

AN ABSTRACT OF THE THESIS OF

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An increased cross-cultural interaction around the world is being dictated by the ever increasing communication needs required by business and national concerns. This increased interaction, and its resultant inter-dependence, is often referred to as "Globalization." Due to the effect of globalization on the business and education environments, this study was an investigation of the theory base regarding context as embedded in the development of culture and cross-cultural communications. The study developed an instrument that 1) measures the contextual preferences of individuals from a variety of cultures, and 2) determines the level of significant differences between cultures based on their contextual preferences. The literature review concentrated on those characteristics which allow us to go beyond specific cultural barriers to communication.

This was done to determine a common ground beyond culture, which is inherent in the communications process, and to allow a determination of factors for improved cross-cultural training and education. The literature review focused on:

- The effects of the globalized environment
- The influence of culture on communications
- A cross-cultural communications model
- Context and individualism/collectivism as measures of cross-cultural communications.

The findings of the study provide an initial instrument that can be used for the identification of personal preferences, based on context, that may determine an individual's predisposition to interact in a cross-cultural learning environment. The data analyzed notes significant differences in major cultural groupings, and some specific cultures.

Specific analysis included the contextual preferences of individuals based on their home cultural environment, the dimensions of gender, age, number of years an individual is away from their home culture and the number of languages spoken. It was concluded that there are highly significant differences between cultures, even with common ancestral ties and geographic proximity, that affect how individuals will interact and communicate across cultural boundaries. These differences, based on non-verbal context, must be considered individually in their sub-component form, not just within the overall classification of context.

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Dispositions for Interactive Group Communications
in Cross-cultural Learning Environments

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The Development of an Instrument to Identify Dispositions for Interactive Group Communications in Cross-cultural Learning Environments

CHAPTER 1 INTRODUCTION

Background

Globalization

No longer is international activity the domain solely of the career diplomats, missionaries, or adventurous import/export traders. That's the most dramatic fact closing this century: the world is no longer *becoming* international--it *is!*

(Fontaine, 1989, p. 2)

If we are to believe John Naisbitt in Megatrends (Naisbitt, 1984) and Megatrends 2000 (Naisbitt & Aburdene, 1990), a whole new era of globalization -- a total integration of economies and dependencies -- is upon us. During the past century, as independent nations began to interact with each other more and more, an interdependence began to emerge. This interdependence resulted from an exchange of trade goods and of ideas. These exchanges were limited at first by distance, difficulties in communication, methods of transportation and nationalistic definitions of culture, including language, politics and economics among other things. As barriers began to lessen, exchange and interdependence increased. According to Naisbitt and Aburdene (1990), mankind has embarked into an unprecedented period of accelerated change. This change is leading us into a worldwide global

economy where national boundaries become blurred. "The economic forces of the world are surging across national borders, resulting in more democracy, more freedom, more trade, more opportunity, and greater prosperity" (p. 1).

Naisbitt and Aburdene (1990) also noted that the changes go far deeper into the realms of human nature and needs. Though driven by an alliance between telecommunications and economics, the greatest challenges and breakthroughs will occur ". . . not because of technology but because of an expanding concept of what it means to be human" (p. xxiii). Tempering this globalization of lifestyles trend, Naisbitt and Aburdene (1990) also recognized many of the challenges that must be faced. One of the greatest challenges is that of cultural nationalism. They defined cultural nationalism in terms of a backlash against uniformity where there is a desire of cultures to assert their uniqueness and repudiate foreign influence.

When interacting within a foreign culture, variations in human needs are often dependent on the local culture within which an expatriate must operate. That culture, which defines how one acts, interacts, and functions, is often totally foreign to the U.S. expatriate's frame of reference. The same methods and skills with which one successfully operated in the United States often fail in the foreign culture.

A Void of Knowledge and Skills

Communication skills are an essential element in the acculturation and learning processes. In considering the human information and knowledge base, Hirsch (1987) analyzed the

American educational system and supported the anthropological view of education in which learners must have effective communications in order to function properly. He noted that effective communication and literacy requires the development and sharing of culture and the transmission of specific information within the acculturation process. Hirsch (1987) also noted the failure of the American educational system to provide the specific information rich environment that learners need to develop a solid foundation of culture and literacy.

As an example of dealing with the issues of globalization, information or knowledge levels and culture, Galagan (1990) reported on the outcome of a symposium sponsored by The American Society for Training and Development (ASTD), whose participants represented experts from universities, corporations and consulting groups. At the symposium, human interaction, as represented through human resource management and development, was a key focus. Galagan (1990) cited Dr. Nancy J. Adler, Professor of Management at McGill University, in illustrating one of the great challenges of globalization by noting that there is a big void of knowledge when one looks at the point where human resource management and global strategy intersect.

Black and Mendenhall (1990) substantiated this void of knowledge in their extensive review of the cross-cultural training literature, citing Adler (1983), Beaty and Mendenhall (1989), Roberts (1970), Roberts and Boyacigiller (1984) and Schollhammer (1975). Black and Mendenhall (1990) noted that "Adler (1983) found that from 1971 to 1980, only one percent of the 11,000 articles published in 24 management journals focused on cross-cultural work

interaction" (p. 113). Black and Mendenhall (1990) also noted that in 1989, Beaty and Mendenhall found that

. . . of the major international business journals from 1984 to 1988, only 9 percent of the articles were devoted to international human resource management issues, and in the Academy of Management Review, for the same period, only one and one half percent of the articles dealt with international human resource management issues.

(p. 113)

The Need for Cross-cultural Information and Skills

Cross-cultural interactions that have resulted from globalization have not only brought diverse cultures together, but also at the same time, brought to light great disparities in our understanding of and interactions with, each other. Both the similarities and disparities must be contended with when individuals of diverse cultural backgrounds are brought together to interact in a variety of activities or situations.

Americans in general are ill-prepared for the emerging interactive cross-cultural environment. Common factors of cross-cultural communication and interaction take place whenever individuals interact, whether within their own cultural environment or one that is foreign to them. As Grove (1990) emphasized, the failure of those working in a cultural environment different than their own is often due to an inability to adjust to the realities of interacting through communication and socialization in a totally new environment. In recognizing the inadequacies of American educational and business institutions in addressing the cross-cultural

issues, Roth (1989) proposed a new type of MBA program to overcome several shortcomings of existing programs. In particular, he noted a lack of cultural understanding and leadership skills. He proposed the development of cultural information and cross-cultural skills within the learning experiences of the institutions. In addition, Lamberski, Budosh and Minegishi (1991) cited, as a cause of failure of American companies to establish operations in Japan, the lack of training in cultural and business practices.

In cross-cultural and multi-cultural situations, educators in colleges and universities, as well as executives, human resource managers and training specialists in business operations, encounter common challenges when interacting with cross-cultural groups. The methodologies they use should facilitate communication and information processing. Where learning is involved, the methodologies should allow both the learner and the teacher to reach common understandings that result in the accomplishment of goals and objectives. Those goals and objectives center around how the participants communicate and interact in the instructional and learning processes, and how well participants are able to assimilate and accommodate cultural differences that affect communications within the group in which they interact. These processes must transcend the cultural factors which combine to inhibit or facilitate knowledge development that fosters human progress.

Statement of the Problem

Most individuals do not achieve a high level of success when interacting in an environment that is foreign to their own, or with

people of cultures different than their own (Copeland & Griggs, 1985; Fontaine, 1989; Grove, 1990; Gudykunst & Hammer, 1983; Nelson, 1986). They encounter difficulty when they are unable to communicate with people of other cultures due to language and/or a lack of knowledge of the contextual meanings embedded in the other culture. They neither understand the new culture nor possess the cross-cultural competencies necessary for them to communicate and function effectively in the foreign environment. This is particularly true within an interactive group setting.

Factors that affect an individual's preferences toward interacting and exchanging meaningful communications with others need to be identified in order to facilitate productive cross-cultural activity. A knowledge of one's own and other individuals' predisposition to interact through a method of information exchange fosters understanding. In addition, individuals with compatible interactive preferences and abilities will have a greater potential to transcend cultural boundaries. Such individuals and their preferences need to be identified and developed to work in the cross-cultural environment spawned by the microcultures evolving through globalization.

Adler (1977), J. Bennett (1977), M. J. Bennett (1979), Bochner (1977), Brislin (1977, 1990, 1993), Hall (1977) and Hall and Hall (1990) have all done seminal work in developing theoretical constructs in interactive behavior across and within cultures. These constructs and theories are primarily aimed at not only analyzing cross-cultural factors, but also transcending cross-cultural barriers.

Purpose of the Study

This study was an investigation of the theory base regarding context as embedded in the development of culture. The study developed an instrument that 1) measures the contextual preferences of individuals from a variety of cultures, and 2) determines the level of significant differences between cultures based on their contextual preferences. This determination was based on factors identified through a literature review of current authorities in cross-cultural interaction. Two questions were addressed:

1. What communication factors, commonly found in a variety of cultures, affect the disposition of individuals to interact cross-culturally?
2. What are the significant differences in the individual preferences for group activity based on the identified factors?

Assumptions

The following assumptions were made in the design of the study:

1. Students from diverse cultures arriving in the United States for post-secondary level training have experienced the same general acculturation as the general population of their native culture.
2. Although varying culturally defined predispositions for group interaction and contextual information requirements may predominate from one culture to another, the same range of

such exists within major populations regardless of cultural origin.

3. Theories and models of multi-cultural activity in a highly diverse educational setting may be successfully transferred to the multi-cultural training and management development environment of private business.

Limitations of the Study

1. Cultural norms vary over time due to natural progression within cultures and as the influence of one culture is felt by another. As a result, perceived norms for any individual or group change. Profiles and types identified today may need to be reevaluated over time.
2. This study included the use of an instrument designed to identify predispositions for interaction within a microcultural group. The resultant predisposition profiles may be identified for each individual. Not all microcultural groupings may be represented. Such a non-all-inclusive listing may give strong indications but may not be generalized to all variations in the cultural mix.
3. This study was limited by the application of the study to the defined environment, and the accuracy of respondents, from a wide variety of cultures, to the instrument and procedures used. The procedures were designed to minimize culturally biased statements and concepts, so participants from a wide

variety of cultural backgrounds could respond to an instrument that may not be culture free but is culture fair.

Definition of Terms

Assimilator: A training technique in which an individual is subjected or exposed to a variety of information and situations which are similar to the culture in which the individual is expected to operate (Brislin, 1990).

Context: The information that surrounds an event and is inextricably bound up with the meaning of the event. The elements that combine to produce a given meaning--events and context--vary in proportion from culture to culture. This allows cultures of the world to be compared on a scale from low to high context. Dimensions within context include orientations toward time and space, the transfer of information and human interaction preferences (Hall & Hall, 1990).

Cross-cultural activities: Activities which involve more than one cultural set, viewpoint or environment. Such activities deal with an individual's personal and cultural self-awareness, other-awareness, intercultural communication barriers and interaction skills (Brislin, 1990).

Cross-cultural education: Programs that provide a deeper understanding of the principles underlying the cultural variations and, ideally, the ability to transfer the understanding to similar situations

(Bennett, 1979). These situations will be in environments or settings other than an individual's own.

Cross-cultural orientation: A program designed to heighten the participant's awareness of cross-cultural variables, and to change their attitude toward an impending experience in an environment or setting other than an individual's own (Bennett, 1979).

Culture: An accumulation of many beliefs, behaviors, values, symbolic ideas, customs, ideologies, activities, institutions and patterns of communication largely held in common by a group of people. These traits may be relatively constant but will be in a continuous state of change and will be shared, interrelated and learned within the group (Ovando & Collier, 1985).

Experiential activities: Training or educational activities which include involvement on the part of the participant that result in a vicarious or real experience with ingrained meaning and/or values. Examples include role playing, simulations, lingual interchanges, and group exercises or interchanges.

Factor: An element, circumstance or influence that contributes to the production of a result (Merriam-Webster, 1985).

High context message: Communication in which the vast majority of the information is either internalized in the individual or the physical context of the situation. Very little then is in the explicit transmission or coding of the message (Hall, 1977; Hall & Hall, 1990).

Judgment: Judgment involves all the ways of coming to conclusions about what has been perceived by an individual (Myers & McCaulley, 1985).

Low context message: Communication in which the mass of information is in the explicit code and not resident within the individual involved or the situation context (Hall, 1977, 1987).

Microculture: A sub-culture or new culture formed by the interaction of two or more major cultures such as business organizations, nations or persons from such. A formulation of beliefs, behaviors, values, characteristics and patterns of communication that are shared by specific groups of people that originate from diverse major cultural groupings (Fontaine, 1989).

Multi-cultural: The assimilation of understanding, precepts, knowledge and characteristics of more than one native culture. One achieves this through experiencing microculture activities of cross-cultural groups. Members of multi-cultural groups should recognize and integrate all represented cultures (Adler, 1986).

Multi-culturalism: Situations in which people from more than one culture (and frequently more than one country) interact regularly thus forming a number of perspectives, approaches and, in the case of businesses, a variety of business methods (Adler, 1986).

Predisposition: The condition of being predisposed; being

inclined beforehand or having a susceptibility to act or react
(Merriam-Webster, 1985).

CHAPTER 2 REVIEW OF RELATED LITERATURE

The Global Environment

In Managing International Assignments, Fontaine (1989) took note of the changing environment in which all populations of the world find themselves today, and cited characteristics and strategies that succeed where individuals interact across cultures. He specifically noted that going international has gone beyond the domain of the career diplomats and business people to include all aspects of life in saying, "That's the most dramatic fact closing this century: the world is no longer *becoming* international -- it is!" (p. 2) [author's emphasis].

John Naisbitt (1984) insisted that a whole new era of globalization or a total integration of economies and dependencies is upon us. During the past century, as independent nations began to interact with each other more and more, an interdependence began to emerge. This interdependence resulted from an exchange of trade goods and of ideas. The interdependence was limited at first by distance, difficulties in communication, methods of transportation and nationalistic definitions of culture (which included language, politics and economics, among other things). As barriers decreased, exchange and interdependence increased. Naisbitt and Aburdene (1990) stated that the rate of change is accelerating so fast that whole economies are becoming enmeshed with each other. "The economic forces of the world are surging across national borders, resulting in more democracy, more freedom, more trade, more opportunity, and

greater prosperity" (p. 1).

Peter Drucker forecasted this move toward a worldwide economy for many years. He noted its far reaching effects on business and social organizations throughout the world. Flanigan (1985), in an interview with Drucker, cited him as observing that the multi-national organization as we now know it is obsolete. Drucker emphasized that the world is becoming more integrated economically and yet is becoming more fragmented politically. In an interview with Drucker, Niles Howard (1989) acknowledged that on the business side, "...the 1990's will force big changes in the way managers view the world and in the way they run their companies" (p. 50).

Naisbitt and Aburdene (1990) noted that although spurred on by economics and emerging technologies, the changes in our globalized world go far deeper. Though driven by an alliance between telecommunications and economics, the major breakthroughs will be human based. Tempering this globalization of lifestyles trend, Naisbitt and Aburdene (1990) also recognized many of the challenges that must be faced. One of the greatest challenges is that of cultural nationalism or the backlash against uniformity with a desire to maintain an identity through language and cultural uniqueness.

The importance of human interaction and cultural incompatibility cannot be overemphasized. Naisbitt (1984) emphasized this in his explanation of cultural nationalism in which he stated, ". . .we will continue to hold onto our differences as a culture, Swedes will become more Swedish, the Chinese more Chinese, and the French more French" (p. 78). In looking at global strategic partnerships which are developed to allow cooperating members to be

competitive in the global marketplace, Perlmutter and Heenan (1986) suggested that culture is one of the most important factors in the development of the global environment.

The most important factor in the endurance of a global alliance is chemistry. The partners must be willing to mold a common set of values, style, and culture while retaining their national identities. . . . Cultural incompatibility can produce enormous operational difficulties.

(p. 146)

The leaders of the future will be educators or skill creators, alliance and network managers and partnership developers (Peters, 1990). All of these will require a knowledge of the cultures of all of those involved and an ability to develop intercultural communication networks. In analyzing the organizations and executives of the future, Peters (1990) observed that the emerging globalization and information technology revolution taking place will inevitably "upend" the organizations of today, the systems and processes they use and the people within them. Unlike the organizational models for the past eighty years, the future leaders will be globalists and must be able to interact and transcend cultural barriers.

The Influence of Culture

Few personnel sent overseas, or the managers responsible for them, receive any special training. They must rely on their previously developed skills and experiences. Sometimes they succeed. But business experience in one's home culture is not a guarantee of success elsewhere.

(Fontaine, 1989, p. 5)

A high failure rate of individuals interacting in a foreign environment has a severe impact on organizational effectiveness and on self-concept. Fontaine (1989) indicated that estimates on the rate of success of Americans doing well in their expatriate environment, without prior training, are as low as 20 percent. Copeland and Griggs (1985) reported that, even with prior orientation, the percentage of Americans who embark on foreign assignments but who return prematurely is as high as 40 to 60 percent. Beyond monetary losses, they note the immeasurable loss in trust, self-confidence and credibility.

Internationally, the criteria used for judging success goes far beyond language difficulties and includes conflicts in means and methods of operating in the international environment. Nelson (1986), in his study of cross-cultural skills, noted that there was a significant difference in cross-cultural awareness levels between individuals going abroad. He primarily noted that in studying the process of expatriate assignment, technical competence was the main criteria for selection of individuals for overseas employment. Given the high failure rate, Nelson (1986) concluded that a change needed to be made in the way one is prepared for expatriate environments. "While technical competence is critical it is of little value unless the individual has the ability to interact and communicate cross-culturally in an effective manner" (pp. 102-103).

As noted earlier by Naisbitt (1984) and Naisbitt and Aburdene (1990), with the developing interdependence, barriers of distance, transportation and technical means of communication are being overcome. However the barriers of personal communication, and

nationalistic definitions of culture (which include language, politics and economics among other things) still represent significant problems. In educational and training interactions, accommodation needs to be made not only for language differences but also for communication, learning styles and decision making variations. For business interactions, there must be local variations based on local needs and the people involved.

Culture -- A Foreign Environment

Definition of Culture

Why do individuals have problems working and living in a country other than their own? What defines "Cultural Nationalism"? What is Culture? In simplest terms, Merriam-Webster's Ninth New Collegiate Dictionary (1985) defines culture as:

. . .the integrated pattern of human knowledge, belief, and behavior that depends on man's capacity for learning and transmitting knowledge to succeeding generations. . . the customary beliefs, social forms, and material traits of a racial, religious, or social group.

(p. 314)

As individuals try to interact within a cultural environment that is different than their own, difficulties arise because the frame of reference that allows for the development of understanding has changed.

Ovando and Collier (1985) looked at the many definitions of culture beginning with the anthropological views developed in the late

1800's. Essentially they have defined culture as an accumulation of many beliefs, behaviors, values, symbolic ideas, customs, ideologies, activities, institutions and patterns of communication largely held in common by a group of people. These traits may be relatively constant but will be in a continuous state of change and will be shared, interrelated and learned within the group.

Fontaine (1989) supported the view of fluidity or constant change and the many aspects that individuals and nations include within their culture.

A culture is a growing, changing, dynamic thing consisting most significantly of shared perceptions in the minds of its members. ... It is passed from older to newer members, from one generation to another, through people and institutions. It is formed and continuously changed by the tasks necessary for living and working in it and the people communicating to complete those tasks.

(p. 22-23)

Fontaine's task orientation becomes an important dimension if culture is defined for other than national and ethnic groups.

Fontaine (1989) also gave insight into the dynamics and interrelationships involved as he defined culture as shared perceptions and not as ethnicity or nationality. The common perceptions may result from ethnicity or nationality, but may often also stem from shared experiences from any common event, situation or activity. The more widely the experience is shared, the more it is perceived as cultural. "What distinguishes a 'cultural' difference from an 'individual' difference is *the degree to which we believe that our perceptions are shared by others*" (p. 23). [author's emphasis]

Deal and Kennedy (1982) would agree with these definitions and aspects as they defined businesses and corporations as cultures with a cohesion of values, symbols and beliefs. Marvin Bower, former managing director of McKinsey and Company and author of The Will to Manage, as cited in Deal and Kennedy (1982), described the informal cultural elements of a business as "the way we do things around here" (p. 4).

A culture can be defined by a great variety of organizations or groups of people. Each grouping may have its own set of shared beliefs and perceptions. These may be based on ethnic, national, religious, business, value system, or any number of other factors or grouping of factors which may define the way things are done by the group. As an example, many of the challenges faced by companies entering into the globalized environment center around differing viewpoints based on the local business or national culture and the way things are done in that culture. These culturally based issues become increasingly important as one endeavors to work or manage in a "foreign" environment. They also become more complex as companies manage work forces that are predominantly, or exclusively, of one or more cultural backgrounds other than the manager's.

Culture Shock

Waltman (1987) believed that a major factor as to whether or not individuals will be able to work or live in a culture that is different than their own is that of "Culture Shock". Oberg (1961) was one of the first to define or discuss culture shock in detail. He suggested that individuals tend to develop considerable anxiety when the

familiar signs, symbols and methods of communication and interacting are different than what they are used to. They tend to lose their orientation to daily activities.

Waltman (1987) recognized that for the expatriate starting a lengthy tour of duty, culture shock was often the cause of premature termination or at least markedly reduced efficiency. With the loss of the familiar signs and symbols used in communication and social intercourse caused by the immersion into a new environment, effective communication becomes extremely difficult, if not impossible. "It can be costly in both tangible and intangible terms unless it is properly handled" (p. 3).

Waltman (1987) cited Janet Bennett (1977), Milton Bennett (1979), Hays (1972), Oberg (1961) and Rahim (1983), in developing the four stages of culture shock. Regardless of the knowledge level of the new culture that the expatriate has, the four stages are confronted. The levels of shock and the dwell time within each stage will vary from individual to individual.

1. Fascination with the host country - but reality soon sets in.
2. Expatriate interprets events in light of their own experience - things often don't make sense. The crises stage compounded by the fact that the natives don't seem to care.
3. Choice of Fight or Flight (The dropout rates range from 25% to 60%)
4. Successful ones are those that accept the "Foreign" way as just one other way of doing things.

(Waltman, 1987, pp. 4-5)

Self introspection is essential in combating culture shock. Hays (1972) reminded us that when immersed in the cross-cultural

situation, and even with prior orientation or training, the expatriates may not realize that they are experiencing culture shock. Maddox (1971) expanded on this insight by noting that frustration results because the traveler forgets the need for self-examination and analysis of relationships with others.

Communication and Culture

In all of the previously cited definitions of culture, communication forms the vital link in understanding, orientation and human functionality. Nelson (1986) and Waltman (1987) emphasized the importance of the communication factor. The shared perceptions and familiar signs and symbols of social interaction may be totally different in the new culture in which the expatriate finds him or herself. Even if present, these signs and symbols may have entirely different cultural meanings. Unfortunately, according to Waltman (1987), "Most training prepares one for only the basic functions and does not prepare one to communicate in the other culture's environment" (p. 3). According to Hays (1972), "The severity of the culture shock depends, of course, on the amount of difference between the two cultures and the amount of travel experience the individual has previously had" (p. 88).

Individuals may be well schooled in the skills necessary to communicate and function in a familiar environment, or the culture in which they have grown up, but fail in a foreign environment. What had been a predictable result in the home environment may not follow in the foreign environment. "What had served to reinforce the exchange of information. . .is no longer available" (Waltman, 1987, p. 3). Ronen

(1986) emphasized this point and also brought out complications on the part of the receiver as they find that the familiar landmarks of communication have either been changed or are gone altogether. Both the sender and the receiver of the communication or interaction are at a loss to interpret the signs and symbols in light of the new culture.

