organisations to keep improving in every aspect. To have an edge in performance, human resources and organisational management are key. Cascio (2003) stated that the staff's performances are directly linked to the organisation's performance.

Katz and Kahn (1966) categorised worker's performance as in-role and extra-role (Organ, Podsakoff, & MacKenzie, 2006) behaviours. In-role work behaviours are about workers' completing tasks that are listed formally in their job descriptions. On the other hand, extra-role work behaviours are other work behaviours beside in-role behaviours that also help and promote the success of the organisation. Organ (1988) developed a more precise construct to explain extra-role work behaviours and called it Organisational Citizenship Behaviours (OCB) (Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

The definition of Organisational Citizenship Behaviours (OCB) involves three main criteria; the behaviour must be discretionary, not explicitly acknowledged by the organisation's formal reward system, and when amassed, it must promote the efficient and effective functioning of the organisation (Organ et al., 2006). To operationalize the definitions for research and other purposes, researchers often develop the dimensions of OCB. There are many sets of OCB dimensions. Podsakoff et al. (2000) classify nearly 30 potential sets of dimensions and Organ et al. (2006) found 11 sets of OCB dimensions and measures. Although many of them have overlapping features or dimensions, they focus on different aspects and have been developed in different settings. Organ et al. (2006) summarize the various sets of dimensions into seven common dimensions: helping, sportmanship, organizational loyalty, organizational compliance, individual initiative, civic virtue, and self-development.

OCB is closely linked with culture in the work/organisational context (Organ et al., 2006). Different cultural or work/organisational settings may emphasize different aspects of OCB. Farh, Earley, and Lin (1997) were one of the first to investigate OCB in a global context and to develop an indigenous OCB measure in Taiwan. Their findings showed both universal (etic) and particularistic (emic) aspects of OCB. The emic dimensions of OCB were very much rooted in Chinese culture that emphasizes family collectivism and interpersonal

harmony. Farh et al. (2004) again attempted an inductive and indigenous approach to develop OCB dimensions in China. Many of the dimensions were related to their previous findings, and the exact behaviours that constructed these dimensions were specific to the Indonesian cultural settings. For instance, helping dimensions in China unlike in the United States included helping that occurs in the non-work contexts as well as the work contexts.

Research on OCB has mostly been concerned with its relationship to other constructs, that is its antecedents and consequences (Podsakoff et al., 2000). Leader-Member Exchange (LMX) is one of the strong OCB antecedents (Organ et al., 2006). LMX is a leadership construct that explains to leaders' behaviours in terms of the quality of relationships with their subordinates (Schriesheim, Castro, & Cogliser, 1999). Even though different researchers have different definitions of LMX, most agree that it is about the quality of relationship between leaders and subordinates (Schriesheim et al., 1999).

The dimensionality of LMX has been debated. Graen and Uhl-Bien (1995) stated that the LMX dimensions are highly intercorrelated, and therefore appropriately measured with a single, unidimensional measure. In contrast, Dienesch and Liden (1986) showed that LMX dimensions are independent from each other, thus supporting a multidimensional measure of the construct. This debate is probably solved by Liden & Maslyn's (1998) research which showed that LMX dimensions are independent and LMX is better measured using their multidimensional measure. The four dimensions are professional respect, loyalty, affect, and contribution. Unlike OCB, little concern has been expressed regarding LMX and culture so far, perhaps because LMX is a relatively new construct and reflects very general behaviours. Nevertheless, the antecedents and consequences of OCB are also likely influenced by culture.

There has been no published study, to our best knowledge, regarding the relationship between LMX and OCB in Indonesia although research has shown that they are related in the West. There are some reasons to doubt that such a relationship exists in Indonesia. First, good leader-member relationships are very much taken for granted in Indonesia due to the strong social norm. Thus, to be in just a 'normal' relationship with the leader could imply having a negative relationship. Second, Indonesians believe that most people are materialistic, in the sense that they only work or exert effort for something that they are paid for; thus being in a good relationship with one's supervisor is not enough to stimulate extra effort. The objective of this research was to examine the relationship between OCB and LMX by using a newly developed OCB Questionnaire.

## Method

### Participants

The participants were permanent staff who had worked for a minimum of 2 years in their respective financial organisations in Jakarta, Indonesia. It was important that participants were permanent staff because temporary staff do not have the same OCB (Moorman & Harland, 2002). The age of participants was limited to those between 25-45 years old because this is considered the productive age. At a younger age, choices are not very stable, while at an older age (above 45) people are usually preparing for their pension. To avoid mismatches of OCB theories with non-profit staff work behaviours (Doyle, 2006) the chosen organisations were profit oriented.

The gender distribution was quite even; 52.3% men and 47.7% women. Participant work positions were mostly general staff (87.7%), with only a few employed at the managerial level (12.3%). The highest level of education obtained ranged from masters degree (4.3%), bachelor degree (82.6%), 3 years Diploma (9.4%), 1 year Diploma (0.4%), High school/vocational (2.1%), to others (1.3%). The participants' work length ranged from 2-10 years (75.7%) and above 10 years (24.3%).

### Procedure

The researcher prepared questionnaires to be sent to four organizations. The contact person in each organisation then distributed the questionnaires in his/her office to those who were permanent staff and had worked at the organization for a minimum of 2 years. Out of the 500 questionnaires distributed, 291 were returned, of which 235 could be used for analysis.

## Measures

The survey comprised a demographic section, LMX measure, and OCB scale. The demographic section asked the participants' gender, age range, work length in the organisations, work positions (staff or managerial), and highest level of education.

The LMX questionnaire was adapted from Liden & Maslyn (1998). Some items were changed to be more related to the Indonesian context, but were still consistent with the definition of each dimension. Due to technical problems, only 10 items were retained for the analysis. Responses were made on a 6 point Likert-type scale. The reliability of the measure was quite good (Cronbach  $\alpha=.90$ ).

The OCB items were developed with respect to the Indonesian cultural setting. In attempting to develop an indigenous OCB questionnaire, the researcher looked for all the OCB dimensions ever published in the literature by looking at OCB reviews (Podsakoff et al., 2000; Organ et al., 2006) and the Eastern version of OCB (Farh et al., 1997; Farh et al., 2004). The researcher with expertise in psychometry and several students that are doing their thesis on this topic discussed all the dimensions and decided several points. First, to integrate all dimensions while avoiding redundancy, the similarities and differences among dimensions were to be established. Each dimension's precise relevance to Indonesia was the criterion used for choosing between two or three similar dimensions. Second, dimensions that were considered irrelevant to Indonesian settings were discarded. This was judged by independent consultation with practitioners (ie. Managers in profit based organisations) and researchers' past experiences in Indonesia. The resulting dimensions were a combination of Podsakoff et al. (2000), Farh et al. (1997), and Farh et al. (2004). The dimensions retained were altruism towards colleagues, identification with the company (Farh et al., 1997), sportivity (Podsakoff et al., 2000), taking initiative, self-development, protecting company resources, and interpersonal harmony (Farh et al., 2004). The OCB questionnaire consists of 21 items including three items for each dimension, with a 6-point Likert-type response format. The reliability for the OCB questionnaire was quite good ( $\alpha=.95$ ).

Survey research in Indonesia, particularly within organisations, must always be cautious about high concerns with social desirability, due to the strong social norms to look good and kind. To deal with this issue, social desirability of the measures was examined using an Indonesian version of Strahan-Gerbasi Short Form Social Desirability Scale, comprising 10 true/false statements (Jaya, Hartana, & Mangundjaya, 2010). The resulting correlations from 41 participants (sharing the same characteristic as the participants mentioned above) showed that neither the LMX nor OCB measured social desirability; correlation coefficients were lower than .20 (Aiken & Groth-Marnath, 2006).