Culture, Language and Perception

Ovando and Collier (1985) suggested that the language of a culture is the primary link to that culture. This implies that the language of a culture that is different than one's own needs to be understood in order to fully understand the culture itself. Waltman (1987) noted that language itself is often the deep rooted problem -- not from words and the translated meanings of the words, but in perception. Waltman (1987) cited Sapir and Whorf's theory (no reference given) in noting that language provides a guide to social reality as well as being a communication medium. This social reality includes the perception and transmission of thoughts based on common factors established by the acculturation of the individual. The frame of reference, often called context, determines meaning, perceptions, and thoughts (Hall, 1977; Hall & Hall, 1990). This frame of reference or context, though taught within the culture as part of the language development, is separate from the words of the language. Learning the conversational and formal language of a culture does not guarantee an understanding of that culture.

Knowledge of Self and Knowledge of Others

In searching out the considerations for effective intercultural training design, Gudykunst and Hammer (1983) concluded that there are three major learning assumptions inherent in programs considered to be effective in training for cultural interaction. These three assumptions are 1) self-awareness, 2) cultural awareness, and 3) inter-cultural awareness. Gudykunst and Hammer's schematic representation entitled Cultural Awareness Model (see Figure 2.1) shows the first approach as an expanding self-awareness. This framework has been the basic supposition in the majority of cross-cultural orientation efforts aimed at cross-cultural human relations in the United States. This assumption and framework posits that one must understand oneself before one is able to expand to an awareness of others. This was exemplified by Rose (1973).

The second learning assumption, cultural awareness, then suggests that individuals must move to a level of knowledge in which they understand their own culture and how it effects or influences their own behavior. Horan (1976) exemplified this position by lowering barriers to intercultural communication through developing a knowledge and understanding of cultural factors.

The third assumption, intercultural awareness, can be traced to Hall (1977). It suggests that individuals must be exposed to and experience other cultures in order to understand their own. "Only by exposure to another culture can an individual see the influence of culture upon his or her own behavior" (Gudykunst & Hammer, 1983, p. 142). The model for developing cultural understanding through

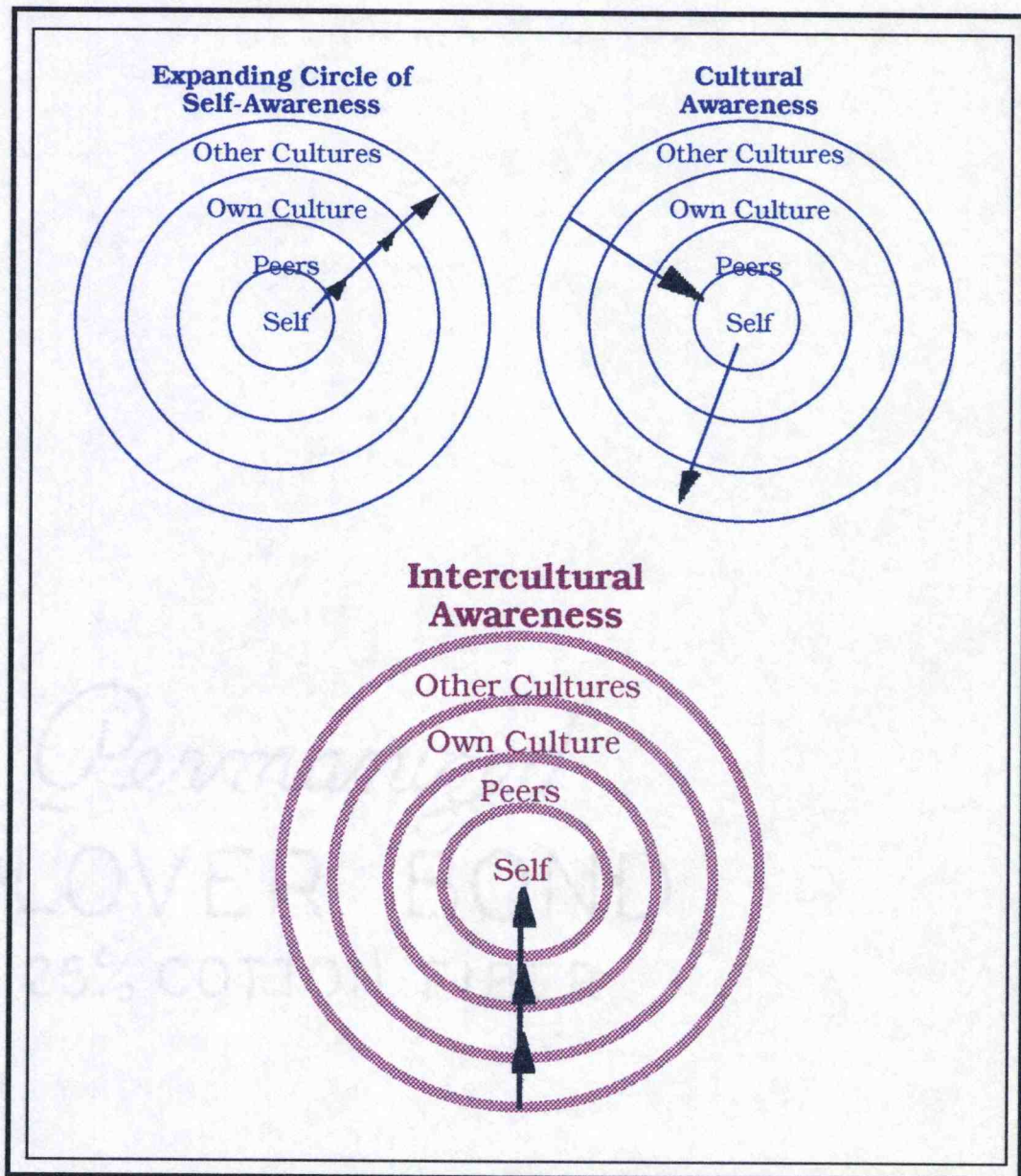


Figure 2.1 Gudykunst and Hammer Cultural Awareness Model.

obtaining a knowledge of self and others developed by Gudykunst and Hammer (1983) is referred to as PIC training. The PIC model incorporates three stages that move from general to specific situations:

- 1) Perspective training
- 2) Interaction training
- 3) Context-specific training.

As seen in this hierarchical structure, how one relates to others in a specific context then becomes an integral part of developing intercultural understanding. A knowledge of oneself, others, the factors involved in cross-cultural communication differences, and how these factors relate are essential in interaction across cultures.

Even with the Gudykunst and Hammer model, a question arises as to the applicability of communications theory to cross-cultural communications. According to Gudykunst (1983), the communications field is *preparadigmatic* because many paradigms are still being used and battling for supremacy. Gudykunst further described cross-cultural communications as *aparadigmatic* since no single paradigm has been found. However, in clarification of this issue, Brown and Sechrest (1980) suggested that cross-cultural research in general is a methodology rather than a specific content field of study or discipline. Such research seeks to build theory in contexts very different than the traditional single culture research.

A Cross-cultural Communications Model

Cross-cultural Communication Variables

Communication requires a mutual exchange of information that is recognizable and can be effectively encoded and decoded by both parties. In reviewing the characteristics of culture shock, Waltman (1987) concluded that culture shock results from communication problems. Each party must interpret the meaning through their own experiences. If these experiences or frames of reference do not overlap, miscommunication will result.

Samovar and Porter's (1976) communication variables determined by culture provide insight and indicate why difficulties arise when an individual must confront two disparate cultural systems. The variables include:

1. Attitudes
2. Social Organization
3. Thought Patterns
4. Roles
5. Language Skills
6. Space
7. Time Sense
8. Non-verbal Communication

(p. 10)

With these variables of the communications process so intricately intertwined in the cultural environment, the expatriate must adapt, adjust and seek a common ground in which perceptions and needs find a mutual understanding.

Empathy Across Cultures

Empathy is a key factor in dealing with the communication variables across cultures. To be able to function and be effective, the expatriate must be able to see the environment and communicate in the native's perspective. They must be able to develop an empathy with the native. Waltman (1987) explained that a knowledge of the new culture and an increased self awareness and understanding of one's own culture can help the expatriate see the environment from the native's perspective. The empathy, or common ground of understanding with the native, permits individuals to see others acting within a framework that has meaning to themselves. "At the same time, the individual is able to maintain his or her identity even as he/she understands the other" (p. 9-10).

Bennett (1979) and Waltman (1987) explained a concept of empathy in which those who have found themselves in an unfamiliar environment learn to see the environment from the native's perspective. Bennett calls this his platinum rule in which one does unto others as they would have done unto themselves.

The Contextual Model

Fontaine (1989) provided one of the most comprehensive treatments of communications and cultural relationships. He suggested a model which has the participants adapting based on the context of each situational interaction. As noted earlier, Fontaine defined culture in terms of shared perceptions. He asked the question: why function one way and not another?

The answer is that the **ecology** of the tasks we must complete to live and work determines which perceptions are more appropriate to completing those tasks successfully. The ecology (the physical, biological, and social environment) within which we exist is most significantly the basis of our culture.... The ecology does not *determine* which specific perceptions are held; it determines the *parameters* within which some perceptions are likely to be more useful than others.

(pp. 23-24)

Fontaine (1989) believed that the major factors influencing the culture and how business is done in that culture are the ecology (cultural environment) and the tasks that need to be accomplished within that ecology. For Fontaine, the ecology includes the physical, biological and social environments. "An appreciation of the ecological basis of culture is important because it allows us to see why a person or culture looks at the world, the organization, or a task the way they do" (p. 24). This ecology can also be described as the context within which the task or situation or individual exists. This researcher has developed Figure 2.2 to illustrate the relationship between the individual perceptions shared in common that form the cultural reality, and the cultural ecology within which they operate.

Gudykunst and Hammer (1983) emphasized the importance of cultural understanding of self and others in the development of their PIC training model. In preparing to function in foreign environments, Fontaine (1989) also explained that the important first step is to better understand our own perceptions at home and how they are formed. In other words, what is the cultural basis upon which we operate at home? What is our national culture? In analyzing this, one must keep in mind that the ways in which interaction and business

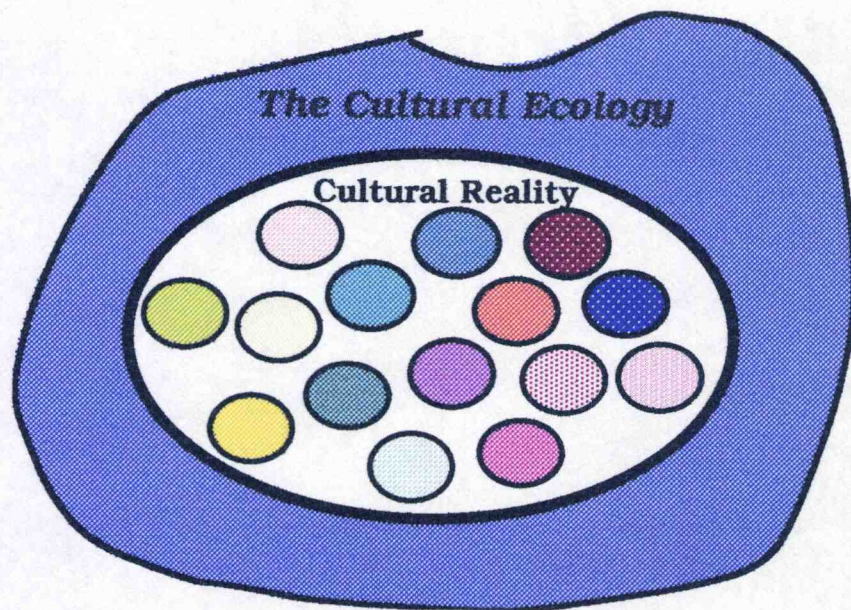


Figure 2.2 Individual Cultural Reality Within the Cultural Ecology.

procedures are carried out varies from organization to organization. A description of cultural perceptions at the national level is often based on observations of the organizations within that culture.

In the globalized environment, these organizations within national cultures interact with other national cultures and the organizations within those cultures. This researcher's Figure 2.3 is a graphic representation of that involvement. As the interaction occurs, varying aspects of the cultures interact. This interaction involves specific people with specific tasks to be performed. Fontaine (1989) believed it important to note that ". . .we never really do business with a nation or an organization. We do business with *specific people* in the *specific tasks* necessary to complete that business successfully" (p. 38).

Fontaine believed that when the level of activity changes, when there are more or less people involved, or when the tasks needing to be accomplished change; the perceptions, assumptions and cultural factors may also change. What may generate success in one interchange may not generate success in another. This suggests that the long term expatriate will be in need of more than information on the culture and how it operates. They will need knowledge and skills that allow him or her to analyze, adapt and react with sensitivity as they communicate and interact.

The Microculture

Fontaine (1989) suggested that there is a new microculture being formed with each interchange or interaction of culture, whether at the national or organizational level.

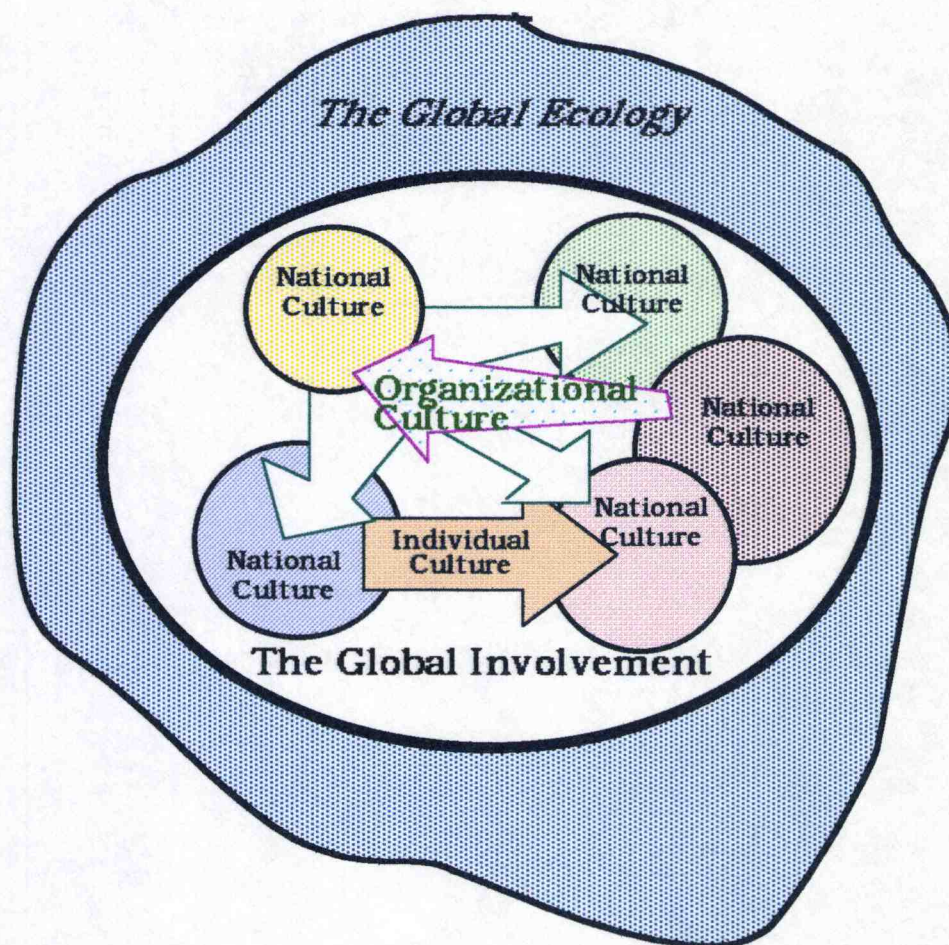


Figure 2.3 Individual and Cultural Interaction in the Global Involvement.

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A **microculture (MC)** is a set of shared perceptions along those dimensions important for doing business on a *particular occurrence* of a task ... It is a culture shared among the task participants. It specifies how they are to negotiate; communicate; make decisions; supervise; delegate; lead; appraise performance; manage; plan; conduct meetings; resolve conflicts; and form, maintain, and dissolve relationships. It specifies the meaning of a contract, a treaty, a policy, or an agreement in terms of time, responsibilities, comprehensiveness, and so forth. It includes at least the *minimal number* of perceptions required for getting the business done acceptably to all parties concerned.

(p. 40)

This researcher's Figure 2.4 illustrates the formation of the microculture through the interaction of two primary cultures.

Fontaine (1989) maintained that the microculture is tailored to the task ecology. He suggested that ". . .specific perceptions and ways of doing things within it are not necessarily consistent with the participants' perceptions at the organizational level" (p. 40). People in these situations do not always behave as one might expect.

Expatriates must be able to adapt to the specific situations without creating undue alarm, stress, questions or delays.

In summarizing some of the communication concepts that the expatriate will be involved with in the cross-cultural environment, Waltman (1987) asserted that the key lies not in the treating of dissatisfiers, but in the development of communication variables set out by Samovar and Porter. Individuals involved with other cultures need to form a sense of empathy and have an understanding of themselves as well as the process of reducing or eliminating culture shock.

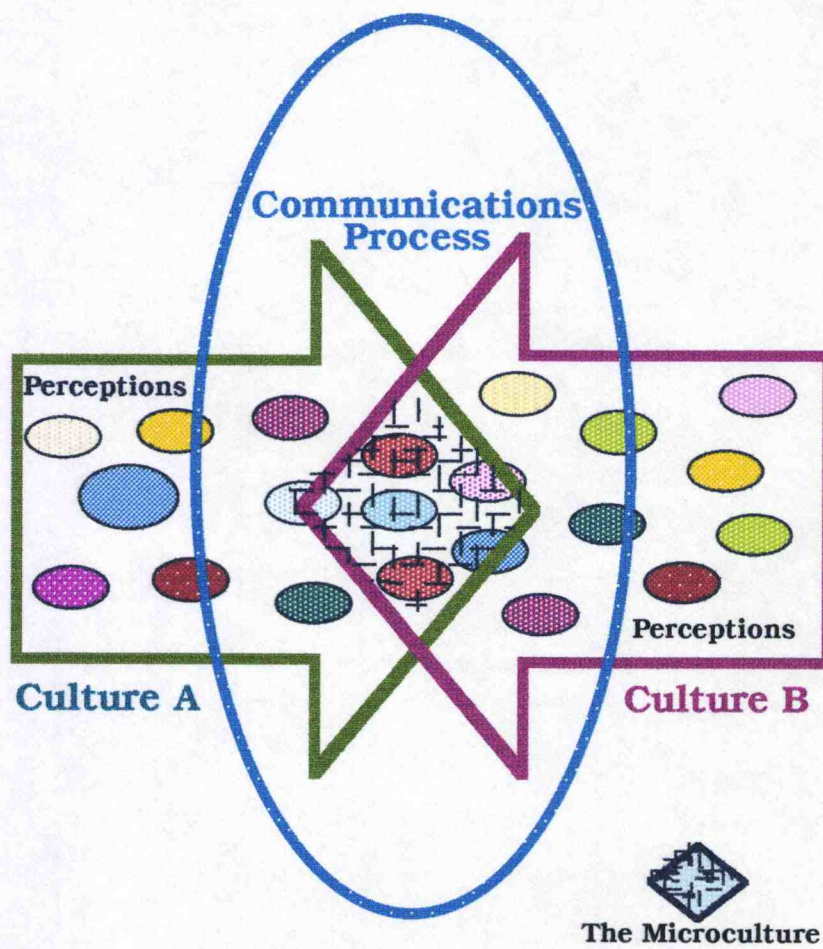


Figure 24 Perceptual Convergence Forming of the Microculture.

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Culture-General Factors

Context - High and Low

In looking at the dimensions of interacting across cultures, one must ask what factors can be identified within cultures that are significant in determining the "right and correct way" of doing things within any individual culture? (Brislin, 1990; Hall, 1977; Hall & Hall, 1990) What factors can be identified, which when understood, can be utilized to reduce the anxiety of culture shock when familiar signs, symbols, and methods of communication are removed or changed from those that are familiar? (Hays, 1972; Oberg, 1961; Waltman, 1987) What training model works best when preparing individuals for the cross-cultural global environment? (Brislin, 1977; Fontaine, 1989; Naisbitt & Aburdene, 1990; Nelson, 1986; Peters, 1990)

In his book, Beyond Culture, Hall (1977) identified the critical need for individuals to go beyond or transcend the cultural barriers. Hall challenged us to ". . .recognize and accept the multiple hidden dimensions of unconscious culture. . ." (p. 2) since each culture has its own hidden dimensions and forms of unconscious culture. In looking at culture, Hall (1977) asserted that in spite of differences in detail as defined by many anthropologists, there are "... three characteristics of culture: it is not innate, but learned; the various facets of culture are interrelated . . .; it is shared and in effect defines the boundaries of different groups" (p. 16). Such assertions are born out with Fontaine's (1989) formulation of microcultures and by analyzing Samovar and Porter's communication variables as determined by culture.

In analyzing the communications factors, Hall (1977) noted that

it is impossible to know the meaning of a communication without knowing the context. Earlier research by Barker (1968) and Barker and Schoggen (1973) also illustrated this in noting that environmental inputs or cues provide different meaning to different people. Barker established that as the ecology or environment changed, so did the response of the people. This also lends support to Fontaine's (1989) microculture concept. Hall (1977) established that:

Like a number of my colleagues, I have observed that meaning and context are inextricably bound up with each other. ... in real life the code, the context, and the meaning can only be seen as different aspects of a single event. What is unfeasible is to measure one side of the equation and not the others.

(p. 90)

Hall illustrated this concept and delineated a continuum for context in the diagram illustrated in Figure 2.5. With regard to context in relation to meaning, Hall (1977) stated that context will largely determine what one pays attention to or does not pay attention to. He also noted the level of context is the foundation upon which behavior rests since it determines the nature of communication.

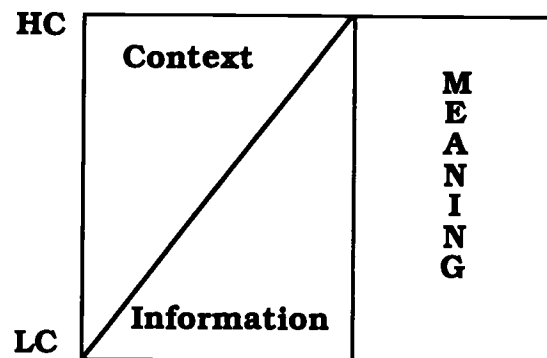


Figure 2.5 Hall's Context Model

In delineating the high context (HC) message as opposed to the low context (LC) message, Hall (1977) and Hall and Hall (1990) defined the high context message or communication as one in which the vast majority of the information is either internalized in the individual or the physical context of the situation. Very little then is in the explicit transmission or coding of the message. For the low context message, the mass of information is in the explicit code and not resident within the individual involved or the situation (context). Hall (1977) found that in inter-cultural or inter-ethnic situations or encounters, the correct reading of an individual's verbal and non-verbal behavior is critical. It is the basis of communication, and such integration of both context and verbal messages is one of the most important things an individual can do.

Sternberg (1985, 1986, 1987) developed a triarchic theory of intelligence which also lends support to the importance of context. He divided intelligence into three types. The third of those types was Contextual Intelligence in which tacit knowledge of situations, or everyday knowledge, was essential to decision making and highly interrelated to cultural dimensions and adaptation. Kagitcibasi (1990) also supported this concept and stated, "The relevant socio-cultural context in which the individual exists influences his or her experiences and the meanings he or she attributes to them" (p. 122). He goes on to note that cultural values and the socially acceptable way of doing things, as well as what significant others expect and their behavior, forms a context which determines the meaning of any event or situation.

The Time, Space and Socialization of Information Factors

A met analysis of Hall's (1977) and Hall and Hall's (1990) work yields time and space as the factors of context, and these factors are culture general as opposed to culture specific. These factors can be considered across all cultures since they are not specific to one culture or another or have meaning in and of themselves. He also noted the importance of these factors as information is disseminated and acted upon through the process of interactive communications. This interaction produces a socialization of the information as individuals interact through the transmission of information and through the decision making processes. Hall's construct for the time factor is found in the left portion of Figure 2.6. Using Hall's construct, this researcher has formulated the remainder of the construct representations, i.e., space in Figure 2.6, and the socialization of information in Figure 2.7.

Hall (1977) and Hall and Hall (1990) used the terms Monochronic and Polychronic to describe the individual orientations to time. In monochronic time, one pays attention to and does only one thing at a time. They compartmentalize events, functions, people, communication and information flow. In polychronic time, many things may happen or be attended to at the same time. In monochronic cultures, people are governed by time and therefore work and communicate in a linear fashion. In polychronic cultures there is a great involvement with people and events. People take precedence over time and schedules and there is an emphasis on completing human transactions.

Context

Time		Space	
<p>POLYCHRONIC TIME</p> <ul style="list-style-type: none"> • Flexible (objective takes priority). • Many things done at one time • High Context • Committed to people. • Plans changed often. • Relationship Driven. • Borrow & Lend often. • Long term relationships. • Lead time less important. 	<p>MONOCHRONIC TIME</p> <ul style="list-style-type: none"> • Deadline driven. • One thing at a time. • Low context. • Committed to job. • Plans dominate. • Rule driven. • Respect for private property. • Short term relationships. • Lead time important. 	<p>HIGH CONTEXT</p> <ul style="list-style-type: none"> • Limited personal space. • Space is shared (in common) • Interruptions are okay • Interactions are needed for decisions • Openness • Public 	<p>LOW CONTEXT</p> <ul style="list-style-type: none"> • Extensive Personal space. • Space is private (territorial) • Screen out interruptions (away from people). • Quiet for decision making. • Seclusion • Aloof
Hall's construct		This researcher's extension	

Figure 2.6 Contextual Constructs for Time and Space Orientations.

Socialization In The Transmission of Information and Decision Making	
HIGH CONTEXT	LOW CONTEXT
<ul style="list-style-type: none"> • Information is internalized. • Information is without fixed boundaries. • Impatience when given information that they already have. • More contexted (all people kept informed at all times). • Information throughout. • High flow of information. • People are most important. • Constant interaction. • Mutual concerns to be helpful. • Consensus building process. • Event is more important than time. • OK to break action chains. 	<ul style="list-style-type: none"> • Information is external. • Compartmentalization or segmenting of information. • At a loss to make decisions without full information being provided. • People need contexting (detailed information area by area). • Information at the top moved downward as seen fit. • Low slow flow of information. • Schedules dominate. • Screening of people. • Importance of self over others. • Individual decision making. • Amount of lead time and status of people will determine what is important. • Sensitive to interruption in action chains.

Figure 2.7 Contextual Construct for the Socialization of Information.

Monochronic cultures are basically low context cultures that control and restrict information flow and communications. Polychronic cultures are basically high context cultures where information flows freely among all participants. Since the information is available to all, one is expected to intuit and automatically understand. The purpose of meetings and communications in the low context cultures is to determine and/or pass information in order to evaluate and make decisions. In the high context cultures, the purpose of meetings is to reach a consensus about what is already known. The two processes are mutually exclusive. In one, the low context, meaning is derived primarily from the code of the messages that transpire. In the other, the high context, the information or message already resides in the individuals since they already have the information they need. Hall and Hall (1990) strongly emphasized the fact that "One must always be contexted to the local time system" (p. 19) when working across cultures.

The Socialization of Individuals Factor

A striking comparison can be made between Hall's concepts involving socialization across cultures and the work of Brislin (1977, 1990, 1993), Landis and Brislin (1983), Triandis, Brislin, and Hui (1988) and Watson and Kumar (1992) in their analysis of the individualism/collectivism dimension of cultural development and interaction. Although somewhat different characteristics have been profiled, the collectivist socialization attributes parallel Hall's (1977) and Hall and Hall's (1990) high context dimension and the individualist socialization attributes parallel the low context

dimension as exhibited in this researcher's construct in Figure 2.8.

The Identified Contextual Factors

Contexting, which involves the time, space and socialization of information factors (Hall, 1977; Hall & Hall, 1990), and the socialization of individuals (the individualist/collectivist) factor (Brislin, 1977, 1990, 1993), were the factors utilized in this study. These do not comprise the only factors by which culture can be analyzed. However, they do represent factors through which a determination can be made as to how to communicate and work with individuals regardless of their cultural orientation. These factors are highly integrated into each individual's acculturation process and vary from culture to culture.

As Fontaine (1989) maintained, each cross-cultural situation will present its own set of circumstances to which individuals must adapt. This makes it essential that each individual understand themselves and that educators, trainers, managers, and any others involved in information transfer and decision making processes have the knowledge of the individuals involved.

Many comparisons of major ethnic and national groups and business organizations have been made based on contextual needs and decision making processes. However, few have been done in measuring individual responses. No specific instrument has been found which allows for an individual's preferences for contextual needs and socialization in interactive group decision making processes to be determined and compared across cultures.

Socialization Values, Attitudes, Behaviors	
COLLECTIVISM	INDIVIDUALISM
<ul style="list-style-type: none"> • Self is absorbed in the collective group. • Identity is group dependent • "One is what one's group does." • Strong identity with "in-group" and exclusion of "out-group". • Most positive attitude toward vertical relationships. • Accept differences in power. • Cooperation expected with in-group relationships and competition with "intergroup" relationships. • Poor joiners of new groups. • Help from friends, family and business partners expected and frequent. • High mistrust of outsiders and strangers. • Family attachments highest and extended wherever they are. • Out-groups viewed as extremely different. • Social behavior tends to be long-term, involuntary, intensive, and occurs mostly within a very few ingroups. • Stronger needs for affiliation and nurturance. 	<ul style="list-style-type: none"> • Self is autonomous and separate from the group. • Identity is independent of group. • "One is what one does" • More self oriented and somewhat detached from "in-groups". • Most positive attitude toward horizontal relationships. • Ambivalent about vertical authority. • Competition acceptable at all levels; cooperate or compete depending on what maximizes benefits relative to costs. • Easy joiners of new groups. • Do not need the protection of in-group members to carry out transactions. • Trust strangers and outsiders to great extent. • Work group as the most important in-group more common. • Out-groups viewed as just a little different. • There are many in-groups and social behavior tends to be short-term, voluntary, less intensive, and involves little commitment to any particular in-group. • Stronger needs for autonomy.

Figure 2.8 Contextual Construct for Socialization of People.

Knowledge of such factors is essential in establishing effective communication, learning program design and basic management. In interviews with R. W. Brislin (personal communication, April, 1992) and G. Fontaine (personal communication, January, 1993), it was noted that such an instrument does not exist and that the information could be very valuable to educators, trainers, and management personnel in determining effective communications across cultures in the emerging global environment. Such information looks at the variations between individual personalities, in often transient and sometimes long-term microcultural situations, by going beyond or transcending the cultural barriers.

CHAPTER 3 METHOD AND PROCEDURES

Purpose of the Study

This study was an investigation of the theory base regarding context as embedded in the development of culture. The study developed an instrument that 1) measures the contextual preferences of individuals from a variety of cultures, and 2) determines the level of significant differences between cultures based on their contextual preferences. This determination was based on factors identified through a literature review of current authorities in cross-cultural interaction. Two questions were addressed:

1. What communication factors, commonly found in a variety of cultures, affect the disposition of individuals to interact cross-culturally?

2. What are the significant differences in the individual preferences for group activity based on the identified factors?

Statement of Hypothesis

The results of this study determined the retention or rejection of the following null hypotheses. They were developed to determine the significant differences between individuals and cultures based on the application of the defined instrument.

- H₀ 1** There is no significant difference among cultural groups with respect to contextual level.

- H₀2** There is no significant difference among Asian Rim cultural groups with respect to contextual level.
- H₀3** There is no significant difference between men and women with respect to contextual level.
- H₀4** There is no significant relationship between age and contextual level.
- H₀5** There is no significant relationship between the number of years away from home country and contextual level.
- H₀6** There is no significant relationship between the number of languages spoken and contextual level.
- H₀7** There is no significant relationship between the declared major field of study and contextual level.

Design of the Study

This study was an empirical investigation of diverse interaction styles in cross-cultural groups. The outcome of this study was the development of an instrument that measures communication process factors which affect an individual's orientation to function in culturally diverse group situations oriented toward learning. This orientation was defined by the individual's needs regarding contextual information.

The instrument was developed incorporating factors identified by noted authorities in the field of cross-cultural communication. This

instrument was then applied to a highly diverse cross-cultural population in a learning environment. The results were factor analyzed in the validation of the instrument. The data was then statistically analyzed to determine significant differences among culturally oriented groups. The development of the study followed patterns established for education and the social sciences as outlined by Balian (1988), Borg and Gall (1989), Courtney (1988) and Tabachnick and Fidell, (1989).

Context and Cooperative Effort as Factors of Measurement

Hall (1977) suggested that individuals use information in determining meaning and relevance in decision making. This allows individuals to perform the critically important function of correcting for distortions or omissions in the messages that they receive. Hall (1977) and Hall and Hall (1990) noted that the key to being effective in one's communication across cultures is in contexting or knowing the degree of information that must be supplied. This contextual base will vary from culture to culture and is often the determining factor as to whether or not individuals from various cultures will effectively communicate, reach understanding and make decisions. Context is inextricably bound to the meaning of an event as it is the information surrounding an event that gives it meaning.

Hall and Hall (1990) showed that the cultures of the world can be compared by examining their requirement for context from low to high. Hall and Hall (1990) also noted that differences in context can effect nearly all situations where relationships between individuals within a culture, or where interactions across cultures occur. There

are specific individual differences in contexting within cultures resulting in a range of personal patterns. All individuals in all cultures are influenced by contextual requirements (Hall & Hall, 1990).

The key to being an effective communicator in cross-cultural situations is in knowing the degree of information (contexting) necessary and the ability of the individual to transfer that information through interactive group processes. Hall (1977) and Hall and Hall (1990) noted that the individually acculturated factors of perception of time and space, and the interaction of these in determining information flow, determine individual contexting requirements. The ability to adapt to varying levels of context is a main contributor to one's ability to accommodate or develop multi-cultural approaches in their communication and decision making.

Closely associated with the concept of contextual requirement are the individual and culturally defined processes of information transfer and decision making in which cooperative group effort leads to problem solving. Brislin (1977, 1990) noted that critical to the information transference process and decision making is an individual's orientation to socialization as defined by the individualism/collectivism continuum. The interaction of individuals within a group is one in which the interactive communications or sharing of information, as well as other efforts between group members, leads to a pooling of abilities in a collaborative context in order to reach the best decision (Hackman & Morris, 1975; Steiner, 1972). The efforts range on a continuum from individualism to collectivism (Wagner & Moch, 1986).

The Population

The population of this study consisted of students from the Brigham Young University -- Hawaii Campus. This population was chosen since it represents one of the most diverse cross-cultural mixes (more than 50 cultures represented) in which there is no cultural majority. Approximately 20% of the student body comes from the mainland United States and other predominantly European based Western cultural mixes; 25% from Hawaii with a predominant South Pacific and Asian cross-cultural mix; 25% from the South Pacific; 25% from the Asian rim countries; and 5% from other parts of the world.

The students of this University were involved in learning experiences where multiple cultures interacted in the learning environment both in and out of the classroom. The majority of the student body had few previous direct interactive living experiences with western systems, except for those from mainland North America and Hawaii. Although the Hawaiian population had experienced direct western influence, being part of the United States, strong alliances were maintained with the South Pacific and Asian cultures. Seventy percent of the students were sponsored by the University and therefore came from the larger working class segment of the native cultures they represent. For some time after arriving on campus, most foreign students developed and retained socialization patterns that maintained close ties to their own cultural groups through culture based clubs and organizations. As such, the majority of the individuals in the population being surveyed was close to their native cultural orientation. All respondents met the minimum TOEFL score (475) and/or passed the Michigan Test for entrance into the university and

had at least basic speaking and comprehension skills in the English language, which was the instructional language of the institution.

Subjects were randomly selected through the distribution of instruments in primarily divergent lower division general education classes. No effort was made to select classes representative of any specific demographic or curricular criteria other than the inclusion of a sampling of English Language Institute (ELI) classes. These classes were also randomly selected (four of the twelve being offered).

A concern must be noted in conjunction with the population. Since the institution selected is sponsored by a religious organization, the Church of Jesus Christ of Latter-day Saints, more than 95% of the individuals involved were of one dominant organizational culture. Though this meant that variations in strong religious beliefs were not a variable that needed to be contended with, it also meant that such a predominant religious culture may need to be taken into consideration in the interpretation of the results. It must also be stated that such predominance of any organizational culture (i.e. religious, business, social, ethnic and race) may affect the analysis of any group where multiple cultural group memberships are involved. More will be discussed on organizational culture in chapter five.

Instrumentation

Instrument Design

In the instrument development process, which paralleled the research development and review process (see Figure 3.1), consultants with extensive knowledge and experience in cross-

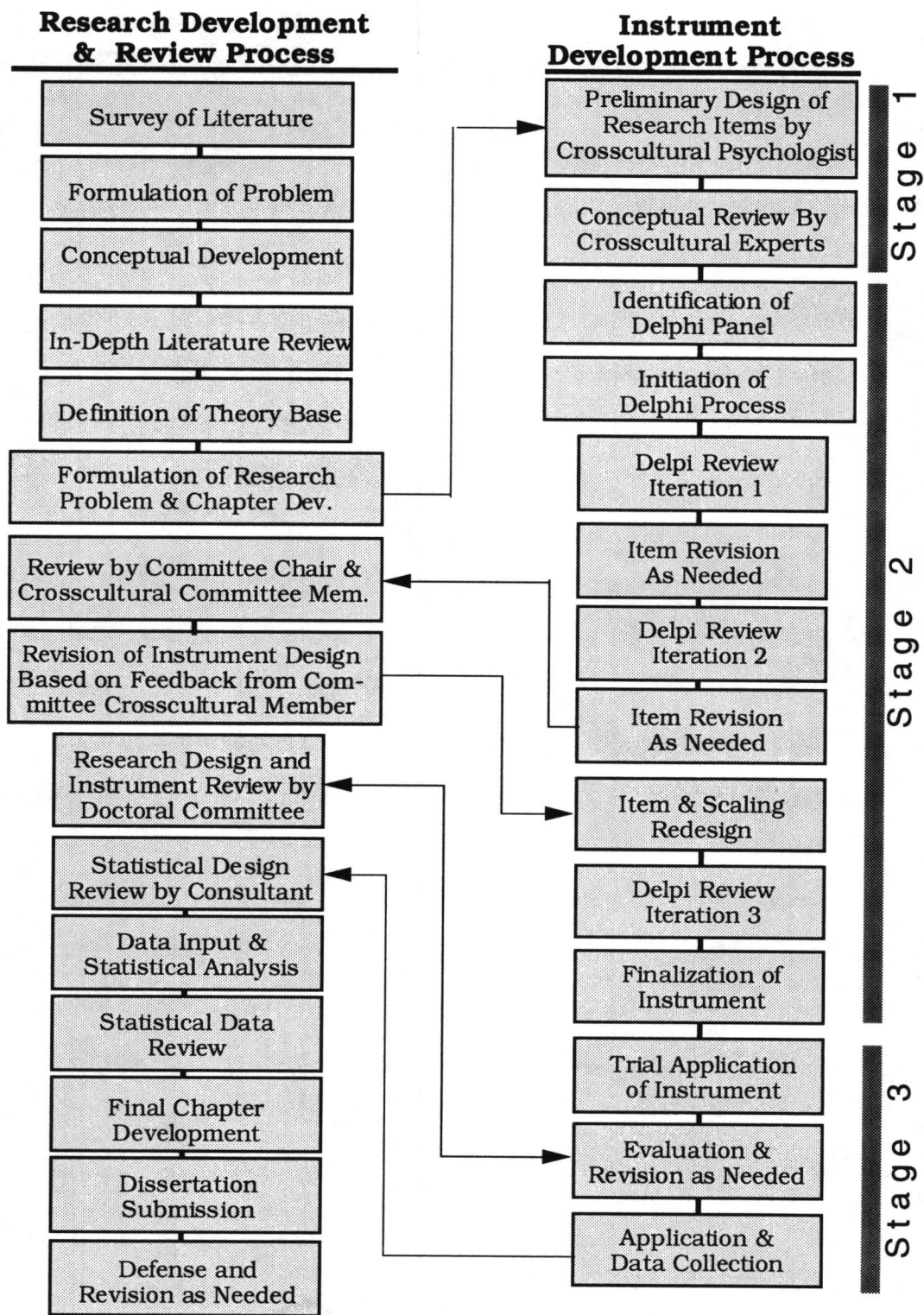


Figure 3.1 The Instrument and Research Development Processes.

cultural learning and group interaction were utilized. These experts were asked to verify the critical factors, identified in the literature review, that define an individual's preferences for cross-cultural communications. Since no specific instrument items currently exist for the identified cross-cultural application, an experienced cross-cultural psychologist (see Appendix A) defined the measurement items, appropriate to the identified factors, that follow established cross-cultural questioning patterns. To establish content validity, preeminent cross-cultural researchers were consulted and a Delphi panel of experts (see Appendix A) were asked to judgmentally review each of the instrument items for appropriateness and inclusion.

The expert reviewers and iteration Delphi panel were selected on the basis of experience (at least 3 years and/or actual instrument development) working in highly cross-cultural learning environments, and experience in designing either assessment tools or instructional processes that have been applied in that environment. The experts chosen to review the concept and instrument, and those selected for the Delphi process are currently employed at the East-West Center, in Honolulu, and the University of Hawaii. These individuals also have worked as consultants or direct employees in business and industry. The stages followed in the development of the instrument were:

- 1) A cross-cultural psychologist (see Appendix A) developed the initial items in conjunction with the researcher. These items, in preliminary instrument form with directions and scoring mechanisms, were reviewed and evaluated by two additional cross-cultural research psychologists at the East-West Center (see Appendix A). This preliminary instrument was then pilot tested with a

representative cross-cultural mix of students, who were then interviewed, at the Brigham Young University-Hawaii Campus.

2) The expert evaluation and subject input was incorporated and the preliminary instrument passed on to an iteration Delphi panel of experts (see Figure 3.1 and Appendix A). The Delphi panel utilized three iterations given a minimum acceptance level of 75%. In the first iteration, 50% of the initial 39 items were accepted as is. The remaining 50% were accepted with wording revision. Several suggestions were incorporated in rewording and restructuring the instrument directions, evaluation criteria and scoring sheets. The second iteration resulted in an “as is” acceptance level of 90% with the remaining 10% requiring rewording.

The instrument was submitted for initial review by the candidate’s cross-cultural doctoral committee member and original cross-cultural consultants. It was determined that a restructuring was needed to better identify predictable factors and balance the number of items against those factors. In addition, a scaling change was recommended. The database of items was expanded and balanced among the identified factors for the third round of Delphi. The third round of Delphi resulted in 75% accepted “as is”, 22 percent accepted with wording changes and 3% rejected. The final number of items included in the instrument was 48, allocating 12 to each of the 4 factors. The resulting set had 85% of the items accepted at the 100% level and 15% accepted at the 75% level.

3) The instrument was applied on a trial basis and interviews conducted, comparative to interviews during the initial pilot testing stages, during the first four test administrations to determine any

problems with comprehensibility in wording or perception. Thirty five percent of the subjects in this grouping were foreign students in the English Language Institute program. This was done to assure that students with limited English could understand the instrument items. Only two questions arose and were considered for final clarification. The instrument was finalized and applied for data collection.

The Dependent Variable

The dependent variable consisted of a scale value that was judgmentally assessed by the study participants. A Likert equal appearing interval scale was used in which six levels of agreement were possible. The six level scale was selected to circumvent a neutral or non-response (Balian, 1988). The interval data obtained through the use of the Likert type scales are useful when it is necessary to obtain an individual's position on certain issues or ideas, such as preferences, and are more readily analyzed and interpreted than open-ended attitude questions (Courtney, 1987, 1990). This is consistent with most of the instruments in use in which personality or temperament characteristics are assessed by a forced choice (Golay, 1982; Keirse & Bates, 1984; Oppenheim, 1966). The six point Likert scale allowed for an evaluation of the strength of the choice being made.

Construction of the questionnaire was kept simple and direct to be consistent with measurement principles that reduce confusion related to cross-cultural environments. Construction followed procedures for development as recommended by Balian (1988), Dillman (1978), Edwards (1957) and Oppenheim (1966). Items were

basically grouped by major factor area to allow for cognitive ties that respondents were likely to make and build a sense of continuity. However an alternating mixture was used to prevent respondents from being lulled into making equivalent responses continuously, thus reducing the halo effect (Alreck & Settle, 1985; Balian, 1988). Alternating reverse emphasis was used posing statements from opposing ends of the same continuum. A reverse scoring methodology was not used since extreme responses from single continuum factors being measured would result in near neutral responses appearing the same as the averaging of extreme responses. (see Figure 3.2).

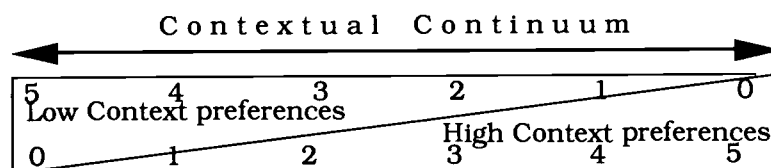


Figure 3.2 The Contextual Continuum.

Instrument Validity

“All research instruments must first be considered in terms of their validity. The term validity simply refers to the question: ‘Does the instrument measure what it is supposed to measure?’” (Balian, 1988, p. 114). Two types of validity were tested:

1. Content validity, and
2. Construct validity.

Content Validity

Once the theory base had established item content through the literature review, content validity of the instrument followed the three stage process as outlined in the instrument development process (see Figure 3.1). This involved consultation with experts, utilization of a Delphi panel, and testing of the instrument as discussed on pages 49 to 53.

Construct Validity

As Balian (1988) noted, "Construct validity by nearly any standard is a powerful and sophisticated approach to instrument validity" (p. 120). Construct validity was determined by assessing the relationship of test items with other variables through the use of Factor Analysis (Balian, 1988; Courtney, 1990; Tabachnick & Fidell, 1989). To assure validity, a minimum of 5 respondents (Tabachnick & Fidell, 1989) or approximately 6 to 10 respondents (Balian, 1988) per item is required.

Armor (1974) of the Rand Corporation suggested a loading factor of .4 or greater since the scales being developed were based on a theoretical model. Balian, (1988) and Courtney (1987) suggested a loading level of at least .5. In analyzing the data, factor loadings were evaluated according to the criteria noted by Comrey (1973) and Tabachnick and Fidell (1989) which provided a quantitative range and a qualitative rating. The loading factor range utilized was:

- < 1.0 ≥ .71 (50% overlapping variance) considered excellent
- < .71 ≥ .63 (40% overlapping variance) considered very good
- < .63 ≥ .55 (30% overlapping variance) considered good

< .55 ≥ .45 (20% overlapping variance) considered fair
< .45 ≥ .32 (10% overlapping variance) considered poor
(Tabachnick & Fidell, 1989, p.640)

Implementation

As suggested in the instrument development stages, the test populations for both preliminary testing and full application of the instrument should be consistent with those for whom the instrument is intended. The instrument was intended for use with individuals who are involved in cross-cultural activities that result in the development of skills and knowledge. The instrument was designed to assess the level of these individuals' contextual requirements in the process of decision making within a cross-cultural interactive group.

After the indicated pilot testing and evaluation, the instrument was administered to students at the University through their normally scheduled classes. Concentration was on the 100 and 200 level classes. Though a minimum of 240 respondents was acceptable (Tabachnick & Fidell, 1989), a population sample of approximately 480 was selected based on the number of instrument items (Balian, 1988). The completed instruments were tabulated and scored by the researcher.