## Results

First, the analysis examined the descriptive statistics of the LMX and OCB measures. Means were computed by averaging the scores from each item on the relevant dimension. From the means (see Table 1), it can be observed which dimensions are particularly characteristic of Indonesians. For the OCB dimensions, altruism towards colleagues is the highest scored, while taking initiative and self-development is the lowest. With the LMX, loyalty is the highest and contribution is the lowest scored dimension.



**Table 1**  
*Descriptive Statistics for the LMX and OCB Questionnaires*

	Mean	SD
Overall OCB	3.77	0.75
Self-development	3.64	1.40
Interpersonal harmony	3.78	1.18
Altruism towards colleagues	3.94	1.05
Identification with the company	3.81	1.10
Sportivity	3.83	0.96
Taking initiative	3.66	1.34
Protecting company resources	3.73	0.83
Overall LMX	4.02	0.75
Professional Respect	3.96	0.75
Loyalty	4.21	0.88
Affect	4.08	0.96
Contribution	3.80	0.92

Next, we conducted a multiple correlation analysis of the LMX dimensions to the overall OCB scores, as LMX was multidimensional and OCB unidimensional. A multiple correlation between the four LMX dimensions and the overall OCB score showed a positive and significant relationship ( $r=.34, p<.01$ ). To find out which of the four dimensions of OCB contribute the most, a partial correlation was conducted. There was no significant relationship between OCB and professional respect ( $r=.10, p>.05$ ), loyalty ( $r=.08, p>.05$ ), and affect ( $r=.08, p>.05$ ). However, the contribution dimension of LMX correlated significantly and positively with OCB ( $r=.17, p<.05$ ).

## Discussion

This research showed that LMX and OCB are correlated in Indonesia. This suggests leader behaviours are important for OCB in Indonesia as well as in other cultural settings, such as North America. Our result strengthens a view that OCB elements are universal.

The different levels of means in the dimensions of OCB and LMX may reflect the unique Indonesian culture. Altruism towards colleagues (i.e., helping colleagues who are experiencing some difficulty) emerged as the highest level dimension of OCB. This is in line with the Indonesian philosophy of *gotong royong*. *Gotong royong* emphasizes the importance of helping each other as the most important factor in living in the society (Bowen, 1986). Suyono (2008) also observed that the *gotong royong* philosophy of life is manifested in helping behaviours toward others in need. Another interesting finding was that self-development and taking initiative had the lowest means. A common element in all three (altruism towards colleagues, self-development, and taking initiative) is taking the initiative to contribute to the organisation. The word 'initiative' (or a lack thereof) has always been a feature of Indonesian work culture that is particularly noted by expatriates, especially those from Western countries (Whitfield, 2009). Barr (1996) observed that Indonesians do not like to take initiative, especially for difficult tasks. This phenomenon might also be explained by Moorman and Blakely's (1995) findings that collective cultures tend to score low on OCB dimensions that reflect initiative.

Unlike previous OCB research in Indonesia which may not have captured all OCB dimensions (e.g., Purba & Seniati, 2004), this research successfully captured all OCB dimensions by using OCB items specific to Indonesian. The independent consultations with practitioners was fruitful as this allowed us to identify aspects of OCB that have been assumed relevant in the West but are nonetheless perceived by cultural experts



to be impractical or unusable in Indonesia (i.e. Courtesy dimensions). Courtesy is something that is expected in Indonesian culture; failure to show courtesy or 'correct' behaviours are punishable by the institution. Thus, courtesy is closer to in-role work behaviours rather than something extra in Indonesian culture.

This research is the first attempt in Indonesia to develop an Indonesian measure of OCB. Though many limitations exist in this project, the good reliability of the new measure of OCB suggested some success in this approach. More research using the Indonesian and Eastern versions of OCB is needed to advance our understanding of OCB in particular cultural contexts and further, to reveal the universal dimensions of OCB.

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## **The Explanations for Unemployment Scale: An Eight-Country Study on Factor Equivalence**

**Kostas Mylonas** (kmylonas@psych.uoa.gr)  
The University of Athens, Greece

**Adrian Furnham** (a.furnham@ucl.ac.uk)  
The University of London, United Kingdom

**Emmanouil Konstantinidis** (em.konstantinidis@gmail.com)  
The University of London, United Kingdom

**Sofia Papazoglou** (sofiap\_@hotmail.com)  
The University of Athens, Greece

**William Divale** (divale@york.cuny.edu)  
City University of New York, United States of America

**Cigdem Leblebici** (cigdem47@gmail.com)  
Izmir University of Economics, Turkey

**Sonia Gondim** (sggondim@terra.com.br)  
Federal University of Bahia, Brazil

**Angela Moniz** (acmoniz@terra.com.br)  
Centro Universitario Padre Anchieta, Brazil

**Hector Grad** (hector.grad@uam.es)  
Autonomous University of Madrid, Spain

**Jose Luis Alvaro** (jlalvaro@hotmail.com)  
Complutense University of Madrid, Spain

**Romeo Zeno Cretu** (zenocretu@yahoo.com)  
University of Bucharest, Romania

**Anna Filus** (afilus@swps.edu.pl)  
University of Warsaw, Poland

**Pawel Boski** (boskip@psychpan.waw.pl)  
University of Warsaw, Poland

### **Abstract**

Explanations for Unemployment have been studied through a 20-item scale created by Furnham (1982) on three theoretical dimensions: the individualistic, the societal, and the fatalistic. In this study we revised this scale to co-ordinate it with contemporary social and economic facts and through metric testing-adjustments and multivariate statistical analysis we arrived at a 19-item scale retaining eight of the original scale items. This revised scale was statistically and theoretically valid as its factor structure closely resembled the original factor structure Furnham had described. For the second stage of the study, data were collected from eight countries and

multilevel covariance structure analysis was applied to the data pool. The final structure can be considered universal for seven of these countries, meaning that the structure people employ to explain unemployment is the same across countries. The individualistic factor was clearly supported in this structure. The second factor narrowed the societal spectrum to industrial management and educational provision and the third factor appeared as a transformation of the fatalistic dimension to a “helplessness” factor. The three factors were investigated for their scoring differences across countries and overall.

## Introduction

Economic behaviour is reflected in both individualistic and societal functions within several social-psychological phenomena and has been studied extensively for many decades. Furnham and Lewis (1986) have addressed several of the related facets, devoting a large part to unemployment and its psychological consequences on the individual and society. Unemployment is considered a Social concern and a (socio)economic issue viewed as a possible source of psychological and physical ailments or illnesses. Unemployment and psychological health are related in terms of the psychological reactions and their stages and cycles, with immobilisation and shock appearing at the first stages and with internalisation and inertia being typically observed as long-term reactions to unemployment (Furnham & Lewis, 1986).

Studies on unemployment and psychological health (e.g., Feather, 1990; Furnham, 1983; Goldman-Mellor, Saxton, & Catalano, 2010; Jackson & Warr, 1984; Lewis, Webley, & Furnham, 1995) have addressed psychological and social adjustment, effects of unemployment on family life, governmental policies and reactions, education about unemployment, etc. Furthermore, long term unemployment can modify the way the unemployed explain its causes, producing more fatalistic explanations (Hayes & Nutman, 1981). Further research (Turner, Kessler, & House, 1991; Waters & Moore, 2001, 2002) has shown that self-esteem is also affected by long-term unemployment although this seems to vary across educational levels, being a function of baseline levels of self-esteem as well. Locus of control is another related factor which can offer explanation mechanisms to the unemployed as they may adopt internal locus of control explanations for unemployment. If they do so, they exhibit better coping strategies and suffer less from depression, managing the circumstances in a more effective way than when they adopt an external locus of control explanation for unemployment (Cvetanovski & Jex, 1994). In a more general sense, explanations for unemployment are considered attributions related to psychological processes and are linked to expectations which then, in turn, affect beliefs about the causes of success and failure (Furnham & Lewis, 1986).