Reliability

There are no current tests or standards with which to compare the results of the instrument administration (R. W. Brislin, personal communication, April, 1992; Fontaine, personal communication,

January, 1993). In estimating the internal consistency of the instrument, a coefficient of internal consistency was determined utilizing a single test administration. Cronbach's Coefficient Alpha was used to test reliability since the instrument relies on a non-dichotomous Likert scale. A method of rational equivalence could not be used (Borg & Gall, 1989).

CHAPTER 4 FINDINGS, DATA ANALYSIS AND DISCUSSION

Instrument Application

The Cross-cultural Interactive Profile (CCIP) instrument developed through this research project (see Appendix B), was applied to the cross-culturally mixed student body of the Brigham Young University -- Hawaii Campus. The instrument validation process, elicited data and results of the data analysis specified in Chapter 3 are presented here.

Of the original 650 instruments distributed, 538 were returned. Thirty five instruments were screened out as unsuitable for data input due to missing demographic or item (more than 5%) data (Tabachnick & Fidell, 1989). Data for analysis were initially input into a database manager so that data could be cross checked and analyzed for initial data input error. These files were then converted into a transferable file and downloaded for analysis.

The responses were compiled and input for computer analysis utilizing the SPSS/PC+ statistical analysis software package. The initial review of descriptive statistics indicated some additional missing or out of range data. These missing or out of range items were crosschecked with the original instruments and corrections and adjustments made to the database where possible.

Descriptive Demographic Analysis

The population of this study consisted of students from the Brigham Young University -- Hawaii Campus. This population has one

of the most diverse cross-cultural mixes (more than 50 cultures represented) in which there is no cultural majority. Approximately 20% of the student body comes from the mainland United States and other predominantly European based Western cultural mixes; 25% from Hawaii with a predominant South Pacific and Asian cross-cultural mix; 25% from the South Pacific; 25% from the Asian rim countries; and 5% from other parts of the world.

Instrument distribution and return resulted in a sample of five hundred and three, or 31.44%, of the approximately 1600 students enrolled at the time. The demographic distribution of students sampled (see Tables 4.1.1 to 4.1.10), closely approximates the total population of the university.

Table 4.1.1 Descriptive Demographics -- Gender.

Variable	Gender	Freq	%
Population Gender	Male	224	44.5
	Female	279	55.5

Table 4.1.2 Descriptive Demographics -- Age.

Variable	Mean	SD	Min	Max	Number
Age	23.71	4.96	17	59	497

Table 4.1.3 Descriptive Demographics -- Years Away From Home Country.

Variable	Num Years	Freq	- % -
Years Away From Home	0	58	11.5
	1	114	22.7
	2	108	21.5
	3	84	16.7
	4	56	11.1
	5	35	7.0
	6	16	3.2
	7	7	1.4
	8	6	1.2
	9	3	.6
	10	5	1.0
	11	1	.2
	13	2	.4
	15	2	.4
	16	2	.4
	17	1	.2
18	2	.4	
23	1	.2	

Table 4.1.4 Descriptive Demographics -- Raised Where Born.

Raised Where Born	Value	Freq	- % -
Yes	1	447	88.9
No	2	56	11.1

Table 4.1.5 Descriptive Demographics -- Number of Languages Spoken.

Variable	No Spoken	Freq	- % -
Languages	1	128	25.4
	2	247	49.1
	3	91	18.1
	4	36	7.2
	5	1	.2

Table 4.1.6 Descriptive Demographics -- English as an Acquired Language.

Variable	Spoken	Freq	- % -
English as a Language	1st	244	48.5
	2nd	216	42.9
	3rd	35	7.0
	4th	7	1.4
	5th	1	.2

Table 4.1.7 Descriptive Demographics -- Declared Cultural Group.

Declared Culture	Freq	Percent	Declared Culture	Freq	Percent
Canadian	5	1.0	Multiethnic European	3	.6
Filipino	17	3.4	Multiethnic Pacific	62	12.3
Hawaiian	29	5.8	N European	21	4.2
Hispanic	9	1.8	Other Asian	4	.8
Hong Kong Chinese	31	6.2	Other Melanesian	9	1.8
Indonesian Chinese	2	.4	Other Micronesian	11	2.2
Japanese	20	4.0	Other Polynesian	14	2.8
Korean	35	7.0	Samoan	33	6.6
Mainland Chinese	9	1.8	Singaporean Chinese	9	1.8
Malaysian Chinese	5	1.0	Taiwanese Chinese	17	3.4
Maori	17	3.4	Tongan	24	4.8
Multiethnic Asian	17	3.4	Us Mainland	100	19.9

Table 4.1.8 Descriptive Demographics -- Year in School

Variable	Year	Freq - % -	
Year In School	First	137	27.2
	Second	142	28.2
	Third	120	23.9
	Fourth	80	15.9
	Fifth	21	4.2
	> 5	3	.6

Table 4.1.9 Descriptive Demographics -- Declared Major

Variable	Value	Freq	- % -	Cum - % -
Undecided	0	52	10.3	10.3
Business	1	166	33.0	43.3
Education	2	70	13.9	57.3
Languages	3	19	3.8	61.0
Lit/Comm	4	4	.8	61.8
Fine Arts	5	20	4.0	65.8
Sciences	7	53	10.5	76.3
Infosys/Comp	8	69	13.7	90.1
Social Sciences	9	50	9.9	100.0

Table 4.1.10 Descriptive Demographics -- Enrollment in ELI

ELI			
Status	Value	Freq	- % -
Taking ELI	1	154	10.7
Not Taking ELI	2	449	89.3

Item Response Patterns

A preliminary factor analysis was performed, utilizing the four major factors, to look at initial distributions and factor loadings, determine upper and lower 27th percentiles, and determine item means and standard deviations. The upper and lower 27th percentiles were used later in the item analysis stages (Borg & Gall, 1989; Tabachnick & Fidell, 1989). A Factor Analysis Box and Whisker Plot (see Figure 4.1) was generated which displays summary statistical information about the distribution of the values. It plots the median, the 25th percentile (the lower edge of the box), the 75th percentile (the upper edge of the box), and outliers and extremes. The four factors are distributed similarly, the variability with each factor is about the same and the distributions appear symmetric. The item descriptives (see Table 4.2) list the item means and standard deviations. Table 4.3 summarizes the response patterns for all items.

Initial factor analysis, utilizing the four factors with twelve items each, indicated that four factors were being loaded to varying degrees, in each case, to account for the majority of the variability. The eigenvalue level ≥ 1.00 confirmed this as well as the scree plot. Such evidence indicated that the scales, as defined, were measuring more than one factor, and that a further breakdown in item groupings would be needed (Borg & Gall, 1989; Tabachnick & Fidell, 1989). This was not unexpected since the four factors, as defined in the theory base, were composed of two polar orientations each. A continued refinement was needed in order to determine items that load most highly on the fewest factors so that validity and reliability can be effected.

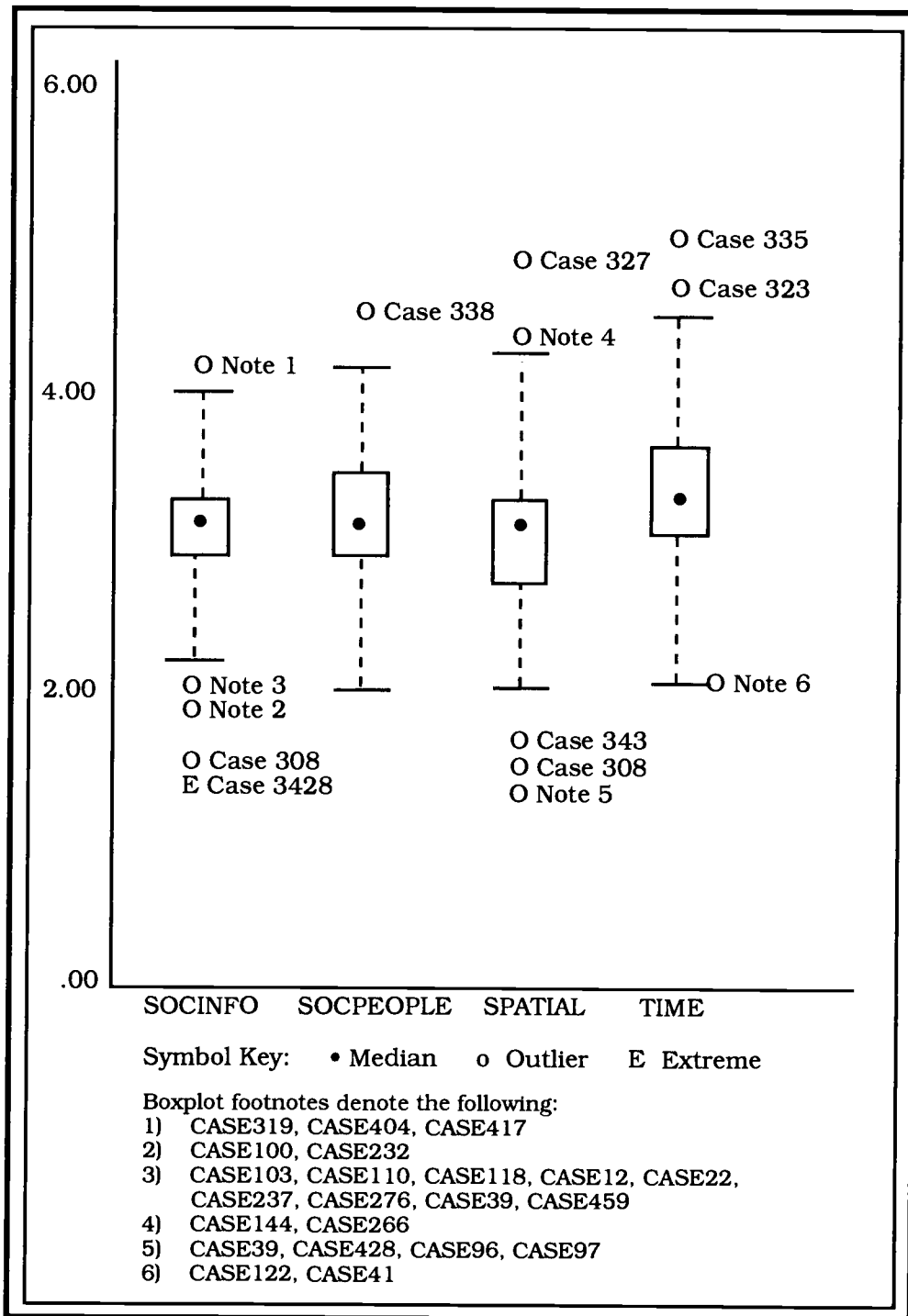


Figure 4.1 Factor Analysis Box and Whisker Plot.

Table 4.2 Item Descriptives.

Item No.	Mean	S D	Min	Max	Item No.	Mean	S D	Min	Max
1	3.44	1.48	0	5	25	2.24	1.47	0	5
2	3.85	1.07	0	5	26	3.46	1.19	0	5
3	3.96	1.12	0	5	27	2.17	1.42	0	5
4	3.89	1.15	0	5	28	3.90	.98	0	5
5	2.61	1.47	0	5	29	3.97	.94	0	5
6	3.83	1.15	0	5	30	3.16	1.29	0	5
7	4.37	.84	0	5	31	3.43	1.17	0	5
8	2.19	1.34	0	5	32	2.60	1.22	0	5
9	3.39	1.31	0	5	33	2.88	1.31	0	5
10	2.82	1.30	0	5	34	3.05	1.22	0	5
11	1.67	1.26	0	5	35	2.53	1.36	0	5
12	1.22	1.35	0	5	36	2.92	1.31	0	5
13	3.45	1.27	0	5	37	3.12	1.30	0	5
14	3.24	1.41	0	5	38	2.84	1.22	0	5
15	2.89	1.27	0	5	39	4.03	.91	0	5
16	4.20	.96	0	5	40	3.50	1.21	0	5
17	2.82	1.41	0	5	41	2.39	1.44	0	5
18	4.37	.70	2	5	42	3.23	1.15	0	5
19	2.47	1.39	0	5	43	3.39	1.07	0	5
20	3.50	1.08	0	5	44	3.75	.95	1	5
21	3.20	1.22	0	5	45	3.03	1.28	0	5
22	2.21	1.33	0	5	46	3.62	1.20	0	5
23	3.00	1.28	0	5	47	3.47	1.26	0	5
24	2.92	1.49	0		48	3.94	1.00	0	5

Table 4.3 Item Response Patterns

Item No.	Strongly Disagree		Disagree		Mildly Disagree		Mildly Agree		Agree		Strongly Agree	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
1	28	5.6	52	10.3	34	6.8	81	16.1	175	34.8	133	26.4
2	2	.4	25	5.0	29	5.8	76	15.1	230	45.7	141	28.0
3	6	1.2	21	4.2	25	5.0	63	12.5	210	41.7	178	35.4
4	10	2.0	17	3.4	27	5.4	81	16.1	196	39.0	172	34.2
5	35	7.0	109	21.7	94	18.7	94	18.7	122	24.3	49	9.7
6	6	1.2	20	4.0	37	7.4	90	17.9	190	37.8	160	31.8
7	2	.4	4	.8	13	2.6	36	7.2	180	35.8	268	53.3
8	54	10.7	134	26.6	85	16.9	135	26.8	84	16.7	11	2.2
9	16	3.2	38	7.6	65	12.9	100	19.9	185	36.8	99	19.7
10	21	4.2	76	15.1	85	16.9	152	30.2	128	25.4	41	8.2
11	84	16.7	185	36.8	115	22.9	61	12.1	50	9.9	8	1.6
12	182	36.2	177	35.2	61	12.1	39	7.8	23	4.6	21	4.2
13	10	2.0	45	8.9	42	8.3	125	24.9	175	34.8	106	21.1
14	19	3.8	64	12.7	51	10.1	104	20.7	171	34.0	94	18.7
15	22	4.4	61	12.1	87	17.3	145	28.8	155	30.8	33	6.6
16	5	1.0	6	1.2	19	3.8	46	9.1	203	40.4	224	44.5
17	26	5.2	78	15.5	101	20.1	117	23.3	117	23.3	64	12.7
18	0	0.0	0	0.0	6	1.2	48	9.5	202	40.2	247	49.1
19	41	8.2	102	20.3	109	21.7	115	22.9	105	20.9	31	6.2
20	9	1.8	23	4.6	36	7.2	143	28.4	223	44.3	69	13.7
21	14	2.8	42	8.3	71	14.1	131	26.0	192	38.2	53	10.5
22	56	11.1	110	21.9	115	22.9	131	26.0	74	14.7	17	3.4
23	18	3.6	55	10.9	88	17.5	141	28.0	152	30.2	49	9.7
24	34	6.8	78	15.5	73	14.5	92	18.3	160	31.8	66	13.1

Table 4.3, Continued.

Item No.	Strongly Disagree		Disagree		Mildly Disagree		Mildly Agree		Agree		Strongly Agree	
	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
25	62	12.3	122	24.3	106	21.1	92	18.3	87	17.3	34	6.8
26	8	1.6	34	6.8	51	10.1	130	25.8	188	37.4	92	18.3
27	55	10.9	143	28.4	107	21.3	84	16.7	89	17.7	25	5.0
28	2	.4	14	2.8	21	4.2	101	20.1	222	44.1	143	28.4
29	4	.8	10	2.0	15	3.0	83	16.5	245	48.7	146	29.0
30	10	2.0	58	11.5	77	15.3	131	26.0	151	30.0	76	15.1
31	8	1.6	27	5.4	61	12.1	144	28.6	173	34.4	90	17.9
32	21	4.2	83	16.5	116	23.1	165	32.8	92	18.3	26	5.2
33	17	3.4	69	13.7	104	20.7	132	26.2	130	25.8	51	10.1
34	12	2.4	47	9.3	98	19.5	143	28.4	154	30.6	49	9.7
35	33	6.6	99	19.7	113	22.5	117	23.3	110	21.9	31	6.2
36	13	2.6	78	15.5	91	18.1	124	24.7	148	29.4	49	9.7
37	4	.8	71	14.1	87	17.3	112	22.3	157	31.2	72	14.3
38	11	2.2	63	12.5	120	23.9	152	30.2	113	22.5	44	8.7
39	2	.4	6	1.2	17	3.4	93	18.5	216	42.9	169	33.6
40	6	1.2	34	6.8	64	12.7	100	19.9	195	38.8	104	20.7
41	41	8.2	125	24.9	106	21.1	94	18.7	100	19.9	37	7.4
42	7	1.4	37	7.4	83	16.5	137	27.2	186	37.0	53	10.5
43	4	.8	26	5.2	65	12.9	141	28.0	207	41.2	60	11.9
44	0	0.0	13	2.6	42	8.3	101	20.1	247	49.1	100	19.9
45	17	3.4	59	11.7	74	14.7	146	29.0	156	31.0	51	10.1
46	9	1.8	23	4.6	55	10.9	101	20.1	188	37.4	127	25.2
47	13	2.6	42	8.3	37	7.4	108	21.5	209	41.6	94	18.7
48	6	1.2	10	2.0	19	3.8	89	17.7	228	45.3	151	30.0

Factor Analysis

According to Hall (1977) and Brislin (1990), the four major factors that have been incorporated into this study should appear as oppositions. Three of the factors were characterized by high versus low context. The remaining factor was characterized by individualism versus collectivism, paralleling the high and low context factors. After a preliminary factor analysis, the four identified factors were subdivided so that there were six items representing each of the polar opposites of each of the four factors, thus resulting in eight sub-sets.

A factor analysis was then conducted on each of the factor sub-sets of six items each. A summary of each of the factor analyzed sub-sets is found in Figure 4.2.1 to 4.2.8 and are defined as follows:

High Contexted factors:

SOCINFO-H -- Socialization of Information -- High Contexted
SOCPEOPLE-H -- Socialization of People -- High Contexted
SPATIAL-H -- Spatial Orientation -- High Contexted
TIME-H -- Time Orientation -- High Contexted

Low Contexted factors:

SOCINFO-L -- Socialization of Information -- Low Contexted
SOCPEOPLE-L -- Socialization of People -- Low Contexted
SPATIAL-L -- Spatial Orientation -- Low Contexted
TIME-L -- Time Orientation -- Low Contexted

Factor Analysis -- Socialization of Information -- High Contexted

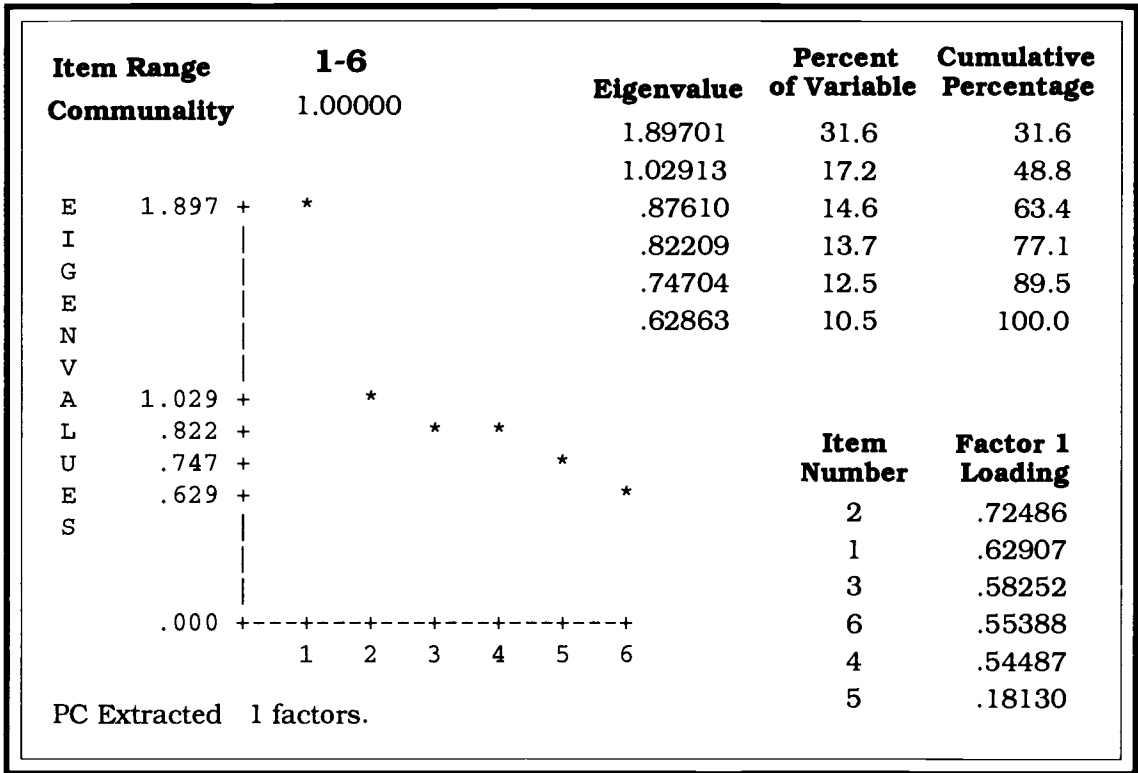


Figure 4.2.1 Factor Analysis of SOCINFO-H.

Factor Analysis -- Socialization of Information -- Low Contexted

Item Range		7-12			
Community		1.00000	Eigenvalue	Percent of Variable	Cumulative Percentage
			1.49180	24.9	24.9
			1.13785	19.0	43.8
E	1.492 +	*	1.00861	16.8	60.6
I			.91339	15.2	75.9
G			.80421	13.4	89.3
E	1.138 +	*	.64413	10.7	100.0
N	1.009 +				
V	.913 +				
A	.804 +				
L	.644 +				
U					
E					
S					
	.000 +				
		1 2 3 4 5 6			
				Item Number	Factor 1 Loading
				11	.76832
				8	.59872
				12	.53056
				10	.48081
				7	-.17268
				9	-.02316
PC Extracted 1 factors.					

Figure 4.2.2 Factor Analysis of SOCINFO-L.

Factor Analysis -- Socialization of People -- High Contexted

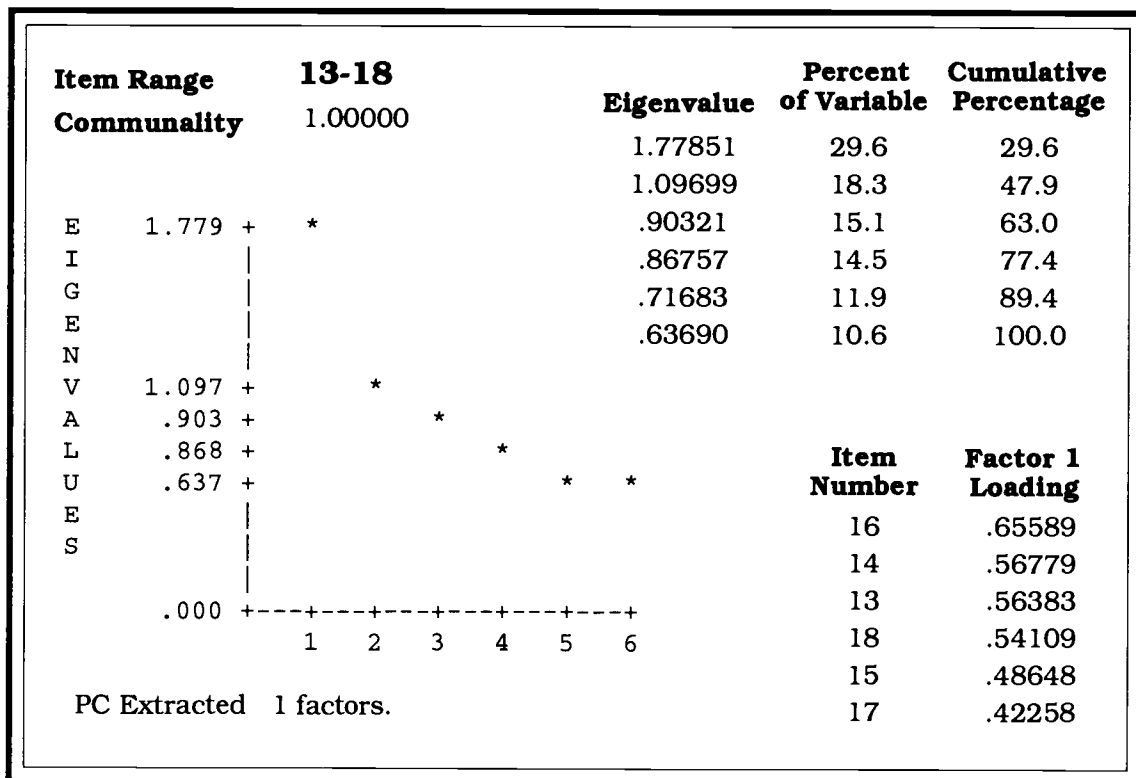


Figure 4.2.3 Factor Analysis of SOCPEOPLE-H.

Factor Analysis -- Socialization of People -- Low Contexted

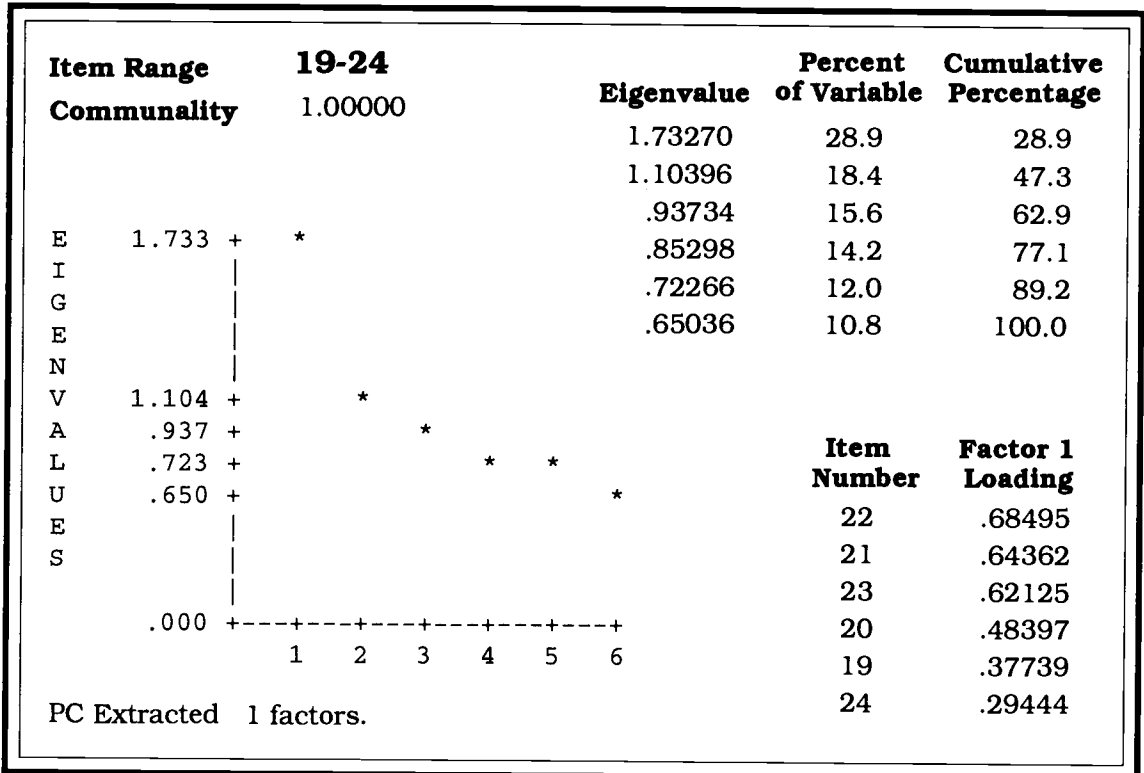


Figure 4.2.4 Factor Analysis of SOCPEOPLE-L.

Factor Analysis -- Spatial Orientation -- High Contexted

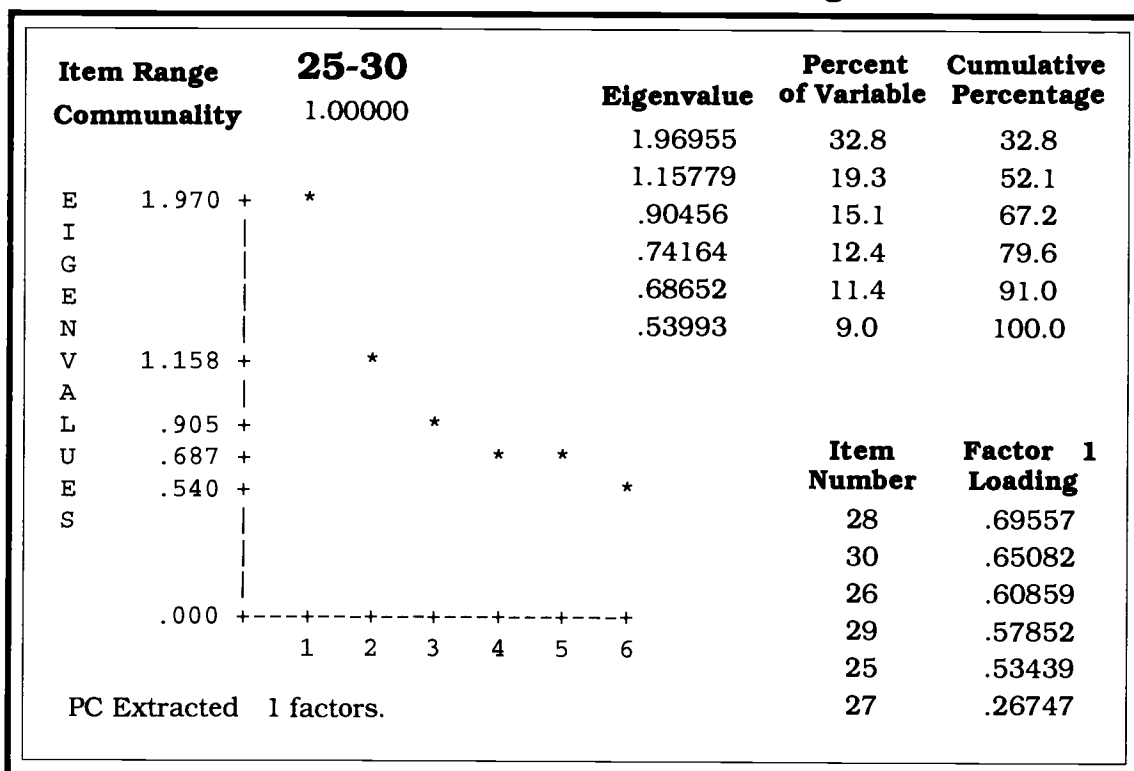


Figure 4.2.5 Factor Analysis of SPATIAL-H.

Factor Analysis -- Spatial Orientation -- Low Contexted

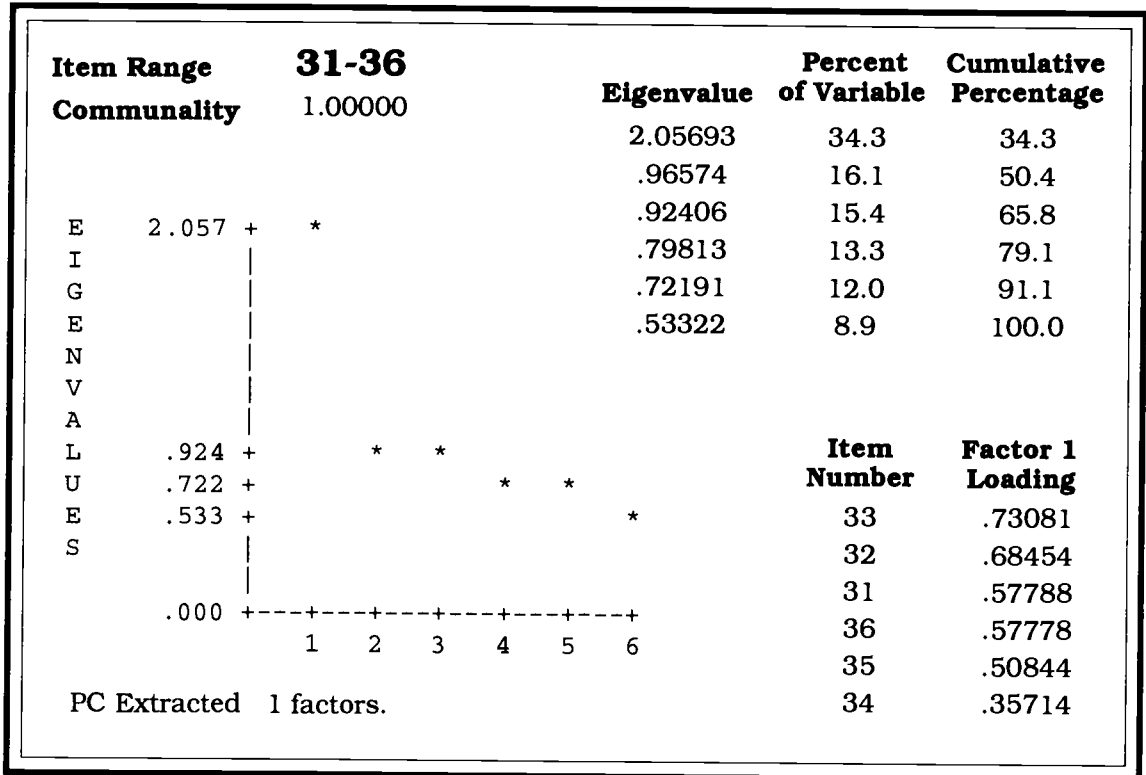


Figure 4.2.6 Factor Analysis of SPATIAL-L.

Factor Analysis -- Time Orientation -- Low Contexted

Item Range		37-42					
Community		1.00000		Eigenvalue	Percent of Variable	Cumulative Percentage	
				2.18650	36.4	36.4	
E	2.186 +	*		1.13931	19.0	55.4	
I				.77711	13.0	68.4	
G				.74416	12.4	80.8	
E				.59159	9.9	90.6	
N				.56133	9.4	100.1	
V							
A	1.139 +		*				
L							
U	.744 +		*				
E	.561 +						
S							
	.000 +						
		1	2	3	4	5	6
PC Extracted	1 factors.						
					Item Number	Factor 1 Loading	
					40	.72497	
					37	.70983	
					38	.70063	
					39	.65657	
					42	.48481	
					41	.00731	

Figure 4.2.7 Factor Analysis of TIME-L.

Factor Analysis -- Time Orientation -- High Contexted

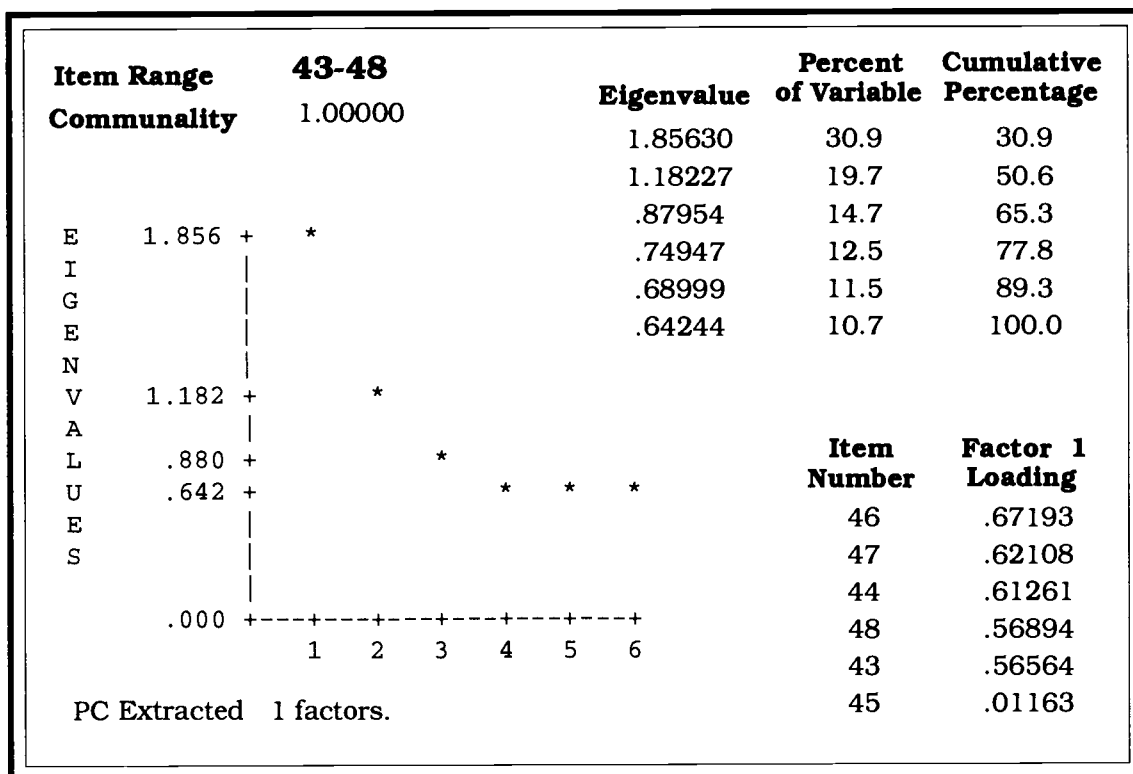


Figure 4.2.8 Factor Analysis of TIME-H.

The initial factor analysis with quartimax rotation showed that an average of four factors were being measured by each factor of 12 items each. The sub-sets of six items each, for each polar opposite of each contextual factor, were then factor analyzed with a single extraction for loading on the predominant first factor. For items 31-36 there was clearly a one factor solution. Only the first factor had an eigenvalue greater than one. The other sub-sets also indicated strong loadings on the predominant factor. The relative strength of individual items can be seen in the factor loading levels. Acceptable loadings for an experimental instrument are above a level of .32 but preferred above a level of .45 (Comrey, 1973; Tabachnick & Fidell, 1989). Those items with the lowest loadings should be considered for elimination.

Item Analysis

Item analysis is a powerful tool that is used for recognizing instrument item weaknesses and calculating internal consistency reliability measurements. The item analysis has as its primary function the evaluation of each instrument item in terms of its response pattern within the group being tested. A correlation calculation is made which reflects each item's ability to discriminate between high and low scoring subjects. The upper and lower 27% of the subjects are commonly used. The use of such procedures usually results in the identification of items that seem to be measuring something different from the remaining items. These items can then be eliminated or revised to increase scale reliability (Balian, 1988; Borg & Gall, 1989; Tabachnick & Fidell, 1989).

The upper and lower 27% of the respondents were identified and defined as the extreme high and low groups. A good item was reflected as a large difference between the two groups. The t-test statistics were calculated for each item to determine its reliability. A summary of the tests, with items grouped according to the factor being measured, is found in Tables 4.4.1 to 4.4.8. The 2-tail probability or p-value <.000 was noted on all items except for item number 7. However, its p-value <.001 still falls well below the customary cutoff values of $p < .01$ or $p < .05$ (Balian, 1988; Courtney, 1988). This indicated that all items do discriminate within their own groupings as they should.

Table 4.4.1 Item Analysis t-test Summary -- SOCINFO-H.

Socialization of Information -- High Contexted

Item		Mean	Cases	SD	Std Error	F Value	2 tail Prob	t Value	Deg of Freedom
1	Group 1	2.1690	142	1.502	.126	3.53	.000	-15.70	203.61
	Group 2	4.3596	178	.799	.060				
2	Group 1	2.9648	142	1.187	.100	3.65	.000	-13.75	201.72
	Group 2	4.4775	178	.622	.047				
3	Group 1	3.2254	142	1.370	.115	3.19	.000	-9.52	209.79
	Group 2	4.4494	178	.767	.057				
4	Group 1	3.0845	142	1.402	.118	4.67	.000	-11.08	188.92
	Group 2	4.4944	178	.649	.049				
5	Group 1	1.9577	142	1.276	.107	1.05	.000	-9.97	318.00
	Group 2	3.4101	178	1.309	.098				
6	Group 1	3.1338	142	1.278	.107	2.67	.000	-10.85	221.97
	Group 2	4.4607	178	.782	.059				

Table 4.4.2 Item Analysis t-test Summary -- SOCINFO-L.**Socialization of Information -- Low Contexted**

Item		Mean	Cases	SD	Std	F	2 tail	t	Deg of
					Error	Value	Prob	Value	Freedom
7	Group 1	4.1308	130	1.102	.097	2.35	.001	-3.31	218.15
	Group 2	4.5069	144	.719	.060				
8	Group 1	1.1231	130	1.064	.093	1.03	.000	-15.65	272.00
	Group 2	3.1528	144	1.079	.090				
9	Group 1	2.7000	130	1.578	.138	2.29	.000	-7.19	220.02
	Group 2	3.8750	144	1.044	.087				
10	Group 1	1.9538	130	1.311	.155	1.67	.000	-11.47	242.13
	Group 2	3.5903	144	1.013	.084				
11	Group 1	.8692	130	.839	.074	2.22	.000	-14.27	251.93
	Group 2	2.6875	144	1.249	.104				
12	Group 1	.5615	130	.757	.066	4.44	.000	-10.19	208.86
	Group 2	2.0764	144	1.596	.133				

Table 4.4.3 Item Analysis t-test Summary -- SOCPEOPLE-H**Socialization of People -- High Contexted**

Item		Mean	Cases	SD	Std	F	2 tail	t	Deg of
					Error	Value	Prob	Value	Freedom
13	Group 1	2.6265	166	1.243	.096	2.53	.000	-14.99	282.36
	Group 2	4.3786	140	.782	.066				
14	Group 1	2.2831	166	1.339	.104	2.28	.000	-14.69	288.57
	Group 2	4.1643	140	.866	.075				
15	Group 1	2.0663	166	1.202	.093	1.74	.000	-12.68	300.79
	Group 2	3.6000	140	.912	.077				
16	Group 1	3.6084	166	1.116	.087	6.24	.000	-12.16	224.05
	Group 2	4.7571	140	.447	.038				
17	Group 1	2.0361	166	1.165	.090	1.01	.000	-13.08	304.00
	Group 2	3.7857	140	1.168	.099				
18	Group 1	4.0181	166	.790	.061	2.57	.000	-9.10	281.39
	Group 2	4.6929	140	.493	.042				

Table 4.4.4 Item Analysis t-test Summary-- SOCPEOPLE-L**Socialization of People -- Low Contexted**

Item		Mean	Cases	SD	Std Error	F Value	2 tail Prob	t Value	Deg of Freedom
19	Group 1	1.5839	161	1.207	.095	1.03	.000	-12.32	309.00
	Group 2	3.2600	150	1.190	.097				
20	Group 1	2.9565	161	1.206	.095	2.39	.000	-8.83	276.30
	Group 2	3.9667	150	.781	.064				
21	Group 1	2.4596	161	1.284	.101	3.19	.000	-13.11	254.74
	Group 2	3.9933	150	.719	.059				
22	Group 1	1.3602	161	1.099	.087	1.10	.000	-15.21	309.00
	Group 2	3.2133	150	1.046	.085				
23	Group 1	2.1242	161	1.239	.098	1.90	.000	-13.89	291.73
	Group 2	3.8200	150	.898	.073				
24	Group 1	2.1056	161	1.465	.115	1.72	.000	-11.33	297.70
	Group 2	3.7733	150	1.118	.091				

Table 4.4.5 Item Analysis t-test Summary -- SPATIAL-H**Spatial Orientation -- High Contexted**

Item		Mean	Cases	SD	Std Error	F Value	2 tail Prob	t Value	Deg of Freedom
25	Group 1	1.1812	138	1.122	.096	1.22	.000	-15.64	305.00
	Group 2	3.3136	169	1.240	.095				
26	Group 1	2.6522	138	1.294	.110	2.25	.000	-12.05	229.92
	Group 2	4.2012	169	.863	.066				
27	Group 1	1.2681	138	1.162	.099	1.31	.000	-11.67	305.00
	Group 2	2.9527	169	1.331	.102				
28	Group 1	3.1957	138	1.093	.093	2.45	.000	-11.73	223.29
	Group 2	4.4556	169	.698	.054				
29	Group 1	3.5072	138	1.167	.099	3.52	.000	-8.23	199.23
	Group 2	4.4142	169	.622	.048				
30	Group 1	2.1377	138	1.185	.101	1.84	.000	-16.00	245.92
	Group 2	4.0769	169	.873	.067				

Table 4.4.6 Item Analysis t-test Summary -- SPATIAL-L**Spatial Orientation -- Low Contexted**

Item		Mean	Cases	SD	Std Error	F Value	2 tail Prob	t Value	Deg of Freedom
31	Group 1	2.7607	163	1.206	.094	2.18	.000	-12.01	286.07
	Group 2	4.1419	155	.817	.066				
32	Group 1	1.7975	163	1.090	.085	1.09	.000	-13.64	316.00
	Group 2	3.4323	155	1.045	.084				
33	Group 1	1.8773	163	1.121	.088	1.52	.000	-17.63	308.35
	Group 2	3.8903	155	.909	.073				
34	Group 1	2.4908	163	1.244	.097	1.37	.000	-8.47	312.40
	Group 2	3.5871	155	1.062	.085				
35	Group 1	1.6687	163	1.166	.091	1.02	.000	-12.86	316.00
	Group 2	3.3419	155	1.153	.093				
36	Group 1	2.0613	163	1.158	.091	1.36	.000	-14.70	316.00
	Group 2	3.8452	155	.994	.080				

Table 4.4.7 Item Analysis t-test Summary -- TIME-L**Time Orientation -- Low Contexted**

Item		Mean	Cases	SD	Std Error	F Value	2 tail Prob	t Value	Deg of Freedom
37	Group 1	1.9603	126	1.084	.097	1.98	.000	-18.57	219.72
	Group 2	4.2680	97	.711	.078				
38	Group 1	1.8492	126	.988	.088	1.04	.000	-15.69	221.00
	Group 2	3.9278	97	.971	.099				
39	Group 1	3.4206	126	.991	.088	3.87	.000	-12.55	194.43
	Group 2	4.7010	97	.503	.051				
40	Group 1	2.4286	126	1.162	.104	3.08	.000	-17.07	205.18
	Group 2	4.5361	97	.662	.067				
41	Group 1	1.8016	126	1.110	.099	1.95	.000	-8.06	166.89
	Group 2	3.2990	97	1.549	.157				
42	Group 1	2.3651	126	1.040	.093	1.15	.000	-12.14	221.00
	Group 2	4.0206	97	.968	.098				

Table 4.4.8 Item Analysis t-test Summary -- TIME-H**Time Orientation -- High Contexted**

Item		Mean	Cases	SD	Std Error	F Value	2 tail Prob	t Value	Deg of Freedom
43	Group 1	2.8013	156	1.068	.086	1.93	.000	-11.86	277.16
	Group 2	4.0222	180	.769	.057				
44	Group 1	3.1731	156	1.054	.084	2.59	.000	-11.16	251.57
	Group 2	4.2611	180	.655	.049				
45	Group 1	2.5962	156	1.274	.102	1.12	.000	-6.64	334.00
	Group 2	3.4944	180	1.203	.090				
46	Group 1	2.8462	156	1.306	.105	3.48	.000	-13.01	229.56
	Group 2	4.3667	180	.700	.052				
47	Group 1	2.4295	156	1.345	.108	2.65	.000	-14.37	249.73
	Group 2	4.2111	180	.825	.062				
48	Group 1	3.2692	156	1.160	.093	3.21	.000	-11.65	235.05
	Group 2	4.4889	180	.647	.048				

Items which might still be candidates for elimination were identified by their low t-value. Such a determination was made only in conjunction with other evidence provided through the factor analysis and Cronbach's Correlation Alpha computations.