Explanations for unemployment have been studied through the Explanations of Unemployment Scale for British samples (Furnham, 1982; Furnham & Lewis, 1986), contrasting the explanations the unemployed would give with explanations given by employed participants. Three main axes of explanations were described: a) individualistic reasons, expected to be favoured by the employed participants attributing unemployment to personal disposition; b) societal reasons, and c) fatalistic reasons. Both (b) and (c) were expected to be provided as explanations mainly by the unemployed, as they would be attributing their unemployment more to external (societal, chance) than to internal (individualistic) reasons. Apart from verifying the hypotheses, Furnham's study produced a 20-item seven-point Likert scale with eight items assessing individualistic explanations, eight items assessing societal explanations and four items assessing fatalistic explanations. Another study with the same instrument was later conducted in New Zealand (Lewis et al., 1995) supporting the 1982 findings and the original scale structure. However, cross-cultural studies that followed the 1982 study (e.g., Feather, 1985; Ward, 1991) only partly replicated factor patterns. Not only the identity but even the number of factors were different across countries as Feather (1985), using 27 items, described six factors, namely Lack of Motivation, Recession and Social Change, Competence Deficiency, Defective Job Creation, Personal Handicap, and Specific Discrimination. In addition, Ward (1991) described seven factors, and although differences have been individually described for various countries, these differences have not yet been summarized (e.g. meta-analysis, or culture invariance modeling or multilevel covariance structure modeling). However, Furnham argues that “although different studies have empirically derived rather different factors, it seems quite possible to categorise

these into one or other theoretical framework: i.e. individualistic (internal, voluntary, effort, ability), societal (external structural, task difficulty) and fatalistic (cyclical, luck, chance, uncontrollable).” (Furnham, 1988, p.133) providing further evidence and introducing a cross-cultural issue in that explanations for unemployment may vary across national groups as a function of the prevailing economic conditions in each country (Furnham & Hesketh, 1988). Whatever the outcomes though, these and other studies (e.g., **Payne & Furnham**, 1987) indicated the need for cross-cultural testing of the Explanations of Unemployment Scale (EoU) both in terms of factor structure and of differences in the explanations used across cultures. For possible differences across cultures to be revealed though, the factors assessed through the Scale should be comparable and methodologically and statistically equivalent across these nations (Poortinga, 1989; Poortinga & van de Vijver, 1987; van de Vijver & Leung, 1997; van de Vijver & Poortinga, 2002; van de Vijver & Tanzer, 1997). Another issue concerns the original 1982 EoU scale’s ability to assess contemporary facets of unemployment; although comparability with previous findings should be preserved for cross-cultural studies, it is common practice to devise and test new items for scales with possibly outdated items. We initially set out to meet this goal, trying to elaborate on new revised items and test their metric properties along with the 20 original EoU items. We then pursued the factor equivalence goal through an extensive cross-cultural study.

### **Aims of the Study**

The aim of the current study is two-fold. The *first stage* is the metric procedure followed to obtain a new, revised, scale based on the original EoU 1982 scale. This revised scale should at least resemble the initial three-factor structure as described by Furnham so as to allow for further cross-cultural testing under the comparability prerequisite. The *second stage* would be to test for the revised scale’s factor equivalence across a number of cultures and to arrive into an overall factor structure valid for the assessment of culture-free explanations of unemployment. This testing would be available for the current study through the implementation of Muthén’s methods (1994, 2000) as extended to exploratory factor analysis by van de Vijver and Poortinga (2002). The method (Multilevel covariance structure analysis – in short MCSA) has been applied by the first author and his colleagues to social axioms cross-cultural data and to family cross-cultural data (Gari, Panagiotopoulou, & Mylonas, 2008; Mylonas, Pavlopoulos, & Georgas, 2008, respectively). It was shown to be able to isolate item discrepancies and response style effects, so as to allow either for item deletion or for alternative clustering-of-countries techniques or for both and other techniques in order to arrive at a theoretically acceptable statistically equivalent factor structure for the respective scales. The MCSA method (or even parts of it) has been successfully applied to other data sets by other researchers for factor equivalence testing reasons (e.g. Cheung, Leung, & Au, 2006; Fischer et al., 2009; van Hemert, van de Vijver, & Poortinga, 2002; van Hemert, van de Vijver, Poortinga, & Georgas, 2002).

### **Stage 1: Revision of the Original EoU Scale**

The first aim was to translate the original 1982 EoU items into Greek, as the new items would be devised in Greek and tested in a Greek sample. We followed the usual procedures of back-translation in order to avoid cultural and language bias, thus arriving at a set of 20 items in their Greek translation. We were concurrently conducting interviews with more than 50 unemployed males and females of various professions and skills so as to gather the raw material for devising the new items<sup>1</sup> for the revised scale. In all, 24 new items were devised and all 44 items were tested in Greek samples of employed and unemployed participants. The samples consisted of 124 employed and 126 unemployed Greek adults aged 18 to 62, 111 males and 139 females. If our methods and analysis were successful we should arrive at a new set of items which would resemble or even identify with the original three factors described originally in Furnham’s work. This should hold for the overall sample. That is, the factor structure should be the same for both employed and unemployed participants regardless of their possible variations in rating the explanations for unemployment.

<sup>1</sup>My sincere thanks to Anna Mitsostergiou and Georgia Kyvetou for their invaluable help during the preliminary scale-revision stages involving collection and formation of the interview data, back-translation procedures, and new item formation. They also successfully conducted their own degree studies primarily testing for metric properties and differences between samples of employed and unemployed Greeks.

Cross-Cultural data analysis methodology was applied across groups in the analysis (unemployed vs. employed). Multilevel Covariance Structure Analysis, Exploratory factor analysis models and Tucker's congruence coefficients were evaluated. Customary psychometric methods were also employed, such as internal consistency analysis and confirmatory factor analysis, along with intraclass correlation coefficients. However, for the sake of brevity only parts of these analyses will be presented here.

### **Confirmatory Factor Analysis Models for the Original 20-item EoU scale**

We first tested the possibility that no new items would be required; if the CFA outcomes were acceptable, this would mean that the 1982 original EoU scale would still be able to distinguish the three facets originally described. We tested the overall sample, as well as the unemployed sample and the employed sample separately, but the outcomes were not satisfactory: for the overall sample (N=250) the chi-square value for 170 degrees of freedom was 683.49 and statistically significant at the .001 level. The root mean square error of approximation was .11 and the adjusted goodness of fit index reached only .73. For the employed and unemployed samples, the fit indices were similar, thus the initial hypothesis that the theoretical three-factor structure would not be present in the original 20-item scale version was supported and the 44-item revised version was now under scrutiny.

### **Multilevel Covariance Structure Analysis for the 44-item Revised EoU Scale**

As we should test for possible item-bias, we first evaluated internal consistency results and explored for problematic items. We then performed MCSA to the overall sample data, taking the employed-unemployed subgroup parameter into consideration, in order to single out the items with the largest discrepancies in the structure. The method involves the computation of two correlation matrices, one estimated between-groups matrix computed on the higher-level means and one pooled-within correlation matrix computed at the individual level (Cheung et al., 2006; van de Vijver & Poortinga, 2002). The two matrices are factor analyzed and a target rotation follows to arrive at a factor structure which may or may not need further multilevel modeling depending on the intra-class correlation coefficients estimated for each of the items. In our quest, several items with high intra-class correlation estimates were to be removed as they were posing a threat to the scale's invariance and this was successively done through the aid of internal consistency estimates and exploratory factor structures recomputed for each of the successive steps. When there were no more cross-group differences to be modeled, 33 items remained in the analysis (16 original EoU and 17 new items). Through a maximum likelihood exploratory factor analysis model a set of 19 items (8 original EoU items and 11 new ones) were selected forming three distinct and quite strong factors. We finally recomputed the MCSA solution for these 19 items to investigate the intra-class correlation indices (ICC) and the results were very satisfactory as the mean intraclass correlation index reached only .01 -not exceeding the .06 limit. The final 19 items which form the new revised EoU scale are presented in Table 1. The three factors that emerged were quite similar to the original ones described by Furnham, namely the Individualistic factor with 6 of the 8 original EoU items and one new item, the Societal factor (emphasis on State provision) with 6 new items and one original EoU item, and the Fatalistic factor (emphasis on socioeconomic and technological changes) with five new items and one original EoU item.