Reliability Analysis (Cronbach's Correlation Alpha)

In estimating the internal consistency of the instrument, a coefficient of internal consistency was determined utilizing a single test administration. Cronbach's Coefficient Alpha was used to test reliability since the instrument relies on a non-dichotomous Likert scale and a method of rational equivalence may not be used (Borg & Gall, 1989). Descriptive statistics for Cronbach's Correlation Alpha

will be found in Table 4.5.1 to Table 4.5.8. Item data are grouped according to the factor being measured with an alpha computed for each set of items. The main purposes of the analysis was to select valid and reliable items and to identify items needing revision. As such, alpha scores were utilized by selecting items for revision or removal that allow alpha scores to be maximized as much as is possible (Borg & Gall, 1989; Tabachnick & Fidell, 1989).

Table 4.5.1 Cronbach's Correlation Alpha -- SOCINFO-H.

Socialization of Information -- High Contexted

Item Range 1-6	Item	Scale	Scale	Corrected	Alpha
Number Cases	Num	Mean	Variance if	Item Total	if Item
Number Items		if Deleted	Item Deleted	Correlation	Deleted
502.0	1	18.1355	11.0275	.3277	.4322
	2	17.7251	12.0440	.4373	.3925
	3	17.6175	13.0031	.2743	.4647
6	4	17.6793	12.8929	.2697	.4662
Alpha	5	18.9641	13.3999	.0830	.5737
.5135	6	17.7470	12.8920	.2741	.4643

Table 4.5.2 Cronbach's Correlation Alpha -- SOCINFO-L.

Socialization of Information -- Low Contexted

Item Range 7-12	Item	Scale	Scale	Corrected	Alpha
Number Cases	Num	Mean	Variance if	Item Total	if Item
Number Items		if Deleted	Item Deleted	Correlation	Deleted
502.0	7	11.2769	11.8254	-.0431	.3348
	8	13.4602	8.6002	.2392	.1503
	9	12.2629	10.5175	.0043	.3424
6	10	12.8267	9.2054	.1736	.2095
Alpha	11	13.9801	8.8180	.2502	.1478
.2850	12	14.4303	9.5390	.1094	.2625

Table 4.5.3 Cronbach's Correlation Alpha -- SOCPEOPLE-H.**Socialization of People -- High Contexted**

Item Range 13-18	Item	Scale	Scale	Corrected	Alpha
	Num	Mean if	Variance if	Item Total	if Item
		Deleted	Item Deleted	Correlation	Deleted
Number Cases 503.0	13	17.5308	10.5922	.2989	.4203
	14	17.7316	10.2406	.2750	.4352
Number Items 6	15	18.0795	11.1889	.2226	.4635
	16	16.7734	11.5940	.3352	.4157
Alpha .4933	17	18.1471	10.9584	.1865	.4903
	18	16.6083	12.8762	.2520	.4601

Table 4.5.4 Cronbach's Correlation Alpha -- SOCPEOPLE-L.**Socialization of People -- Low Contexted**

Item Range 19-24	Item	Scale	Scale	Corrected	Alpha
	Num	Mean if	Variance if	Item Total	if Item
		Deleted	Item Deleted	Correlation	Deleted
Number Cases 503.0	19	14.8310	13.0451	.1979	.4565
	20	13.8052	14.1851	.1978	.4529
Number Items 6	21	14.1014	12.9758	.2843	.4095
	22	15.0875	12.0800	.3363	.3765
Alpha .4775	23	14.3062	12.6312	.2984	.4002
	24	14.3797	13.1723	.1463	.4907

Table 4.5.5 Cronbach's Correlation Alpha -- SPATIAL-H.**Spatial Orientation -- High Contexted**

Item Range 25-30	Item	Scale	Scale	Correcte	Alpha
	Num	Mean if	Variance if	Item Total	if Item
		Deleted	Item Deleted	Correlation	Deleted
Number Cases 503.0	25	16.6561	11.5926	.3130	.5004
	26	15.4433	12.6178	.3381	.4872
Number Items 6	27	16.7316	13.3003	.1516	.5831
	28	14.9980	13.2171	.3817	.4785
Alpha .5524	29	14.9245	14.2771	.2442	.5291
	30	15.7396	11.6790	.3998	.4537

Table 4.5.6 Cronbach's Correlation Alpha -- SPATIAL-L.**Spatial Orientation -- Low Contexted**

Item Range 31-36	Item	Scale	Scale	Corrected	Alpha
Number Cases	Num	Mean	Variance if	Item Total	if Item
		if Deleted	Item Deleted	Correlation	Deleted
503.0	31	13.9742	14.9575	.3332	.5602
Number Items	32	14.7992	14.0692	.4088	.5290
	33	14.5209	13.2740	.4549	.5059
6	34	14.3519	15.9297	.1972	.6117
Alpha	35	14.8728	14.4539	.2925	.5783
.6030	36	14.4791	14.2262	.3425	.5559

Table 4.5.7 Cronbach's Correlation Alpha -- TIME-L.**Time Orientation -- Low Contexted**

Item Range 37-42	Item	Scale	Scale	Corrected	Alpha
Number Cases	Num	Mean if	Variance if	Item Total	if Item
		Deleted	Item Deleted	Correlation	Deleted
503.0	37	16.0000	11.4821	.4305	.4681
Number Items	38	16.2744	12.1796	.3851	.4931
	39	15.0875	13.7732	.3479	.5206
6	40	15.6163	11.6871	.4576	.4590
Alpha	41	16.7256	14.6497	.0211	.6700
.5724	42	15.8926	12.8928	.3300	.5192

Table 4.5.8 Cronbach's Correlation Alpha -- TIME-H.**Time Orientation -- High Contexted**

Item Range 43-48	Item	Scale	Scale	Corrected	Alpha
Number Cases	Num	Mean if	Variance if	Item Total	if Item
		Deleted	Item Deleted	Correlation	Deleted
503.0	43	17.8191	10.2680	.2249	.4494
Number Items	44	17.4592	10.2568	.2932	.4197
	45	18.1829	11.2374	.0089	.5735
6	46	17.5885	9.1271	.3265	.3913
Alpha	47	17.7416	8.7179	.3566	.3702
.4848	48	17.2724	9.9237	.3232	.4031

Item Inclusion/Exclusion Decision Matrix

A matrix of the test results for each item was compiled. This matrix took into account the forgoing factor analysis, upper and lower 27% comparisons, item analysis and Cronbach's Correlation Alpha. The goal of the process was the identification of items less able to discriminate by comparing items with each other within their factor groupings. Based on the combined test results, all items were then candidates for removal or modification. As with the factor analysis, a level of professional judgment was required (Borg & Gall, 1989; Tabachnick & Fidell, 1989) when test results indicated more than one dominant candidate.

The item decision data summaries are found in Table 4.6.1 to Table 4.6.8. In analyzing the data, the lowest standard deviation, lowest t-test value, lowest factor loading on the first factor, highest variance if item deleted, lowest item correlation and highest alpha coefficient if item deleted were noted for each factor item sub-set. These cells in the matrix are shaded for identification.

Table 4.6.1 Item Decision Data Summary -- SOCINFO-H.

Socialization of Information -- High Contexted

Item Range 1-6		☐ condition for possible deletion					
Item Num	Scale Mean if Deleted	Variance if Deleted	Item Total Correlation	Factor 1 Loading	Alpha if Deleted	t Value	Std Dev
1	18.1355	11.0275	.3277	.62907	.4322	-15.70	1.48
2	17.7251	12.0440	.4373	.72486	.3925	-13.75	1.07
3	17.6175	13.0031	.2743	.58252	.4647	-9.52	1.12
4	17.6793	12.8929	.2697	.54487	.4662	-11.08	1.15
5	18.9641	13.3999	.0830	.18130	.5737	-9.97	1.47
6	17.7470	12.8920	.2741	.55388	.4643	-10.85	1.15

Table 4.6.2 Item Decision Data Summary -- SOCINFO-L.**Socialization of Information -- Low Contexted**

Item Range 7-12		□ condition for possible deletion					
Item Num	Scale Mean if Deleted	Variance if Deleted	Item Total Correlation	Factor 1 Loading	Alpha if Deleted	t Value	Std Dev
7	11.2769	11.8254	-.0431	-.17268	.3348	-3.31	.84
8	13.4602	8.6002	.2392	.59872	.1503	-15.65	1.34
9	12.2629	10.5175	.0043	-.02316	.3424	-7.19	1.31
10	12.8267	9.2054	.1736	.48081	.2095	-11.47	1.30
11	13.9801	8.8180	.2502	.76832	.1478	-14.27	1.26
12	14.4303	9.5390	.1094	.53056	.2625	-10.19	1.35

Table 4.6.3 Item Decision Data Summary -- SOCPEOPLE-H.**Socialization of People -- High Contexted**

Item Range 13-18		□ condition for possible deletion					
Item Num	Scale Mean if Deleted	Variance if Deleted	Item Total Correlation	Factor 1 Loading	Alpha if Deleted	t Value	Std Dev
13	17.5308	10.5922	.2989	.56383	.4203	-14.99	1.27
14	17.7316	10.2406	.2750	.56779	.4352	-14.69	1.41
15	18.0795	11.1889	.2226	.48648	.4635	-12.68	1.27
16	16.7734	11.5940	.3352	.65589	.4157	-12.16	.96
17	18.1471	10.9584	.1865	.42258	.4903	-13.08	1.41
18	16.6083	12.8762	.2520	.54109	.4601	-9.10	.70

Table 4.6.4 Item Decision Data Summary -- SOCPEOPLE-L.**Socialization of People -- Low Contexted**

Item Range 19-24		□ condition for possible deletion					
Item Num	Scale Mean if Deleted	Variance if Deleted	Item Total Correlation	Factor 1 Loading	Alpha if Deleted	t Value	Std Dev
19	14.8310	13.0451	.1979	.37739	.4565	-12.32	1.39
20	13.8052	14.1851	.1978	.48397	.4529	-8.83	1.08
21	14.1014	12.9758	.2843	.64362	.4095	-13.11	1.22
22	15.0875	12.0800	.3363	.68495	.3765	-15.21	1.33
23	14.3062	12.6312	.2984	.62125	.4002	-13.89	1.28
24	14.3797	13.1723	.1463	.29444	.4907	-11.33	1.49

Table 4.6.5 Item Decision Data Summary -- SPATIAL-H.**Spatial Orientation -- High Contexted**

Item Range 25-30		☐ condition for possible deletion					
Item Num	Scale Mean if Deleted	Variance if Deleted	Item Total Correlation	Factor 1 Loading	Alpha if Deleted	t Value	Std Dev
25	16.6561	11.5926	.3130	.53439	.5004	-15.64	1.47
26	15.4433	12.6178	.3381	.60859	.4872	-12.05	1.19
27	16.7316	13.3003	.1516	.26747	.5831	-11.67	1.42
28	14.9980	13.2171	.3817	.69557	.4785	-11.73	.98
29	14.9245	14.2771	.2442	.57852	.5291	-8.23	.94
30	15.7396	11.6790	.3998	.65082	.4537	-16.00	1.29

Table 4.6.6 Item Decision Data Summary -- SPATIAL-L.**Spatial Orientation -- Low Contexted**

Item Range 31-36		☐ condition for possible deletion					
Item Num	Scale Mean if Deleted	Variance if Deleted	Item Total Correlation	Factor 1 Loading	Alpha if Deleted	t Value	Std Dev
31	13.9742	14.9575	.3332	.57788	.5602	-12.01	1.17
32	14.7992	14.0692	.4088	.68454	.5290	-13.64	1.22
33	14.5209	13.2740	.4549	.73081	.5059	-17.63	1.31
34	14.3519	15.9297	.1972	.35714	.6117	-8.47	1.22
35	14.8728	14.4539	.2925	.50844	.5783	-12.86	1.36
36	14.4791	14.2262	.3425	.57778	.5559	-14.70	1.31

Table 4.6.7 Item Decision Data Summary -- TIME-L.**Time Orientation -- Low Contexted**

Item Range 37-42		☐ condition for possible deletion					
Item Num	Scale Mean if Deleted	Variance if Deleted	Item Total Correlation	Factor 1 Loading	Alpha if Deleted	t Value	Std Dev
37	16.0000	11.4821	.4305	.70983	.4681	-18.57	1.30
38	16.2744	12.1796	.3851	.70063	.4931	-15.69	1.22
39	15.0875	13.7732	.3479	.65657	.5206	-12.55	.91
40	15.6163	11.6871	.4576	.72497	.4590	-17.07	1.21
41	16.7256	14.6497	.0211	.00731	.6700	-8.06	1.44
42	15.8926	12.8928	.3300	.48481	.5192	-12.14	1.15

Table 4.6.8 Item Decision Data Summary -- TIME-H.**Time Orientation -- High Contexted**

Item Range 43-48		☐ condition for possible deletion					
Item Num	Scale Mean if Deleted	Variance if Deleted	Item Total Correlation	Factor 1 Loading	Alpha if Deleted	t Value	Std Dev
43	17.8191	10.2680	.2249	.56564	.4494	-11.86	1.07
44	17.4592	10.2568	.2932	.61261	.4197	-11.16	.95
45	18.1829	11.2374	.0089	.01163	.5735	-6.64	1.28
46	17.5885	9.1271	.3265	.67193	.3913	-13.01	1.20
47	17.7416	8.7179	.3566	.62108	.3702	-14.37	1.26
48	17.2724	9.9237	.3232	.56894	.4031	-11.65	1.00

Results

With primary emphasis given to total correlation, factor 1 loading, alpha levels and t-values, as well as professional judgment of the items covering the factors, the following items were eliminated from the factor groupings:

SOCINFO-H	Item 5	SPATIAL-H	Item 29
SOCINFO-L	Item 7	SPATIAL-L	Item 34
SOCPEOPLE-H	Item 17	TIME-L	Item 37
SOCPEOPLE-L	Item 24	TIME-H	Item 45

Data Analysis

The first concern of this study was the development and validation of the research instrument that identified individual preferences affecting interaction through communications across cultures. The second concern dealt with identifying significant

differences in the contextual requirements of individuals with regard to these preferences.

Significant Differences in Contextual Requirement

The data gathered from the application of the instrument were analyzed for significant differences, where context could be a means of measuring those differences between individuals of varying cultures. With culture being a predominant factor in determining those preferences, the population was grouped by their declared cultural background (see Table 4.1.7). Analysis was completed with the following four major groupings:

Major Cultural Groupings

- American/Northern European Based
- Asian Rim Based
- Pacific Basin Based

Declared Culture Sub-sets

US Mainland
 Canadian
 Northern European
 Hispanic

Mainland Chinese
 Hong Kong Chinese
 Indonesian Chinese
 Malaysian Chinese
 Singaporean Chinese
 Taiwanese Chinese
 Filipino
 Japanese
 Korean
 Other South-east Asian
 Other Asian

Hawaiian
 Samoan
 Tongan
 Maori
 Other Polynesian
 Other Micronesian
 Other Melanesian

- Multi-ethnic grouped Multi-ethnic Asian based
 Multi-ethnic Pacific based
 Multi-ethnic European based

These population sub-groupings were based on three considerations:

1. Cultures were declared by the subjects in an open ended statement that was later consolidated for classification purposes. The 1990 census classification system was used as a base model and then added to to account for self-declared cultural identification.
2. Historic national ancestral lineage and general cultural context characteristics identified in the literature were considered. Geographic similarities were noted but not the primary determining factor.
3. For contextual analysis, the multi-ethnic groupings were determined by demographic data provided by the subjects and, in some cases, by declaration by the individuals themselves. Individuals not declaring their multi-ethnicity (this possibility did not occur to all individuals and was not asked for) were placed in the multi-ethnic categories based on their level of exposure to or sheltering from foreign cultures (as much as could be determined) if:
 - they were born and raised in two divergent countries
 - they spoke more than one language and/or declared their native language to be different than their declared culture
 - they had spent three or more years away from their home country integrated in a foreign living environment.

It was recognized that there are many variations within each of the cultural groupings involved. However, similarities were the main concern as well as the individually perceived allegiances. A further analysis of one of the major groupings will follow the analysis of the four major groupings.

Contextual Preferences by Major Cultural Groupings

As already evidenced in the literature, there are various factors by which contextual level can be measured. A comparison of the major cultural groupings was made by performing ANOVAs for each of the eight sub-set factors plus the total of the sub-sets for low context and high context. The results of each of the ten ANOVAs are found in Table 4.7.1 to Table 4.7.2. In addition to the ANOVAs, the Newman-Keuls Multiple Range Test was conducted for each ANOVA data sub-set to test the following hypothesis:

H₀ 1 There is no significant difference between major cultural groupings with respect to contextual level.

Results. The null hypothesis **H₀ 1** was rejected at $p < .05$ as follows:

- For SOCINFO-H with $p \leq .0000$
- For SOCINFO-L with $p \leq .0006$
- For SPATIAL-H with $p \leq .0000$
- For SPATIAL-L with $p \leq .001$
- For TIME-L with $p \leq .0000$

- For TIME-H with $p \leq .0001$
- For TOTHIGH with $p \leq .0000$
- For TOTLOW with $p \leq .0001$

The null hypothesis H_0^1 was accepted at $p > .05$ as follows:

- For SOCPEOPLE-H with $p \geq .5299$
- For SOCPEOPLE-L with $p \geq .1330$

Table 4.7.1 Contextual factors Shown To Have Significant Differences Between Major Cultural Groupings -- ANOVA and Newman-Keuls Multiple Range Test.

SOCINFO-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Socialization of Information	3.7918	10.4480	.0000

Newman-Keuls Multiple Range Test

SOCINFO-H Dimension by Culture			American/ Northern European	Asian Rim	Pacific Basin	Multi-ethnic Mixed Cultural Groupings
Mean	Cultural Grouping	Sim.				
3.6311	American/ Northern European	a				
3.6644	Asian Rim	a				
3.8738	Pacific Basin	b	●	●		
4.0496	Multi-ethnic Mixed Cultural Groupings	b	●	●		

● - Indicates pairs of cultures that are significantly different at the $p \leq .05$ level.

Table 4.7.1, Continued.

SOCINFO-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Socialization of Information	2.2568	5.8252	.0006

Newman-Keuls Multiple Range Test

SOCINFO-L Dimension by Culture			Multi-ethnic Mixed Cultural Groupings	Pacific Basin	American/ Northern European	Asian Rim
Mean	Cultural Grouping	Sim.				
2.1262	Multi-ethnic Mixed Cultural Groupings	a				
2.1723	Pacific Basin	a				
2.1956	American/ Northern European	a				
2.4470	Asian Rim	b	●	●	●	

● - Indicates pairs of cultures that are significantly different at the $p \leq .05$ level.

Table 4.7.1, Continued.

SPATIAL-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Spatial Orientation	3.3440	22.5379	.0000

Newman-Keuls Multiple Range Test

SPATIAL-H Dimension by Culture			American/ Northern European	Multi-ethnic Mixed Cultural Groupings	Asian Rim	Pacific Basin
Mean	Cultural Grouping	Sim.				
2.9570	American/ Northern European	a				
3.3108	Multi-ethnic Mixed Cultural Groupings	b	●			
3.4725	Asian Rim	bc	●			
3.6015	Pacific Basin	c	●	●		

● - Indicates pairs of cultures that are significantly different at the $p \leq .05$ level.

Table 4.7.1, Continued.

SPATIAL-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Spatial Orientation	2.8737	5.5228	.0010

Newman-Keuls Multiple Range Test

SPATIAL-L Dimension by Culture			American/ Northern European	Multi-ethnic Mixed Cultural Groupings	Pacific Basin	Asian Rim
Mean	Cultural Grouping	Sim.				
2.6637	American/ Northern European	a				
2.8831	Multi-ethnic Mixed Cultural Groupings	ab				
2.8949	Pacific Basin	b	●			
3.0403	Asian Rim	b	●			

● - Indicates pairs of cultures that are significantly different at the p≤.05 level.

Table 4.7.1, Continued.

TIME-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Time Orientation	3.3527	18.5934	.0000

Newman-Keuls Multiple Range Test

TIME-L Dimension by Culture			American/ Northern European	Multi-ethnic Mixed Cultural Groupings	Asian Rim	Pacific Basin
Mean	Cultural Grouping	Sim.				
3.0089	American/ Northern European	a				
3.2954	Multi-ethnic Mixed Cultural Groupings	b	●			
3.4067	Asian Rim	b	●			
3.6599	Pacific Basin	c	●	●	●	

● - Indicates pairs of cultures that are significantly different at the p≤.05 level.

Table 4.7.1, Continued.

TIME-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Time Orientation	3.6288	7.4155	.0001

Newman-Keuls Multiple Range Test

TIME-H Dimension by Culture			American/ Northern European	Asian Rim	Multi-ethnic Mixed Cultural Groupings	Pacific Basin
Mean	Cultural Grouping	Sim.				
3.4222	American/ Northern European	a				
3.6362	Asian Rim	b	●			
3.7015	Multi-ethnic Mixed Cultural Groupings	b	●			
3.7898	Pacific Basin	b	●			

● - Indicates pairs of cultures that are significantly different at the $p \leq .05$ level.

Table 4.7.1, Continued.**TOTHIGH**

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Total of Sub-dimension High Context Orientation	3.5985	16.2991	.0000

Newman-Keuls Multiple Range Test

TOTHIGH Dimension by Culture			American/ Northern European	Asian Rim	Multi-ethnic Mixed Cultural Groupings	Pacific Basin
● - Indicates pairs of cultures that are significantly different at the $p \leq .05$ level.						
Mean	Cultural Grouping	Sim.				
3.3959	American/ Northern European	a				
3.5966	Asian Rim	b	●			
3.6446	Multi-ethnic Mixed Cultural Groupings	bc	●			
3.7781	Pacific Basin	c	●	●		

Table 4.7.1, Continued.

TOTLOW

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Total of Sub-dimension Low Context Orientation	2.8421	7.4127	.0001

Newman-Keuls Multiple Range Test

TOTLOW Dimension by Culture			American/ Northern European	Multi-ethnic Mixed Cultural Groupings	Pacific Basin	Asian Rim
Mean	Cultural Grouping	Sim.				
2.7133	American/ Northern European	a				
2.7646	Multi-ethnic Mixed Cultural Groupings	ab				
2.8894	Pacific Basin	bc	●			
2.9490	Asian Rim	c	●	●		

● - Indicates pairs of cultures that are significantly different at the p≤.05 level.

Table 4.7.2 Contextual Factors Shown Not to Have Significant Differences Between Major Cultural Groupings -- ANOVA.

SOCPEOPLE-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Socialization of People	3.6292	.7377	.5299

SOCPEOPLE-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Socialization of People	2.8852	1.8742	.1330

Asian Rim Cultural Analysis for Contextual Preference

The forgoing cultural analysis for contextual preferences had the individual cultures grouped so that significant numbers could be attained to improve discrimination and have comparably sized groups to compare. The population was grouped by their declared cultural background (see Table 4.1.7) into four composite groups even though it was recognized that there are many variations within each of the cultural groupings involved. To look at some of those variations, an analysis of one of the major groupings is presented here. The Asian Rim based major grouping was reanalyzed utilizing the individually declared cultures as separate entities. Not all groupings could be used due to low sample size. A minimum group size of 9 was used. Ten ANOVAs and Newman-Keuls Multiple Range Tests (see Table 4.8.1 to Table 4.8.2) were conducted to test the following null hypothesis:

H₀2 There is no significant difference among Asian Rim cultural groups with respect to contextual preference.