**Table 1**  
Items for the revised EoU Scale and three-factor solution loadings

Method: Maximum Likelihood, orthogonal rotation	% of Explained variance	17.8	14.8	13.9
<b>Target rotated matrix</b>				
(total variance explained = <b>46.5%</b> )				
18 Unemployed people do not try hard enough to get jobs	<b>.80</b>	.11	-.05	
8 Lack of effort and laziness among unemployed people	<b>.79</b>	.03	.09	
12 Unemployed people are too fussy and proud to accept some jobs	<b>.78</b>	.02	.00	
3 Unwillingness of unemployed to move to places of work	<b>.60</b>	.00	.08	
6 Inability of unemployed people to adapt to new conditions	<b>.57</b>	.13	.22	
10 Lack of intelligence and ability among unemployed people	<b>.57</b>	-.15	.15	
<b>32 Unemployed people lack self knowledge and pursue jobs not corresponding to their qualifications</b>	<b>.56</b>	.35	.17	
24 The educational system does not correspond to the current job market	-.05	<b>.74</b>	.07	
27 Poor educational system	-.08	<b>.67</b>	.21	
42 Unemployed people do not qualify for contemporary market needs	.21	<b>.66</b>	.07	
40 Lack of vocational guidance and counseling	.12	<b>.60</b>	.16	
19 Incompetent industrial management with poor planning	.12	<b>.58</b>	.06	
<b>28 Production facilities and enterprises have been displaced at other areas or even at other countries</b>	-.13	<b>.52</b>	.29	
33 Employers will easier hire someone without family obligations	.11	.34	<b>.47</b>	
44 Job positions' overlap and company merging	-.06	.29	<b>.60</b>	
34 Enterprises have embraced technology evolution	.15	.19	<b>.76</b>	
36 Demographic and population changes	.15	.15	<b>.61</b>	
35 High levels of wages/salaries result into less people employed	.05	.08	<b>.67</b>	
<b>11 The introduction of widespread automation</b>	.16	-.02	<b>.61</b>	
D=.00054 KMO=.82 Bartlett's test of sphericity, $\chi^2(171)=1,262.8, p<.001$ Tucker's $\Phi$ coefficients for target rotation reached 1.00 for all 3 factors				

The number before each item is the 44-item version number of the item. All items numbered 1-20 are the original 1982 EoU items.

Reliability estimates: Individualistic Factor (items 18, 8, 12, 3, 6, 10, and 32):  $\alpha=.83$ ,  
Societal Factor (lack of provision by the State) (items 24, 27, 42, 40, 19, and 28):  $\alpha=.73$ ,  
Fatalistic Factor (socioeconomic-technological changes) (items 33, 44, 34, 36, 35, and 11):  $\alpha=.73$ .

From a metric perspective, reaching the above factor structure was quite satisfying but only if the new-revised scale remained "Greek". However, this was not our main intention, as we were about to explore the universal character of the scale in the second stage of the study<sup>2</sup>.

## Stage 2: Factor Equivalence of the Revised EoU Scale (EoU-R) Across Eight Cultures

At this stage a cross-cultural study was conducted with datasets from eight countries (five European, one Asian, one Latin-American, and the U.S.). Specifically, the countries providing these datasets were Brazil, Greece, Poland, Romania, Spain, Turkey, the U.K., and the U.S.A. The instrument in its English form was initially translated into each country's official language and was then back translated accordingly. The country collaborators administered the 19-item EoU-R scale to employed and unemployed samples within their countries and then the overall sample was formed (N=1894) with the following characteristics: Brazil (N=411,  $n_{emp}=208, n_{unemp}=203$ ), Greece (N=250,  $n_{emp}=124, n_{unemp}=126$ ), Poland (N=156,  $n_{emp}=102, n_{unemp}=54$ ), Romania (N=204,  $n_{emp}=106, n_{unemp}=98$ ), Spain (N=238,  $n_{emp}=125, n_{unemp}=112, n_{other}=1$ ), Turkey (N=200,  $n_{emp}=100, n_{unemp}=100$ ), U.K. (N=199,  $n_{emp}=150, n_{unemp}=33, n_{other}=15$ ), U.S.A. (N=236,  $n_{emp}=144, n_{unemp}=90, n_{other}=2$ ). From these, 47.3% were males and 52.7% were females (mean age=34 years).

The statistical analysis which followed was aimed at possibly uncovering a factor structure which could be "universal" for these eight countries. To do so, we employed MCSA once more treating each of the eight countries as a separate unit in the analysis. That is, we analysed 1894 cases at the individual level and eight countries at the aggregated, higher-order, country level of analysis. The two correlation matrices were estimated and the ICC indices were computed. Finally, the factor structures for the two matrices were put to Procrustean rotation and the outcome is presented in Table 2. However, there were several problems with this factor solution. One serious problem was that the mean ICC index was too high (.12), so it was very unlikely that the computed factor structure represented satisfactory equivalence levels. Moreover, a number of cross-loadings appeared for this factor solution, even under the very stringent cutoff point of .60. Although the overall percentage of explained variance was rather high (51.96%, with the first factor explaining 18.95%, the second 16.67% and the third 16.34%), only the first factor could be clearly identified as the "individualistic" one. The other two factors were blurred by the several cross-loadings and did not seem to distinguish between the societal and fatalistic explanations.

<sup>2</sup> We should note that in Stage 1 items were administered in their Greek form to Greek samples, thus they had to be translated into English after reaching the factor solution and then a back-translation procedure followed.

**Table 2***Procrustean rotation solution for the 19 EoU-R Scale items - eight-country data*

0,46	<b>0,77</b>	0,39	Q1 "Incompetent industrial management with poor planning"
0,54	0,27	<b>0,75</b>	Q2 "Unwillingness of unemployed to move to places of work"
<b>0,95</b>	0,21	0,09	Q3 "Inability of unemployed people to adapt to new conditions"
0,25	<b>0,74</b>	<b>0,60</b>	Q4_N "The educational system does not correspond to the current job market"
<b>0,64</b>	0,24	<b>0,61</b>	Q5_N "Unemployed people lack self knowledge and pursue jobs not corresponding to their qualifications"
0,29	0,35	<b>0,85</b>	Q6_N "Unemployed people do not qualify for contemporary market needs"
0,17	<b>0,84</b>	0,49	Q7 "The introduction of widespread automation"
0,22	<b>0,73</b>	<b>0,65</b>	Q8_N "Lack of vocational guidance and counseling"
0,22	<b>0,77</b>	0,42	Q9_N "Job positions' overlap and company merging"
0,13	0,41	<b>0,88</b>	Q10_N "High levels of wages/salaries result into less people employed"
0,26	<b>0,70</b>	<b>0,64</b>	Q11_N "Production facilities and enterprises have been displaced at other areas or even at other countries"
<b>0,90</b>	0,21	0,31	Q12 "Unemployed people do not try hard enough to get jobs"
<b>0,89</b>	0,23	0,34	Q13 "Lack of effort and laziness among unemployed people"
-0,07	<b>0,73</b>	0,53	Q14_N "Employers will easier hire someone without family obligations"
<b>0,88</b>	0,38	0,06	Q15 "Unemployed people are too fussy and proud to accept some jobs"
0,46	<b>0,65</b>	0,53	Q16_N "Demographic and population changes"
0,27	<b>0,74</b>	0,56	Q17_N "Enterprises have embraced technology evolution"
0,19	<b>0,79</b>	0,54	Q18_N "Poor educational system"
<b>0,96</b>	-0,13	-0,02	Q19 "Lack of intelligence and ability among unemployed people" .