Results. The null hypothesis **H₀2** was rejected at $p < .05$ as

follows:

- For SOCINFO-H with $p \leq .0050$
- For SOCPEOPLE-H with $p \leq .0163$
- For TIME-L with $p \leq .0001$
- For TIME-H with $p \leq .0211$
- For TOTHIGH with $p \leq .0032$

The null hypothesis **H₀2** was accepted at $p > .05$ as follows:

- For SOCINFO-L with $p \geq .2904$
- For SOCPEOPLE-L with $p \geq .4056$
- For SPATIAL-H with $p \geq .1365$
- For SPATIAL-L with $p \geq .2011$
- For TOTLOW with $p \geq .0578$

Table 4.8.1 Contextual Factors Shown to Have Significant Differences Between Asian Rim Cultures -- ANOVA and Newman-Keuls Multiple Range Test.

SOCINFO-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Socialization of Information	3.6490	3.0480	.0050

Newman-Keuls Multiple Range Test

SOCINFO-H Dimension by Culture			Japanese	Korean	Mainland Chinese	Taiwanese Chinese	Multi-ethnic Asian	Hong Kong Chinese	Singaporean Chinese	Filipino
Mean	Declared Culture	Sim.								
3.2100	Japanese	a								
3.3600	Korean	ab								
3.7111	Mainland Chinese	abc								
3.7176	Taiwanese Chinese	abc								
3.7882	Multi-ethnic Asian	abc								
3.8387	Hong Kong Chinese	bc	●							
3.9556	Singaporean Chinese	bc	●	●						
4.0118	Filipino	c	●	●						

● - Indicates pairs of cultures that are significantly different at the p<.05 level.

Table 4.8.1, Continued.

SOCPEOPLE-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Socialization of People	3.6065	2.5561	.0163

Newman Keuls Multiple Range Test

SOCPEOPLE-H Dimension by Culture			Japanese	Singaporean Chinese	Hong Kong Chinese	Mainland Chinese	Filipino	Multi-ethnic Asian	Korean	Taiwanese Chinese
Mean	Declared Culture	Sim.								
3.0800	Japanese	a								
3.5111	Singaporean Chinese	ab								
3.5548	Hong Kong Chinese	b	●							
3.5556	Mainland Chinese	b	●							
3.6824	Filipino	b	●							
3.7059	Multi-ethnic Asian	b	●							
3.8057	Korean	b	●							
4.8118	Taiwanese Chinese	b	●							

● - Indicates pairs of cultures that are significantly different at the $p \leq .05$ level.

Table 4.8.1, Continued.

TIME-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Time Orientation	3.3561	4.4922	.0001

Newman-Keuls Multiple Range Test

TIME-L Dimension by Culture			Japanese	Multi-ethnic Asian	Mainland Chinese	Hong Kong Chinese	Korean	Singaporean Chinese	Taiwanese Chinese	Filipino
● - Indicates pairs of cultures that are significantly different at the $p \leq .05$ level.										
Mean	Declared Culture	Sim.								
2.8600	Japanese	a								
3.1294	Multi-ethnic Asian	ab								
3.2667	Mainland Chinese	ab								
3.3226	Hong Kong Chinese	b	●							
3.3829	Korean	b	●							
3.5111	Singaporean Chinese	bc	●							
3.6235	Taiwanese Chinese	bc	●							
3.8706	Filipino	c	●	●	●	●	●			

Table 4.8.1 Continued.

TIME-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Time Orientation	3.6581	2.4475	.0211

Newman-Keuls Multiple Range Test

TIME-H Dimension by Culture			Mainland Chinese	Japanese	Taiwanese Chinese	Korean	Singaporean Chinese	Hong Kong Chinese	Filipino	Multi-ethnic Asian
● - Indicates pairs of cultures that are significantly different at the p≤.05 level.										
Mean	Declared Culture	Sim.								
3.1333	Mainland Chinese	a								
3.4400	Japanese	ab								
3.6353	Taiwanese Chinese	ab								
3.6400	Korean	ab								
3.6889	Singaporean Chinese	ab								
3.7548	Hong Kong Chinese	b	●							
3.8588	Filipino	b	●	●						
3.8588	Multi-ethnic Asian	b	●	●	●					

Table 4.8.1, Continued.

TOTHIGH

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Total of Sub-dimension High Context Orientation	3.5906	3.2355	.0032

Newman-Keuls Multiple Range Test

TOTHIGH Dimension by Culture			Japanese	Mainland Chinese	Korean	Singaporean Chinese	Hong Kong Chinese	Taiwanese Chinese	Multi-ethnic Asian	Filipino
● - Indicates pairs of cultures that are significantly different at the $p \leq .05$ level.										
Mean	Declared Culture	Sim.								
3.2175	Japanese	a								
3.4722	Mainland Chinese	ab								
3.5657	Korean	b	●							
3.5889	Singaporean Chinese	b	●							
3.6484	Hong Kong Chinese	b	●							
3.6882	Taiwanese Chinese	b	●							
3.6912	Multi-ethnic Asian	b	●							
3.8412	Filipino	b	●							

Table 4.8.2 Contextual Factors Shown to Not Have Significant Differences Between Asian Rim Cultures -- ANOVA

SOCINFO-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Socialization of Information	2.4335	1.2291	.2904

SOCPEOPLE-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Socialization of People	2.8761	1.0410	.4058

SPATIAL-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Spatial Orientation	3.4490	1.6111	.1365

SPATIAL-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Spatial Orientation	2.9948	1.4206	.2011

TOTLOW

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Total of Sub-dimension Low Context Orientation	2.9152	2.0076	.0578

Additional Findings - Demographic

It is often helpful, when designing or participating in learning and/or interactive situations, to consider some demographic factors that may affect how relationships are established, how presentations are made and how learning may be best facilitated. With regard to context, the following null hypothesis were also tested:

- H₀₃** There is no significant difference between men and women with respect to contextual level.
- H₀₄** There is no significant relationship between age and contextual level.
- H₀₅** There is no significant relationship between the number of years away from home country and contextual level.
- H₀₆** There is no significant relationship between the number of languages spoken and contextual level.
- H₀₇** There is no significant relationship between the declared major field of study and contextual level.

A comparison of the gender declarations was made with each of the factor sub-sets. For gender, being a discrete categorical variable, a t-test was performed for each sub-set. A summary of the t-tests is found in Table 4.9.

Since the age of the respondents, the number of years away from their home country and the number of languages spoken are continuous variables, a correlation coefficient was used to determine

Table 4.9 Gender as a Factor in Contextual Preference.**Gender and Contextual Preferences**

Dimension		Mean	SD	Std Error	F Value	2 tail Prob	t Value	Deg of Freedom
SOCINFO High	Males	3.7813	.747	.050	1.07	.776	-.29	501
	Females	3.8000	.721	.043				
SOCINFO Low	Males	2.3455	.706	.047	1.13	.008	2.64	501
	Females	2.1835	.664	.040				
SOCPEOPLE High	Males	3.6321	.680	.045	1.11	.992	.01	501
	Females	3.6315	.645	.039				
SOCPEOPLE Low	Males	3.0268	.693	.046	1.11	.000	4.26	501
	Females	2.7541	.731	.044				
SPATIAL High	Males	3.3848	.723	.048	1.03	.289	1.06	501
	Females	3.3154	.734	.044				
SPATIAL Low	Males	2.9339	.771	.052	1.12	.110	1.60	501
	Females	2.8194	.817	.049				
TIME Low	Males	3.3973	.704	.047	1.32	.171	1.37	501
	Females	3.3032	.810	.049				
TIME High	Males	3.6723	.699	.047	1.17	.284	1.07	501
	Females	3.6079	.646	.039				
TOTHIGH	Males	3.6176	.495	.033	1.13	.500	.67	501
	Females	3.5887	.464	.028				
TOTLOW	Males	2.9259	.442	.030	1.18	.000	3.87	501
	Females	2.7651	.481	.029				

their relationship to the contextual factors. Table 4.10 is a summary correlation table of the p-values associated with a test of the null hypothesis: the population correlation is zero. The first row of numbers are the estimated sample correlation coefficients. The second row is the number of respondents and the third row the p-value. If the p-value is $< .05$, we reject the null and conclude that there is a correlation. If the coefficient is positive, then a positive

association occurs between the two variables. A negative correlation coefficient indicates a reverse relationship. Interpretation of the correlation coefficient (Wallen & Fraenkel, 1991) is as follows:

- .00 to .40 Of little practical importance but of theoretical value
- .41 to .60 Of practical and theoretical importance.

Table 4.10 Age, Years Away From Home Country and Number of Languages Spoken Correlation Coefficients.

	Socialization of Information - High	Socialization of Information - Low	Socialization of People - High	Socialization of People - Low	Spatial Orientation - High	Spatial Orientation - Low	Time Orientation - Low	Time Orientation - High	Total High Contextual	Total Low Contextual
Age Correlation										
Coef.	.0713	.0169	.0403	.1698	.0539	.0876	.1167	.0651	.0845	.1566
Count	497	497	497	497	497	497	497	497	497	497
p-value	.056	.353	.185	.000	.115	.025	.005	.074	.030	.000
Years Away From Home Country Correlation										
Coef.	-.0386	-.0289	-.0831	-.0060	-.0008	-.0002	-.0887	-.0169	-.0833	-.0575
Count	503	503	503	503	503	503	503	503	503	503
p-value	.194	.259	.031	.447	.023	.326	.023	.353	.031	.099
Number of Languages Spoken Correlation										
Coef.	.0581	.0402	.0310	.0247	.1715	.1604	.1896	.0811	.1268	.1695
Count	503	503	503	503	503	503	503	503	503	503
p-value	.096	.184	.244	.290	.000	.000	.000	.035	.002	.000

Gender.

H₀₃ There is no significant difference between men and women with respect to contextual level.

The null hypothesis **H₀₃** was rejected at $p < .05$ as follows:

- SOCINFO-L with $p \leq .008$
- SOCPEOPLE-L with $p \leq .000$
- TOTLOW with $p \leq .000$

The null hypothesis **H₀₃** was accepted at $p > .05$ as follows:

- SOCINFO-H with $p \geq .776$
- SOCPEOPLE-H with $p \geq .992$
- SPATIAL-H with $p \geq .289$
- SPATIAL-L with $p \geq .110$
- TIME-L with $p \geq .171$
- TIME-H with $p \geq .284$
- TOTHIGH with $p \geq .500$

With a 2-tail probability $< .05$, SOCINFO-L, SOCPEOPLE-L and TOTLOW show a significant difference. There appears to be no significant difference between males and females when considering contextual preferences except for an individualistic orientation when dealing with people and transferring information in a low context environment. We find that men score significantly higher than women in both factors. A determination of reasons for this is beyond the scope of this research.

Age Correlation

H₀4 There is no significant relationship between age and contextual level.

The null hypothesis **H₀4** was rejected at $p < .05$ as follows:

- For SOCPEOPLE-L with $p \leq .000$
- For SPATIAL-L with $p \leq .025$
- For TIME-L with $p \leq .005$
- For TOTHIGH with $p \leq .030$
- For TOTLOW with $p \leq .000$

The null hypothesis **H₀4** was accepted at $p > .05$ as follows:

- For SOCINFO-H with $p \geq .056$
- For SOCINFO-L with $p \geq .353$
- For SOCPEOPLE-H with $p \geq .185$
- For SPATIAL-H with $p \geq .115$
- For TIME-H with $p \geq .074$

The results of the hypothesis rejection indicates that as age increases there is also an increase in an individualistic orientation toward human interaction, low contextual personal spatial preferences and a greater sensitivity toward monochronic time orientation. The positive association with both the high and low total contextual factors indicate that as age increases, individuals become more flexible or able to deal with contextual variations when working in a group. With the correlation coefficient below a .4 level, we find that we have a weak but statistically significant correlation between age

and these sub-set factors. This indicates also that there are many elements that effect these factors. These elements in combination with age may have a variety of effects beyond the scope of this research.

Years Away From Home Country Correlation

H₀ 5 There is no significant relationship between the number of years away from home country and contextual level.

The null hypothesis **H₀ 5** was rejected at $p < .05$ as follows:

- For SOCPEOPLE-H with $p \leq .031$
- For SPATIAL-H with $p \leq .023$
- For TIME-L with $p \leq .023$
- For TOTHIGH with $p \leq .031$

The null hypothesis **H₀ 5** was accepted at $p > .05$ as follows:

- For SOCINFO-H with $p \geq .194$
- For SOCINFO-L with $p \geq .259$
- For SOCPEOPLE-L with $p \geq .447$
- For SPATIAL-L with $p \geq .326$
- For TIME-H with $p \geq .353$
- For TOTLOW with $p \geq .099$

The results of the hypothesis rejection indicates that given the negative correlation coefficient, as the number of years increases that an individual is away from their home culture, their overall high

contextual preferences will decrease. There is also an indication that there will be a movement or shift away from monochronic time and shared space orientations. With the correlation coefficient below a .4 level, we find that we have a weak but statistically significant correlation between the number of years away from home and these sub-set and total contextual factors. Again, this also indicates that there are many elements that effect these factors.

Number of Languages Spoken Correlation

H₀₆ There is no significant relationship between the number of languages spoken and contextual level.

The null hypothesis **H₀₆** was rejected at $p < .05$ as follows:

- For SPATIAL-H with $p \leq .000$
- For SPATIAL-L with $p \leq .000$
- For TIME-L with $p \leq .000$
- For TIME-H with $p \leq .035$
- For TOTHIGH with $p \leq .002$
- For TOTLOW with $p \leq .000$

The null hypothesis **H₀₆** was accepted at $p > .05$ as follows:

- For SOCINFO-H with $p \geq .096$
- For SOCINFO-L with $p \geq .184$
- For SOCPEOPLE-H with $p \geq .244$
- For SOCPEOPLE-L with $p \geq .290$

The results of the hypothesis rejection and the positive correlation figures indicate that as the number of languages that an

individual speaks increases, they exhibit broader or more flexible spatial and time orientations. Both their total high and total low contextual preferences will increase. With the correlation coefficient below a .4 level, we find that we have a weak but statistically significant correlation between multiple language acquisition, time and spatial sub-set factors and increases in both high and low context overall. This indicates also that there are many elements that effect these factors.

Declared Major Relationship to Contextual Preference. Ten ANOVAs were computed to determine if there were any relationships between major areas of study declared by students in the multi-cultural environment and contextual preferences. ANOVAs were performed for each of the eight sub-set factors plus the total of the sub-sets for low context and high context. The results of each of the ten ANOVAs are found in Table 4.11.1 to Table 4.11.2. In addition to the ANOVAs, the Newman-Keuls Multiple Range Test was conducted for each ANOVA data sub-set to test the null hypothesis:

H₀₇ There is no significant relationship between the declared major field of study and contextual level.

The null hypothesis **H₀₇** was rejected at $p < .05$ as follows:

- For SOCINFO-L with $p \leq .0124$
- For SOCPEOPLE-H with $p \leq .0370$
- For SPATIAL-L with $p \leq .0394$

- For TOTHIGH with $p \leq .0336$

The null hypothesis **H₀7** was accepted at $p > .05$ as follows:

- For SOCINFO-H with $p \geq .5286$
- For SOCPEOPLE-L with $p \geq .9852$
- For SPATIAL-H with $p \geq .1640$
- For TIME-L with $p \geq .1648$
- For TIME-H with $p \geq .0624$
- For TOTLOW with $p \geq .0886$

The Newman-Keuls multiple range test was used to determine the significant differences between cultures. For the SOCINFO-L factor, the only differences shown were between major 4, Literature and Communications, and all other majors. The remaining three factor's ANOVAs indicated significance at approximately the .04 level, however, the multiple comparison procedure was unable to detect the differences among groups. This occurs most often when the sample groups are considerably different in size. This was the case here with group 4 having only 4 subjects. It was also noted that the SOCINFO-L factor noted group 4 as having the greatest standard error and lowest mean. It is suggested that the low sample size makes this item suspect and that without its inclusion, there may be no significant differences between the groups. This may in fact cause the null to be accepted in all cases.

Table 4.11.1, Continued.

SOCPEOPLE-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Socialization of People	3.6318	2.0713	.0370

*Though the ANOVA was significant, the multiple comparison procedure was unable to detect any differences among groups.

SPATIAL-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Spatial Orientation	2.8704	2.0478	.0394

*Though the ANOVA was significant, the multiple comparison procedure was unable to detect any differences among groups.

TOTHIGH

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Total of Sub-dimension High Context Orientation	3.6016	2.1077	.0336

*Though the ANOVA was significant, the multiple comparison procedure was unable to detect any differences among groups.

Table 4.11.2 Majors Not Showing a Significant Difference
in Contextual Preference Factors. -- ANOVAs

SOCINFO-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Socialization of Information	3.7917	0.8852	.5286

SOCPEOPLE-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Socialization of People	2.8755	0.2306	.9852

SPATIAL-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Spatial Orientation	3.3463	14738	.1640

TIME-L

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Low Contexted Time Orientation	3.3451	1.4718	.1648

TIME-H

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
High Contexted Time Orientation	3.6366	1.8711	.0624

Figure 4.11.2, Continued.**TOTLOW**

Contextual Preference	Pop. Mean	F-Ratio	F- Prob
Total of Sub-dimension Low Context Orientation	2.8367	1.7319	.0886

Discussion

Instrumentation

Validity

Content validity was established through the three step instrument development process as outlined in the instrument design section of chapter 3. This process was based on professional consultants, a Delphi panel of experts and pretesting (see Figure 3.1 and Appendix A). The Delphi panel utilized three iterations resulting in the instrument having 85% of the items accepted at the 100% level and 15% accepted at the 75% level. Interviews were also conducted during a secondary pilot testing stage and during the first four test administrations to determine any problems with comprehensibility in wording or perception. Construct Validity was established through factor analysis and item analysis procedures.

Factor Analysis. In the theory base there are two primary orientations -- high and low context -- with different factors that comprise these orientations. The confirmatory factor analysis conducted measured the item sub-sets which comprise the high and low ends of each of the four contextual factors. The single factor extraction factor analysis (see Figures 4.2.1 to 4.2.8) indicated a predominant loading on a single factor with a minimum of 5 items in each sub-set in the fair to excellent range ($\geq .45$). All but one set, SOCINFO-L, has 5 of the 6 items above the minimum acceptable value of .32. With this level of acceptance, it was then concluded that the

item sub-sets do measure the high and low contextual factors which are composed of the eight factor sub-sets (Comrey, 1973; Tabachnick & Fidell, 1989). However, there are items that primarily do not measure the factors posed and are in need of revision or removal. These are indicated by factor loadings $< .32$ which suggests they measure a second factor more than the extracted first factor.

Item Analysis. To look further at the individual items which comprise the sub-set factors, an item analysis was performed utilizing t-tests comparing the upper and lower 27% of the respondents. This was done to determine if the items are able to discriminate within their sub-set factors. In the item analysis, all of the tests were statistically significant with a p-value $\leq .001$ for all items tested, including those with factor loadings $\leq .32$. It was thus concluded that all items do discriminate within their sub-set factors.

Reliability Analysis. In estimating the internal consistency of the instrument, Cronbach's Coefficient Alpha was used (Tables 4.5.1 to 4.5.8). All items were subjected to the test within each of their sub-set factors. Again, the purpose of the test was to select valid and reliable items and identify those needing revision or exclusion. Existing alpha scores ranged from .2850 to .6030 with the capability of ranging between .3424 to .6700 if one item is deleted from each sub-set category. This item deletion was also indicated in the factor loadings. Corrected item-total correlations for both groups were relatively uniform but low, which indicated that the items were somewhat heterogeneous (Tabachnick & Fidell, 1989). In appraising

each item, the highest alpha level was sought. In all but one sub-set, the alpha level could be increased considerably by the elimination or reworking of at least one item in that sub-set. In that one sub-set, the alpha level would drop by .0030 or .3% of the full reliability correlation. In the remaining sub-sets, increases would range from 5% to 22%. Any increases would be preferable since acceptable alpha levels should be above .5 and are preferable in experimental research at .7 or above (Nunnally, 1978). The goal of a range between .5 and .7 was reachable for five of the eight sub-set factors if items were deleted or reworked. It was therefore concluded that at least one item for each sub-set should be deleted. Others should be looked at for reworking or exclusion, particularly in the items which measure low context preferences in the socialization of information (SOCINFO-L).

Item Inclusion/Exclusion. A matrix of the decision criteria was compiled to look at all factors tested that would effect a decision to include or exclude items from the instrument (Tables 4.6.1 to 4.6.8). This matrix summarizes the information so that items could be chosen which exhibit the best combination of the following:

- lowest factor loading on factor 1
- lowest item total correlation
- lowest t-value
- highest alpha if deleted
- lowest standard deviation
- highest variance if deleted.

Based on these criteria, the following items were excluded for the accompanying reasons.

- Item 5. It had the lowest factor loading, lowest item total correlation, provided the highest alpha if deleted and the highest variance if deleted. Though it did not have the lowest t-value, it was very close given the range of t-values exhibited. Given the strength of the other tests, the standard deviation was deemed the least important. This exclusion results in an alpha level of .5737.
- Item 7. This was not a clear cut decision. The negative item total correlation and the extremely low comparative t-value were of primary concern. Though the item exhibited a very low factor loading, it did not provide the highest alpha level. The item provided the highest variance if deleted and had the lowest standard deviation. This exclusion results in an alpha level of .3348.
- Item 17. This item exhibited the lowest factor loading and had the lowest item total correlation. It also provided the highest alpha if deleted. The alpha level was of concern since the overall alpha would drop if the item were excluded. These were considered more critical factors than the lowest t-value and standard deviation. This exclusion results in an alpha level of .4903.
- Item 24. This item exhibited the lowest factor loading, the lowest item total correlation, the highest alpha and next to highest variance if deleted. It had the next to lowest t-value. The standard deviation was the highest but was considered not of as great an importance as the other tests. This exclusion results in an alpha level of .4907.

- Item 27. As with the previous selection, low t-value and standard deviation were considered less critical than very low factor loading, very low item total correlation and the significant increase in alpha level increase to be achieved. The variance if deleted was still significantly high. This exclusion results in an alpha level of .5831.
- Item 34. In this sub-set factor, the decision for exclusion is much clearer. All tests considered, except for the standard deviation, provide for considerable improvement. This exclusion results in an alpha level of .6117.
- Item 41. Again, in this sub-set factor, the decision is much clearer. All tests considered, except for the standard deviation, provide for considerable improvement. This exclusion results in an alpha level of .6700.
- Item 45. For a third time, in this sub-set factor, the decision is much clearer. All tests considered, except for standard deviation, provide for considerable improvement. This exclusion results in an alpha level of .5735.

Reliability

Reliability of the instrument was included in the construct validity process as noted above. This was done since the results were an integral part of the item inclusion/exclusion analysis. Cronbach's Correlation Alpha was used since a single test administration was required and a non-dicotimous scale was used. Five sub-set factors indicated an alpha level $> .5$, two additional sub-set factors indicated an alpha level $> .49$ and the remaining sub-set factor indicated an

alpha level of .3348.

Overall Instrument Validity

Once the above identified items were excluded, it was concluded that the instrument could be accepted as an initial evaluation tool. This is based on the strength of the factor 1 loadings and the significance levels of the individual items. However, it is noted that weaknesses need to be dealt with. The primary weakness lies in the Socialization of Information factor on the Low Context side. Items need to be reviewed and reworded, or new items developed and retested. Items 9 and 12 in the SOCINFO-L sub-set, item 18 in SOCPEOPLE-H and item 19 in SOCPEOPLE-L need to be looked at for improvement.

It is also recognized that the instrument reliability is not as strong as it should be and needs attention. Reliability should improve with the revisions in the SOCINFO-L sub-set factor. True validity and reliability need to be determined on the basis of additional applications of the instrument. A single test administration provides information for the population to which it is applied. Due to the single test administration and influence of the the strong organizational culture on the population tested, generalizability may be somewhat limited. Additional administrations to a variety of populations in a variety of organizational cultures are needed to further validate the instrument. It is also recognized that validity should be considered of first importance and reliability second (Balian, 1988; Courtney, 1988).