For the above-mentioned reasons, we decided to examine the metric qualities of our data and test for possible artefacts in the data that might be caused by extraneous factors such as response styles. Indeed, by simply plotting the 19 item-means for each of the eight countries we noticed a general haphazard pattern holding for all countries but for one; for this country the means for each of the items were higher than all other countries and were rather undifferentiated (see Figure 1). This country was Brazil and unhappily it had to be removed from the dataset in order to recalculate the MCSA solution for the remaining seven-country data. This seemed like a case of an inverse-acquiescence effect, as participants seemed to disagree with every single item. One more finding corroborated this decision. By computing the Brazilian factor structure through simple exploratory factor analysis we found that this structure was unifactorial, a fact that verified the undifferentiated manner that Brazilians used to answer the 19 questions of the EoU-R scale. Such a decision is a very difficult one for any cross-cultural dataset but it had to be taken as the factor structure was heavily burdened by the inclusion of the Brazilian data. However, the Brazilian data may be revisited in another study, under procedures that might offer a remedy for the biasing effects.

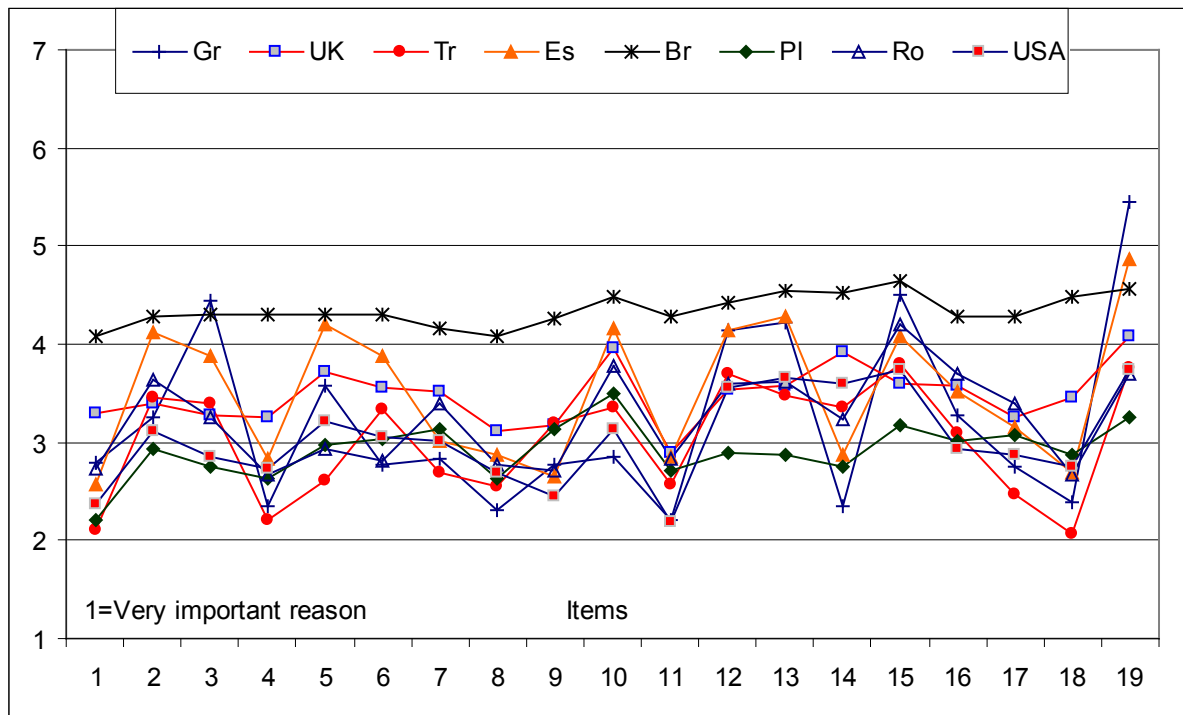


Figure 1: Means for all 19 EoU-R items by country.

With seven countries remaining in the analysis, we once again employed MCSA treating each of the seven countries as a separate unit in the analysis, analysing 1483 cases this time at the individual level and seven countries at the aggregated, higher-order, country level of analysis. The two correlation matrices were estimated and the ICC indices were once again computed. Finally, the factor structures for the two matrices were put to Procrustean rotation and the outcome is presented in Table 3.

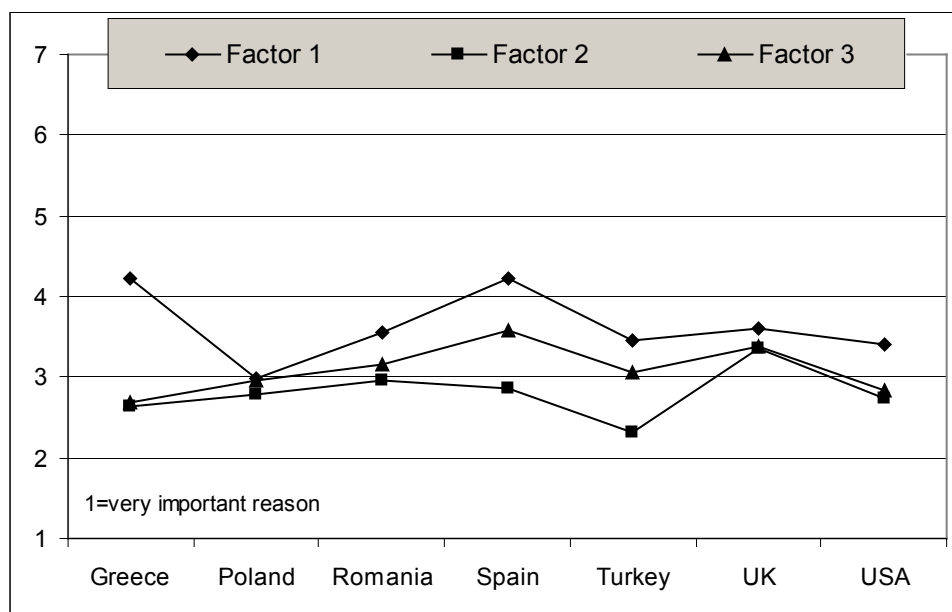
Table 3

Procrustean rotation solution for the 19 EoU-R Scale items - seven-country data

0,40	<b>0,82</b>	-0,01	Q1 "Incompetent industrial management with poor planning"
<b>0,70</b>	-0,04	<b>0,65</b>	Q2 "Unwillingness of unemployed to move to places of work"
<b>0,88</b>	-0,17	-0,27	Q3 "Inability of unemployed people to adapt to new conditions"
-0,04	<b>0,82</b>	0,47	Q4_N "The educational system does not correspond to the current job market"
<b>0,73</b>	0,36	0,22	Q5_N "Unemployed people lack self knowledge and pursue jobs not corresponding to their qualifications"
0,27	-0,05	<b>0,86</b>	Q6_N "Unemployed people do not qualify for contemporary market needs"
-0,20	<b>0,91</b>	0,30	Q7 "The introduction of widespread automation"
-0,10	0,59	<b>0,76</b>	Q8_N "Lack of vocational guidance and counseling"
-0,37	-0,10	0,33	Q9_N "Job positions' overlap and company merging"
0,14	0,35	<b>0,90</b>	Q10_N "High levels of wages/salaries result into less people employed"
0,01	0,31	<b>0,86</b>	Q11_N "Production facilities and enterprises have been displaced at other areas or even at other countries"
<b>0,95</b>	-0,18	-0,09	Q12 "Unemployed people do not try hard enough to get jobs"
<b>0,97</b>	-0,01	-0,13	Q13 "Lack of effort and laziness among unemployed people"
-0,48	0,34	0,43	Q14_N "Employers will easier hire someone without family obligations"
<b>0,82</b>	-0,05	-0,40	Q15 "Unemployed people are too fussy and proud to accept some jobs"
0,52	0,56	0,40	Q16_N "Demographic and population changes"
0,08	<b>0,82</b>	0,37	Q17_N "Enterprises have embraced technology evolution"
-0,19	<b>0,87</b>	0,29	Q18_N "Poor educational system"
<b>0,92</b>	-0,02	-0,29	Q19 "Lack of intelligence and ability among unemployed people"

For this solution, the overall explained variance reached 44.69% with the first factor explaining 19.06%, the second factor explaining 14.28% and the third one explaining 11.35% of the overall variance. Seven individualistic items (six 1982 EoU items and one new item) formed the first and strongest factor. The second factor was a five-item factor mainly portraying education and industrial management reasons. Although this factor comprises the technology-evolution and automation items, these items seem to be considered as man-

agement choices and not simply of the “evolution” kind. Finally, the third five-item factor is the depiction of the helplessness the unemployed experience as they are *deprived* (low qualifications, poor vocational guidance and counseling), *underprivileged* (high salaries are given to few), and *helpless* (they cannot move to new places of work where the production lines have been displaced -possibly for taxation and labour cost reasons). Three items did not load on any of the factors and were not retained in the calculation of the factor aggregate scores; still, their factor loadings were quite high, but as target rotations produce unusually high loadings, a very high cutoff score is necessary to decide on item inclusion (in our analyses, a cutoff loading score of .60 was imposed). The factor means by country are presented in Figure 2.



**Figure 2:** Mean scores for each of the three factors by country (seven-countries solution).

The overall means regardless of country are 3.68 ( $SD=1.37$ ), 2.80 ( $SD=.99$ ), and 3.09 ( $SD=1.05$ ), respectively for the first, second, and third factors. A repeated measures analysis of variance design revealed statistically significant differences with the “societal” and “helplessness” explanations scored higher than the individualistic explanations ( $F_{2, 2964}=418.19, p<.001, \eta^2=.22$ ; the quadratic contrast was statistically significant at the .001 level explaining 24% of the total variance). A closer look at each of the seven countries revealed that the factor scores differed at a statistically significant level for each and every country although the measures of association for the Polish and the U.K. data were practically zero<sup>3</sup>. For the Greek, Turkish, Romanian, Spanish, and the U.S. data, the second factor, portraying societal reasons such as industrial management and poor education was scored the highest with the “helplessness” factor closely following; the individualistic factor received the lowest scores in all five countries. Finally, through a profile analysis with repeated measures design for all seven countries, it was shown that their differences in factor scoring are not the same across countries as the parallelism of profiles hypothesis was rejected ( $F_{12, 2952}=36.88, p<.001, \eta^2=.13$ ). The multivariate flatness hypothesis was also rejected emphasizing the overall factor scoring differences across countries.

## Conclusions

This study served two purposes: (a) the revision of the EoU Scale as this would incorporate the up-to-date unemployment parameters to the scale and it would re-evaluate the original EoU items in respect to the original theory as well, and (b) gaining some understanding of factor equivalence levels for the revised EoU scale, so this revised scale could be employed in further research without the hindrance of the lack of factor invariance. Although the current results are not final, they are quite promising in terms of the new insight into

<sup>3</sup>The Polish and the U.K. samples consisted mainly by employed participants. This could be the reason for the high scores observed for the individualistic dimension, nearly matching the scores for the other two dimensions.

the explanations of unemployment issue they offer. Other methods such as country-clustering techniques could and should be employed in order to enhance bias reduction following the general framework offered by the ecocultural taxonomy hypothesis (Georgas & Berry, 1995). The EoU-R scale should also be a means to understand how unemployment and its causes are perceived both by the employed and the unemployed within the economic system of a nation, to aid intervention techniques preventing the negative consequences triggered by long term unemployment.

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## **Work Motivation, Personality, and Culture: Comparing Australia and India**

**Trishita C. Mathew** (trmathew@bond.edu.au)  
Bond University, Australia

**Richard E. Hicks** (rhicks@bond.edu.au)  
Bond University, Australia

**Mark Bahr** (mbahr@bond.edu.au)  
Bond University, Australia

### **Abstract**

The influences of motivation and personality in relation to performance have been examined extensively in the research literature, but there has been only limited attention given to the influence of these facets on performance across cultures. There is an increasing use of international resources and alliances aimed at better economic management in many global companies, but more needs to be known about how cultural issues are related to individual motivation, personality and perceptions of performance. Moreover, there are several theories of motivation, but the transferability of these theories to different cultures has been questioned. Thus, a model of motivation, personality characteristics and cultural differences influencing performance is proposed and will be tested in a cross-cultural comparison. Specifically, motivational influences, personality characteristics and cultural differences in Australia and India will be examined in relation to performance in two contexts, the first, in the educational setting dealing with students and their attitudes and approaches, and the second, in the workplace setting dealing with workers in their attitudes and approaches. It is hoped the findings will have both theoretical implications for the model of motivation-personality-culture- performance and practical implications for selection, training, development and compensation in dealing with a global workforce. The current paper reports the main basis for the research to come, outlining the importance of understanding the India-Australia similarities and differences in personality and motivation, and indicates what the implications for cross-cultural relationships are.

There is an increasing use of international resources and alliances aimed at better economic management in many global companies, but more needs to be known about how cultural issues are related to individual motivation, personality and perceptions of performance. While it is known that individual differences and motivation are closely linked to human resource performance, what motivates one person may not motivate another and although several theories of motivation exist, the transferability of these theories to different cultures has been questioned (Hodgetts, Luthans, & Doh, 2006; Hofstede, 1980; Hofstede, 1993; Newman & Nollen, 1996; Townsend & Wrathall, 1997). Another point to consider as posited by Steers, Mowday, and Shapiro (2004) is that certain areas of management research such as leadership, groups and teams, decision making and negotiation are being conceptually developed, but theoretical development of work motivation has been left behind. It is also clear that, while theoretical development of work motivation has stagnated, organizational structure and processes have witnessed several dramatic changes. The workforce today is characterized by increased diversity; business process outsourcing has become quite common; and the challenge of managing across borders has become more pertinent. Steers et al. also foresee that in the future companies will compete on the basis of quality of technology and quality of human resources, making a motivated workforce an asset that provides a competitive edge. Research into motivation is therefore more important than ever. The study of work motivation is closely related to the study of individual differences as individuals in the workplace can differ in the ways they respond to motivational practices (Porter, Bigley, & Steers, 2003). Therefore, we have proposed and are developing a new model of work motivation commensurate with the changes in the workforce and incorporating the influences of culture and individual differences. This paper reports the foundation for future research to come.

## **New Directions in Work Motivation Research**

Kanfer, Chen, and Pritchard (2008) postulated that progress in work motivation research needed to include a better understanding of the content of work motivation, an enhanced insight into how motivational constructs and processes operated across the working life-span and how the context in which people live and work influences the content and function of work motivation. Kanfer et al. proposed the three C's framework for work motivation research: content, context and change. Content refers to the influences of relatively stable individual differences which lead to differences in actions, settings and strategies. Context refers to the influence of various settings in which work takes place such as the larger sociocultural context or the organizational context. Change refers to the influence of time on work motivation as motivation is a dynamic process. Kanfer (2009) proposed that over the life-span, participation in the workforce may span up to five decades and during this time individuals develop and mature, and learn new skills and strategies, which needs to be captured in work motivation models. Kanfer suggested that researchers needed to use various methodologies to triangulate person-situation interactions that are most influential for work motivation and performance. Congruent with the suggestions of Kanfer et al. (2008) and Kanfer (2009), the model we propose incorporates the influences of content (individual differences), context (culture) and change, on work motivation.

## **Comparing Cultures: Why Australia and India?**

Former Australian Prime Minister Kevin Rudd (2008) stated that Australia and India were natural partners due to several similarities between the countries and that the full potential of the partnership was yet to be developed. The similarities between India and Australia include that both countries are the two biggest democracies in the Asia-Pacific region, share a colonial past, enjoy a free press and an independent judicial system, and both countries share English as the main language of commerce and industry (Joint Standing Committee on Foreign Affairs, Defence and Trade, 1998). Despite several similarities, the two countries are also very different: Australia's population is 21,779,00 whereas India's population is 1,156,897,766 (The World Bank, 2009). Australia is classified as a developed nation with a Gross Domestic Product (GDP) of 1,015.22 (US\$ billions), while India is classified as a developing nation with a GDP of 1,217.49 (US\$ billions) [The World Bank, 2009]. Therefore, a comparative study of Australia and India should reveal interesting information due to the commonalities and the differences between the two countries.

Relations between Australia and India were slow to develop even though the first trade link between Australia and India was established as early as 1893 when Australia imported camels from India to work in the outback. Coal was one of the earliest exports to India. Indian workers were also recruited to work in Queensland's cane fields and fruit plantations. However, neither country's government made any serious effort to encourage trade development (Joint Standing Committee on Foreign Affairs, Defence and Trade, 1998). Conversely, the last few years have seen a salient increase in trade relations between Australia and India (Hebbani, 2008). Kevin Rudd (2008) stated that India was Australia's fastest growing major export market, and that investments between Australia and India were also increasing. With regards to the service industry, Australia was the second most popular destination for Indian students and tourism between the countries was also growing rapidly with India being Australia's second-fastest growing tourism market. Chief Economist, Australian Trade Commission, Harcourt (2007) explained that one reason why India was a lucrative market was because India has a growing middle class of 300 million people with a growing purchasing power of approximately AUD \$85 billion. Another reason, according to Moignard (2008), Austrade's Senior Trade Commissioner for India, was that structural reforms over the past decade have aided India to become one of the fastest growing, developing economies. Parakala (2008), KPMG Australia's India Business Practice National Leader, stated that opportunities in India were emerging in the power sector, the transport sector, ports, airports and railways. However, Parakala cautioned that Australian businesses needed to move fast as they faced competition from companies from the USA, UK and Spain. Given the current emphasis on global diversity in the workplace, gaining a competitive edge was expected to require being aware of values underlying cultures, understanding basic cultural differences and respecting these differences (Hebbani, 2008).

## Cultural and Cross-Cultural Psychology

In psychology studies, there are two main approaches regarding the role of culture: Cross-cultural psychology and cultural psychology. In cross-cultural psychology, the generalizability of existing theories is tested in various cultures with the aim of developing a universal model which can predict human behaviour. In the cross-cultural approach culture is treated as an independent variable. For example, McCrae and Costa (1997) tested the validity of the Big Five personality traits (openness to experience, conscientiousness, extraversion, agreeableness and neuroticism) across six different cultures. In contrast, cultural psychologists derive culture specific procedures for each culture and cross-cultural comparison is not the focus of the studies. The main aim of cultural psychology is to identify the cultural foundations of psychological processes. For example, in order to assess cognitive skills Greenfield (2000) developed a task based on weaving specifically for the indigenous Maya community, as weaving was a culturally familiar activity for the community (Miller, 2002). Miller suggested that future research involving culture and psychology needed to take into account culturally based concepts, categories occurring naturally in cultures, and everyday cultural practices. Miller further suggested that in order to gain insight into culturally based concepts researchers needed to analyse open-ended free response data or naturally occurring conversational routines. We have planned to incorporate the aims and methodologies of both cross-cultural and cultural approaches in our study. In phase one of the study, semi-structured interviews will help identify what motivates people and what are the desired personality traits in each culture (congruent with the suggestions of Miller). Based on the interview responses and past literature, in phase two of the study reliable and valid instruments will be chosen to collect data for more extensive analyses. Specifically, motivational influences, personality characteristics and cultural differences in Australia and India in relation to performance will be examined in two contexts: first, in an educational setting dealing with students; and, second, in a work place setting dealing with workers. A comparison between the students and employees will throw light on changing attitudes in work motivation across time.

We hope the studies conducted will add to the theoretical development of work motivation including across cultures and will add to the body of knowledge in the area. The differences in sources of motivation, worker personality characteristics and cultural differences will have utility to expatriate managers in both countries. The findings should also be useful for organizations setting up base in either country as it can guide selection and recruitment of staff, areas for training and development, and reward systems most likely to be successful.

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# Report of the XX International Congress of the International Association for Cross-Cultural Psychology

Yoshi Kashima  
Melbourne, Australia

The 20th International Congress of the International Association for Cross-Cultural Psychology (IACCP) took place from the 7<sup>th</sup> to 10<sup>th</sup> July 2010 on the campus of the University of Melbourne. It was close to the Central Business District of Melbourne, Australia, a multicultural hub where more than 150 languages are spoken and new immigrants arrive



daily from all over the world. Against the backdrop of the global financial crisis and other disruptions to flight schedules from Europe due to volcanic activities, together with the tyranny of distance to Australia from the IACCP's traditional strongholds in Europe and North America, there was some nervousness about the conference's financial and academic viability. Nonetheless, the IACCP's support for this Congress was extraordinary; not only did it provide intellectual and moral support, but also helped financially. Together with additional assistance from the Australian Psychological Society (APS), the University of Melbourne, the Melbourne Medical School, and the Department of Psychology, the Association's President Heidi Keller, its Secretary-General William Gabrenya, and Treasurer Sharon Glazer gave us unwavering support for the Congress throughout the highs and lows of the conference preparation. The Organizing Committee, led by Amanda Gordon, a former President of APS, and the Scientific Committee, which I had the privilege of chairing, are grateful for their commitment and help.

## Delegates Staff Numerous Sessions

In the end, the Congress attracted 44 symposia, more than 120 oral presentations distributed across 33 thematic sessions, and more than 40 poster presentations in three poster sessions. There were 456 delegates from 54 countries around the world; Australia (with its local advantage) topped the chart with 126, followed by the USA (61). Also notable was participation from New Zealand (12). There was a very strong presence from Asia, in particular, Indonesia (23), Japan (21), Singapore (18), and China (13), perhaps reflecting its relative geographical proximity



**Amanda Gordon**  
Organizing Committee  
Chair.



and financial strength. There was also traditionally strong participation from Europe—Germany (15) and the Netherlands (14)—as well as other North American—Canada (17) and Mexico (13). The pattern of delegate participation underlined the strength of commitment by members of the IACCP to cultural research in psychology.

### Welcome at the Immigrant Museum

In the crisp morning of the Southern Hemisphere winter, the first day of the Congress began with a mixture of workshops and symposia. Despite some delays at the time of registration (and some difficulties in locating the venues), participants were off to a good start for the day. Some symposia had to be scheduled in parallel with workshops due to better than expected symposium submissions, and because some late arrivals were expected from other conferences held elsewhere in Australia. But by the end of the first day, most delegates were present and ready for a welcome reception, which was held at the Immigration Museum, located an easy tram ride from the conference venue. A modern museum filled with the history of immigration to Australia from all over the world provided a poignant occasion with a moving speech by the Governor of Victoria, Professor David de Kretser, who is himself an immigrant and has made a significant contribution to a multicultural society that is Australia.



**Prof. David de Kretser** Governor of Victoria state.

### Opening With a Didgeridoo

The Congress proper began in the morning of the 8<sup>th</sup> of July with a traditional welcome from the Elder, Uncle Reg Blow, and his didgeridoo performance. Professor Trang Thomas, a cross-cultural psychologist and former commissioner of the Multicultural Council, gave an opening speech about her experience as an Australian with an immigrant background. Amanda Gordon, the Congress Chair, welcomed all and introduced the members of the Organizing Committee. Heidi Keller, the President of the IACCP, officially opened the 20<sup>th</sup> Congress and introduced the first Keynote Speaker, David Matsumoto. With his contagious enthusiasm, memorable visual presentations of Olympic athletes'



**Aboriginal opening** The Congress is officially opened with the blowing of a didgeridoo by Elder Uncle Reg Blow.

emotion displays, he delivered his powerful message on how universal and culturally specific processes intricately interact in human experiences of emotion.

### Trying Something New

Several new attempts were made in this Congress. First, we planned a special session on psychological and human rights perspectives on Indigenous Australians, consisting of presentations by Dennis McDermott (indigenous psychologist), Harry Minas (transcultural psychiatry), and Jeremy Jones (human rights commissioner). In Australia, we need two kinds of cross-cultural psychology. As in many “new world” countries, the past 200 years of immigration, mainly from Europe and also from other parts of the world such as Asia, have displaced Australian Aborigines and Torres Strait Islanders, the peoples who had settled in Australia for more than 40,000 years. In contrast to the cross-cultural psychology of comparisons between peoples from different parts of the world, the other cross-cultural psychology involves not only cultural and psychological issues, but also a fundamentally political and moral issue because of the political, economic, and social inequalities that mark the relationship between majority Australians and the indigenous peoples. The session was an attempt to shed light on this critical and complex issue from multiple perspectives.

Second, we organized a set of workshops that were designed to give well respected researchers and practitioners an extended opportunity to disseminate their theoretical knowledge, empirical findings, and practical skills, while building the research capacity for the delegates at the Congress. A number of keynote speakers of this and the past Congresses were invited to take up these opportunities; many enthusiastically accepted our invitations. Altogether eight workshops were run (in the alphabetical order of the first listed organizer’s surname): C.-Y. Chiu and Y.-Y. Hong on globalization and cultural dynamics, Alan Fiske on relational models, Patricia Greenfield on social change and human development, Steven Heine on self, Ida Kaplan, Yvonne Stolk, and Alan Tucker on psychological assessment, David Matsumoto on emotion, and Fons van de Vijver and Ronald Fisher on quantitative methodology.

Third, we set the theme of *Cultural Change: Meeting the Challenge* to signal two kinds of culture changes. On the one hand, culture change as a phenomenon to be investigated from cross-cultural psychological perspectives should be highlighted and encouraged as globalization continues to accelerate. It is ubiquitous in countries that have not only traditionally received immigrants, but also in those countries that sent them out; in countries that have been more traditional, as well as in countries that are undergoing rapid economic and social changes. On the other hand, it was to signal a culture change in the academic area of culture and psychology. The field has experienced an enormous growth over the past 20 years, and with it, multiple perspectives and approaches have emerged, at times generating some discord. The theme was to signal the beginning of a new era,



**Lawrence Harrison** Delivers Walter J. Lonner Distinguished Lecture Series address.

in which different perspectives and approaches come together to exchange views frankly and constructively, so as to further grow the area of cross-cultural research in meeting the challenge of the ubiquitous culture change. According to a post-conference survey (N = 112), 84% regarded this theme as adequately to very well addressed.

### Culture Change in the Scientific Program

From the second and third days of the Congress, the thematic sessions as well as symposia were scheduled to reflect the dual meanings of the culture change theme. Thematic sessions that addressed the conference theme were put together prominently; they included a number of papers that examined how globalization and other events are instigating cultural changes, and what psychological consequences have been experienced around the world. Also, attempts were made so that researchers could attend a variety of symposia that reflect different perspectives. Keynote addresses were designed to reflect the diverse perspectives on culture and psychology. Alan Fiske presented an anthropological perspective in his memorable presentation wherein rich anthropological evidence was amassed to discuss what he regards are universal types of human relations. At one point, he threw himself on the floor to illustrate the embodied nature of the interplay between culture and psychology!<sup>1</sup> The presidential address by Heidi Keller delivered a strong message of unity in diversity—research in culture and psychology is to gain its strength and insight by integrating diverse perspectives in examining the critical process of the culture-mind interplay.



**Alan Fiske** Who knew relational models theory could be so much fun?

### Cultural Psychology Highlighted

On the last day, a state of the art lecture and two keynote addresses were organized to cover multiple levels at which culture and psychology interact. Shihui Han's lecture focused on the neural level of analysis, where he showed cultural differences in self-construal are reflected in neural activities. Daphna Oyserman moved her analysis one notch up to the micro situational level, where she discussed how priming and situational manipulations can produce psychological processes that resemble differences between Western European-based and East Asian-based cultures. Finally, Steven Heine presented a macro-level critique of contemporary psychological research, adding his voice to the IACCP's traditional message, that is, how WEIRD (Western, Educated, Industrialized, Rich, and Demo-



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<sup>1</sup>Actually, he was illustrating the abject powerlessness of graduate students.  
- Editor

cratic) samples of much of the psychological research are within the context of world cultures. These keynotes and state-of-the-art presentations were extremely well received by the delegates with 84% of those who surveyed stating they were high to very high quality.

### Closing and Dining; Dancing

Immediately after the well attended final keynote, the Closing Ceremony was held to mark the conclusion of the scientific proceedings of the Congress, and the 2012 IACCP Congress was announced by its Co-Chairs, Professors Deon Meiring and Leon Jackson.

The Conference Dinner was held at the Melbourne Town Hall, which is located in the City Centre of Melbourne. As delegates walked up the steps of the Hall, they were greeted by staff and gathered around the entry. A Marcel Marceau impersonator and stilt walkers provided entertainment and added to the festival like atmosphere. A band-Jugularity –played some witty music with special IACCP lyrics while the guests wined and dined, with still more intellectual excitement in their conversations. The fun continued ‘till late. (You can hear the IACCP theme song at [http://www.iaccp.org/drupal/theme\\_song](http://www.iaccp.org/drupal/theme_song).)

### Survey Data

Overall, the post-conference survey suggests 84% thought the Congress met their expectations adequately to very highly, and 71% said they planned to attend the next IACCP Congress in South Africa. The Congress was a resounding success.

## The Jugularity IACCP Theme Song

Nĩ hǎo, bon fait voir, buenos noches , bon soir, shalom, salamu alay-kum, guten nacht, akbar, dia dhuit, bon dia, namaste , and g'day.

All you delegates here from Brazil to Senegal,  
We sure hope tonight that you're gonna have a ... ball.  
Yes we hope you are.

Here's a line you can all sing along...  
I-A-CCP, just the thing to heighten your SWB,  
That's subjective well-being, not secret women's business.

The speakers, you have had the finest.  
Fiskey and Heiny, Lankton and Linus.  
Not forgetting Matsumoto, Oyserman, Jones and Hamm.

It's so amazingly appropriate that you were able,  
To hold a cross-cultural event in Melbourne University's Theatre of Babel.  
It's amazing, who thought of that?

With cross-cultural psychology from day one to day four,  
I hope it didn't become too much of a bore.  
I know, you're just resting your eyes for a little bit.

If in these four days you met all the culture changes be challenges,  
You've achieved much, I've found a rhyme for oranges.  
It's a win-win situation.

And here's your line, everybody...  
I-A-CCP, just the thing to heighten your SWB.  
I'm not talking standard white bread, or even soccer without borders.

In the realm of cross-cultural psychology,  
There are two types of people I've been led to believe,  
Those who divide people into two types of people and those who don't.

So whether you're an etic or whether you're an emic,  
Whether Hofstede or Sweeny fits your pholenic,  
You're just here to have a good time.

Now you've networked when you've had morning tea.  
At lunch you networked over coffee and tea.  
You've got more networks than Rupert Murdoch.

And your conference dinner here tonight in Melbourne Town Hall,  
If your phone rings I bet you're charged a conference call.  
Those telcos, they want every cent.

Here we go, here's your line...  
I-A-CCP, just the thing to heighten your SWB.  
And I'm not talking shallow water blanket, or even short wheel base.

Amanda, Yoshi, and INS three,  
Gave you this great week at Melbourne University.  
The song says that you're gonna cheer again, let's hear you cheer. (Yay)

The conference has been so great, my gosh;  
You're back in two years in Stellenbosch,  
In South Africa, where they play vuvazelas.





**Past and Current Presidents of IACCP** Gathered at the 2010 Congress: Jim Georgas, Heidi Keller, Çiğdem Kağıtçıbaşı, Shalom Schwartz, Ype Poortinga, Kwok Leung, Deborah Best, Daphne Keats, John Berry, Walt Lonner, Yoshi Kashima, Peter Smith.