Data Analysis

Once instrument validity had been determined, null hypothesis were developed with which to analyze the data that had been gathered. The applied tests were concerned with determining significant differences in the preferences of individuals with regard to their contextual requirements. The analysis was done using both general demographic characteristics and cultural orientations.

General Demographic Comparisons

Gender. Though gender sometimes plays a part in considering individuals for task assignments, the current trend is to disregard gender unless there are compelling reasons to do otherwise. In considering contextual preferences as a factor in the interaction of individuals in mixed cultural environments, the data indicates that men and women may have the same general preferences for interaction except where the cultural environment is definitely low context oriented. It was found that there appear to be no significant differences between men and women with regard to context except for an individualistic orientation when transferring information through direct interaction with people in the low context environment. The data indicates that men score significantly higher than women for preferences in working under these conditions and that men would be more at ease given this task in this environment. In other areas of contextual preference, we haven't enough evidence to conclude that men and women are not different.

Age. Depending on the cultures involved, age can play a part in the perception of an individual's ability to interact across cultures and be accepted by other cultures. Beyond the social mores, though age alone may not be the sole determining factor, the data indicates that as age increases there is also an increase in an individualistic orientation toward human interaction. Individuals become less group oriented in decision making, are more sensitive to personal space requirements and have a greater sensitivity toward monochronic time orientations when involved in interactive group communications.

The positive association with both the high and low total contextual factors is highly significant since this indicates that as age increases, individuals become more flexible or able to deal with contextual variations when working in a group. The data suggests that there is a weak but statistically significant correlation between age and these sub-set factors. The weak correlation indicates that there are many other items or dimensions that will affect this factor as well.

Years Away From Home Country. From the data, it is suggested that as the number of years increases that an individual is away from their home culture, their overall high contextual preferences will decrease. As a person, they become more individualistic. There is also an indication that individuals will become less able to deal with multiple decision situations and also become more sensitive to personal space. There is a weak but statistically significant correlation between the number of years away from home, this sub-set and total contextual factors. Again, this also indicates that there are many items that affect this factor. It must also be noted that it is

undetermined if this number of years increase is due to the number of years away or age itself. Both may be a significant factor and thus the data is inconclusive.

Number of Languages Spoken. Of the demographic variables measured, the number of languages spoken is the most statistically significant and, as a result, may be the most predictive with regard to cultural context preferences. From this data, it is concluded that as the number of languages that an individual speaks increases, the individual will exhibit broader or more flexible spatial and time orientations. Both their total high and total low contextual preferences will increase which suggests a greater flexibility and ability to work with individuals of differing contextual preferences. Since high and low context were considered to be opposite ends in a continuum, the increase in both is highly significant. It is also significant that Hall stressed the spatial and time orientation factors the most in his theoretical construct (Hall, 1977; Hall & Hall, 1990).

Declared Major Relationship to Contextual Preference. In a recent study at the University of Hawaii (Moody, 1988), an analysis was made to determine the relationship of the university multi-cultural student body's preferences and learning styles. The University found that there was a significant difference in learning preferences based on the declared major of the individuals. This current study tested the relationship of the declared major with respect to contextual preferences using the developed instrument.

For the SOCINFO-L factor, the only differences shown were

between major 4, Literature and Communications, and all other majors. Though a statistical significance was shown on three other factors, the multiple comparison procedure was unable to detect the differences among groups. This occurs most often when the sample groups are considerably different in size. This was the case here with group 4 having only 4 subjects. It was also noted that the SOCINFO-L factor noted group 4 as having the greatest standard error and lowest mean. It is suggested that the low sample size makes this item suspect and that without its inclusion, there may be no significant differences between the groups. It was concluded that this may in fact cause the null to be accepted in all cases.

CHAPTER 5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was an investigation of the theory base regarding context as embedded in the development of culture. The study developed an instrument that 1) measures the contextual preferences of individuals from a variety of cultures, and 2) determines the level of significant differences between cultures based on their contextual preferences. Preferences for interaction based on an individual's or culture's disposition toward individualism or collectivism were included within the contextual factors.

A review of the literature revealed a significant amount of descriptive research on the need for adaptation to cultures as we move into a globalized environment, especially in education and business. Much has been written on the context theory base and contextual preferences within cultures. But little empirical research was found.

In addition to the research on context within cultures, a considerable amount of descriptive and empirical research was found on individualism and collectivism as embedded in culture. This area of research has many characteristics in common with the contextual factor when considering cultural differences.

To develop an instrument that would provide information on culturally defined contextual preferences, data was collected to determine how individuals prefer to interact in group activity where

multiple cultures are involved. The instrument was developed through consultation with cross-cultural psychologists and researchers. This instrument was then applied to randomly selected adult subjects involved in a cross-culturally mixed learning environment where there was no predominant culture represented: students at the Hawaii campus of Brigham Young University. The potential for more than 50 cultures was represented in the population with the vast majority coming from the Pacific Basin and Asian Rim countries. Thirty cultures were identified and self-declared by respondents. Six hundred and fifty instruments were distributed and five hundred and thirty five respondents returned them. The total population at that time was approximately 1600 attending the University.

Subjects were asked to respond to a six point Likert scale in identifying the strength of their preferences for interacting in a group situation. Forty eight items were designed to measure four major factors in contextual preference:

- the socialization of information
- the socialization of people
- individual spatial orientation
- individual time orientation.

These major factors were further divided into sub-sets which represented the polar ends of the factors. These polar ends represented high and low contextual preferences.

Analysis of the responses was divided into two sections. The first was the validation of the instrument and its items. This was done with a series of factor analysis, item analysis and reliability analysis

tests. These tests resulted in the identification of items to be retained in the instrument or to be reworded or deleted. The second analysis was of the data yielded by the instrument application. These data were analyzed through a series of one-way analysis of variance, Newman-Keuls Multiple Range Tests, t-tests and correlation coefficients. Seven null hypotheses were tested in the process (see pp. 43-44).

Conclusions

The analysis of the developed instrument, and the data yielded by its application, presents evidence to support several conclusions regarding further use of the instrument and the use of context as a measure of varying cultural preferences and needs.

The Instrument

As noted in the research and instrument development processes, items were developed based on a literature review, analysis by professional cross-cultural psychologists, and a Delphi review. Through the instrument application and subsequent analysis, Figures 4.2.1 to 4.2.8 (see pp. 65-73) and Tables 4.4.1 to 4.6.8 (see pp. 74-84) support recommendations being made to modify the instrument and its application to cross-cultural and multi-cultural environments. With the suggested modifications, the instrument is useful in determining significant differences between cultures and individuals. The instrument does this by measuring preferences that affect communications between individuals from varying cultures in a group situation.

Tables 4.7.1 to 4.11.2 (see pp. 89-107) demonstrate significant differences between major groupings of cultures, demographic factors and individually declared cultures. These differences not only give insight into variations between major cultural groupings, but also support the conclusion that differences between individual cultures and individuals themselves need to be considered when working across cultural communications barriers. Insight into these areas is essential. The primary benefit of the instrument application is in self-awareness and an insight into other cultures. These insights must be gained in order for individuals to effectively establish common understanding and communicate in multi-cultural situations.

Culture and Contextual Preference

With culture being a predominant factor in determining contextual preferences, the population was grouped by their declared cultural background (see Table 4.1.8, p. 62). In order to generate significantly large numbers to gain the ability to discriminate in greater detail, three major groupings (approximately 135 each) were generated based on similarities in the base cultures. A fourth group was also developed in which multiple cultural characteristics were exhibited. It is recognized that most cultures in today's globalized environment have had some exposure to other cultures. However, individuals in the fourth group (approximately 80) were considered "exposed" to outside cultures to such an extent that they could not be classified as a single culture and included in the previous three major groupings.

It was concluded that there were highly significant differences

between the four major cultural groupings as compared to the differences within the groups. These differences were found in analyzing each of the contextual preference factors and are illustrated in Figures 5.1 and 5.2. Eight of the ten sub-set factors for the four major groupings of cultures showed a p-value ranging from .0001 to .0000.

Significant differences were also found in five of the ten sub-set factors for the Asian Rim based cultures. This major grouping was sub-divided and each individual cultural group analyzed (see Figure 5.3). The significance level had a p-value ranging from .02 to .0001. It was concluded that the variations within the major groupings were significant and that where context is a factor, individual cultures need to be analyzed rather than grouped in determining contextual preferences when individuals interact across cultures.

Of significant note in the Asian Rim sub-group comparisons is the variation in the order of the cultures in each preference analysis. The order differs from factor to factor. The decrease in numbers of factors for which there was a significant difference in the Asian cultural analysis, as compared to the four major groupings, was not unexpected since there are many commonalities between those cultures just as there are among other major groupings. These commonalities manifest themselves in the unity shown in preferences for interaction in the low context side of each factor. The null was rejected in these instances. Such characteristics were in part the basis of the groupings.

Also of significant note is that when considering the polar positions of the same major factor, the order did not simply reverse.

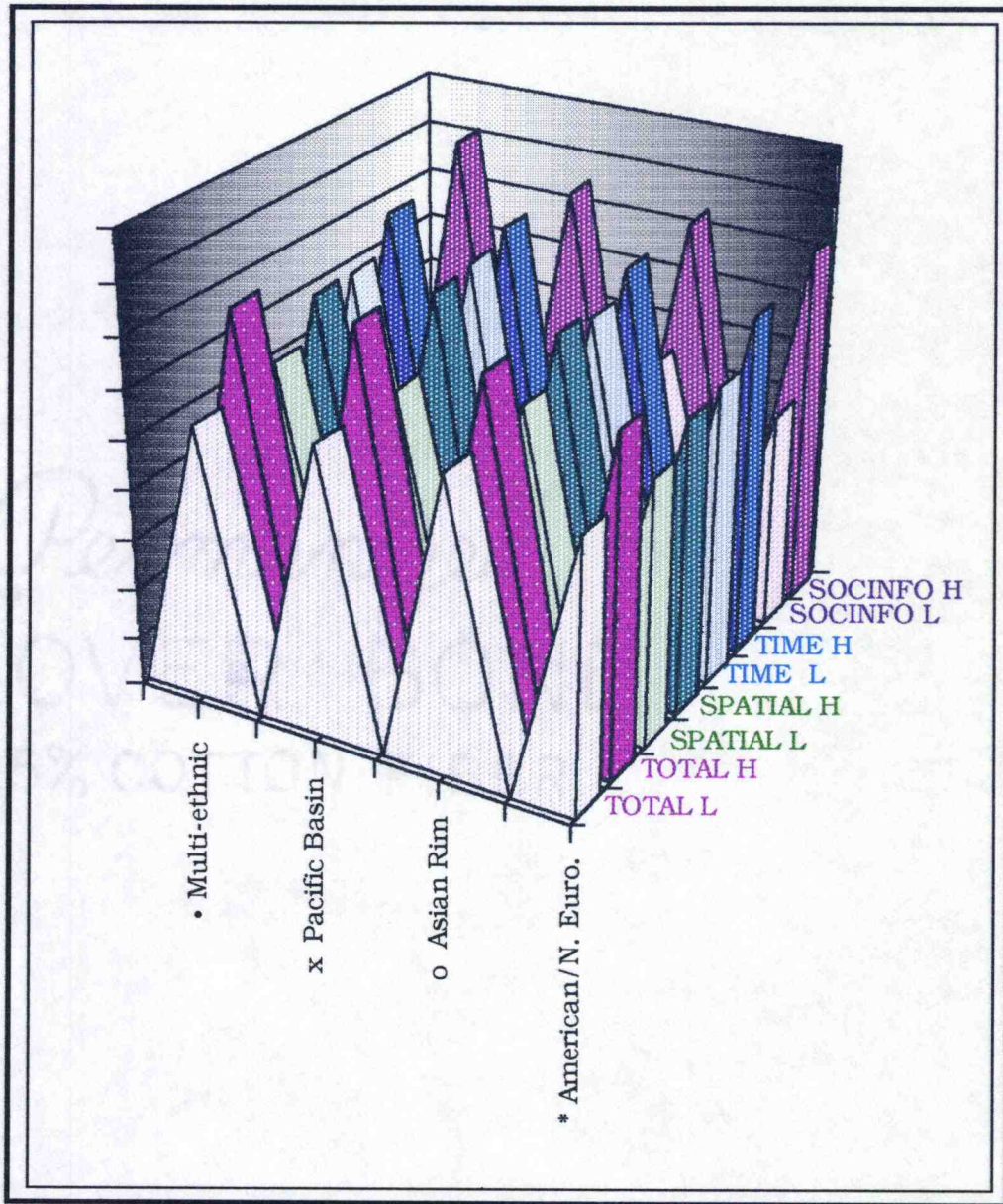


Figure 5.1 Contextual Preference Set Variations Between the Four Major Cultural Groupings.

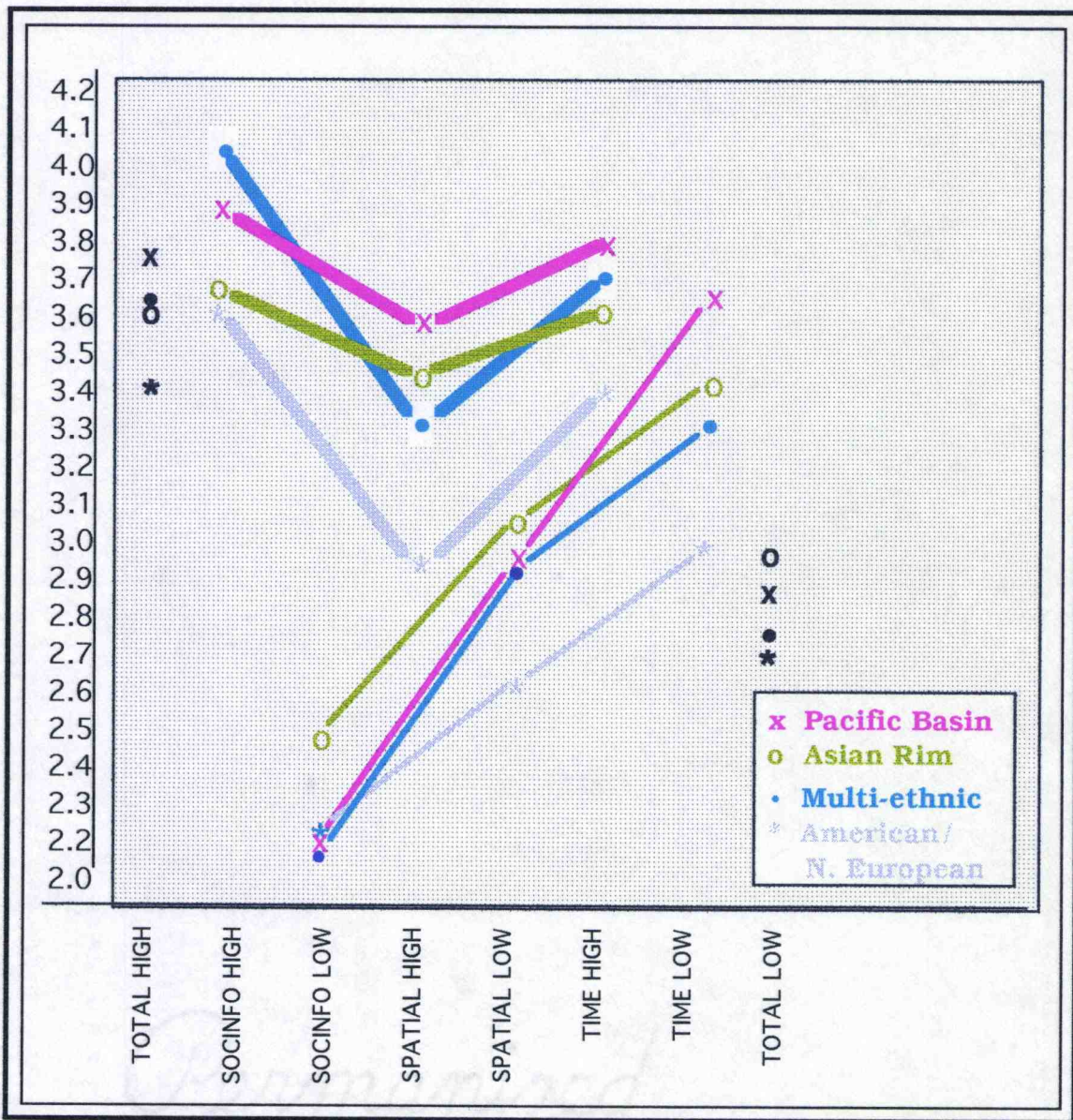


Figure 5.2 Variation in High vs. Low Context Preferences Between the Four Major Cultural Groupings.

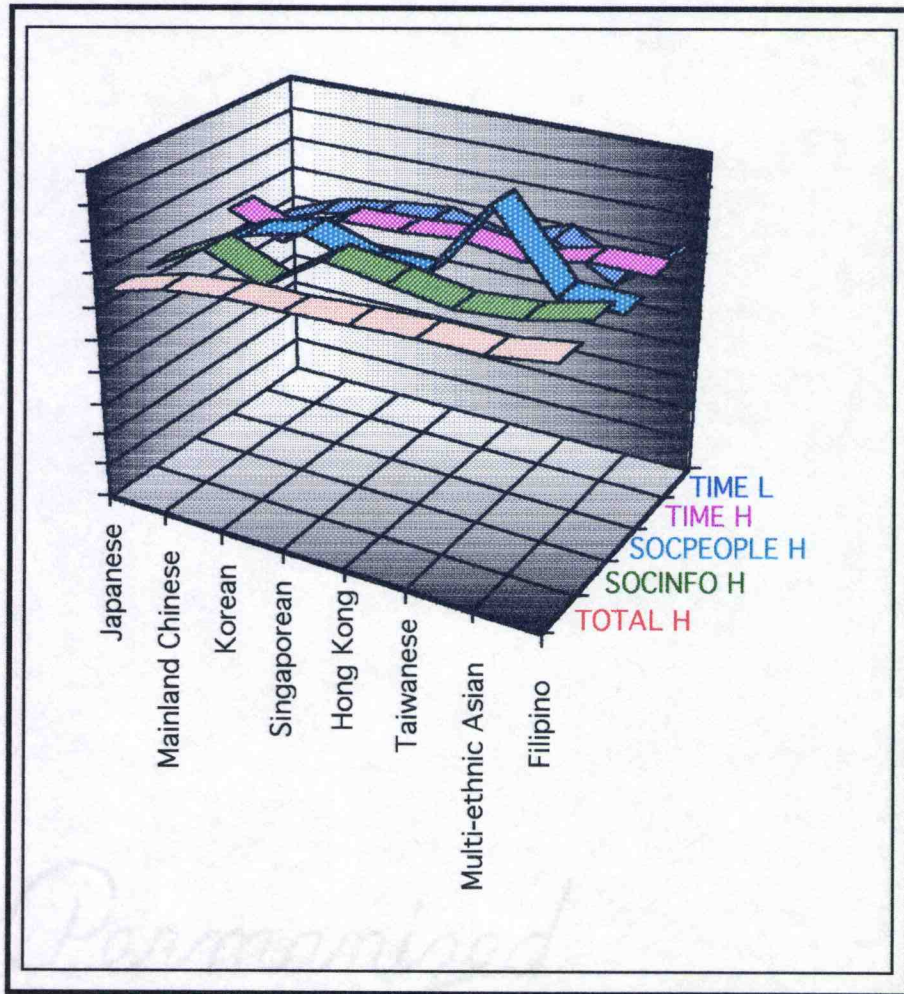


Figure 5.3 Significant Differences Between Asian Rim Individual Cultures.

Each ethnic grouping, in both the major groupings and the Asian Rim sub-set comparison, appeared to have its own unique combination of traits with reference to the other groupings in each sub-set factor. This led to the conclusion that there are significant differences in how each culture clusters their set of traits and that 1) it is essential that cultures need to be considered separately, and 2) the high to low contextual continuum needs to be broken down into its component parts when considering interaction across cultures.

The High Context Environment.

Three factors showed significant differences with the four major cultural groupings in the high context environment (see Figure 5.2). Spatial orientation showed a greater variation for each of the cultures than the other factors. In particular, the American/Northern European group was significantly different from the others. This group required more personal space and separation or seclusion than the other groups. Pacific Basin and Asian Rim cultures paralleled each other in high context preferences with the Pacific Basin cultures showing a higher preference for high context. The multi-ethnic and American/Northern European groups also paralleled each other's preferences. However, the multi-ethnic group was significantly more high contexted than the American/Northern European group. These differences were consistent for all factors of context with the greatest difference manifested in the spatial and time factors. This confirms Hall's construct which emphasized both space and time.

The Low Context Environment.

In relationship to a low context environment and the transfer of information (see Figure 5.2), the Asian Rim cultural grouping showed significantly lower contextual preferences than the rest. Since the Asian Rim cultures are primarily high contexted and collective, this suggests that though they may share the information far more and are highly interactive in consensus building within their own group, they are less likely to do so with those outside their group or with others of lower context preferences. They may tend to mistrust those who control the flow of information and to have difficulty in decoding the intended meanings from the verbal language.

In the area of spatial relationships, the contextual preferences were much more closely aligned between the Asian Rim, multi-ethnic and Pacific Basin cultures. The American/Northern European cultures remained significantly separated.

In relation to time orientations and preferences, all cultures showed considerably more monochronic tendencies in the low contexted environment. However, the difference between high and low preference levels was significantly smaller for the American/Northern European group. The Pacific Basin, Asian Rim and multi-ethnic groups showed considerably larger differences between high and low preferences.

Observations and Concerns to be Considered

A Representative Profile

The strength of high and low context preferences within each

group began with very high context preference scores in the information flow, indicating a predominantly one sided high context orientation with low context preferences receiving very low scores. The preference level increased in the low contexted spatial and time factors which indicated a broader willingness to accept or adapt to both poles. The strength of opposing high and low contextual preferences for time and space became more pronounced for the Pacific Basin and Asian Rim cultures. The high and low preferences in spatial and time orientations remained considerably separated for the multi-ethnic and American/Northern European and did not show an equal increase with the other two groups. It is significant to note that in the time factor, all of the groups showed stronger preferences simultaneously on the opposing sides of the same factor.

Within this study, context has been shown to be a highly significant variable to be considered when analyzing culture. This variable is complex in its nature in that it needs to be broken into the component parts analyzed in this study. A highly significant fact also noted in the number of languages spoken analysis, the age analysis and the cultural analysis is that it is possible for individuals and groups to increase or decrease their respective levels in both the high and low areas of context at the same time. This suggested the need for a representation of contextual variation not along single or even multiple straight line continuums. Straight line continuums do not account for simultaneous increases and decreases at both polar ends of a supposed "continuum". A proposed representative scale will be found in Appendix C. This scale is in the form of a "V" similar to the University Associates T.-- P. Leadership Style Profile which allows for

a preference shift based on the situational management needs. This representative scale has been applied in Figures 5.4 and 5.5 which represent the mean scoring for the four major cultural groupings used and a representative sampling of individuals from the four major groupings.

Individual Cultural Identity

Cultural identity non-response was not a significant factor in the administration of the instrument. It was noted that for most individuals, culture is well defined even though in a state of adaptation and change. However, for the United States population, culture seemed to be defined in much different terms than for the majority of the respondents. More than 80% of the United States Mainland students answered the cultural identity question with a declaration along racial lines. They declared their culture to be "Caucasian", which in itself is not a culture but a race. This distinction did not carry the usual distinctive characteristics of culture. Such a lack of specific characteristics identified with culture made it difficult to make representative comparisons. This lack of identity may also be an indication of a disregard by the United States for the importance of culture. Contextual identities have been made in general for individuals from the United States. However, the variety within the group made it difficult to make comparisons without comparable standards to those used in defining other cultures.

Analysis Assumptions

One of the primary assumptions in statistical analysis is that the

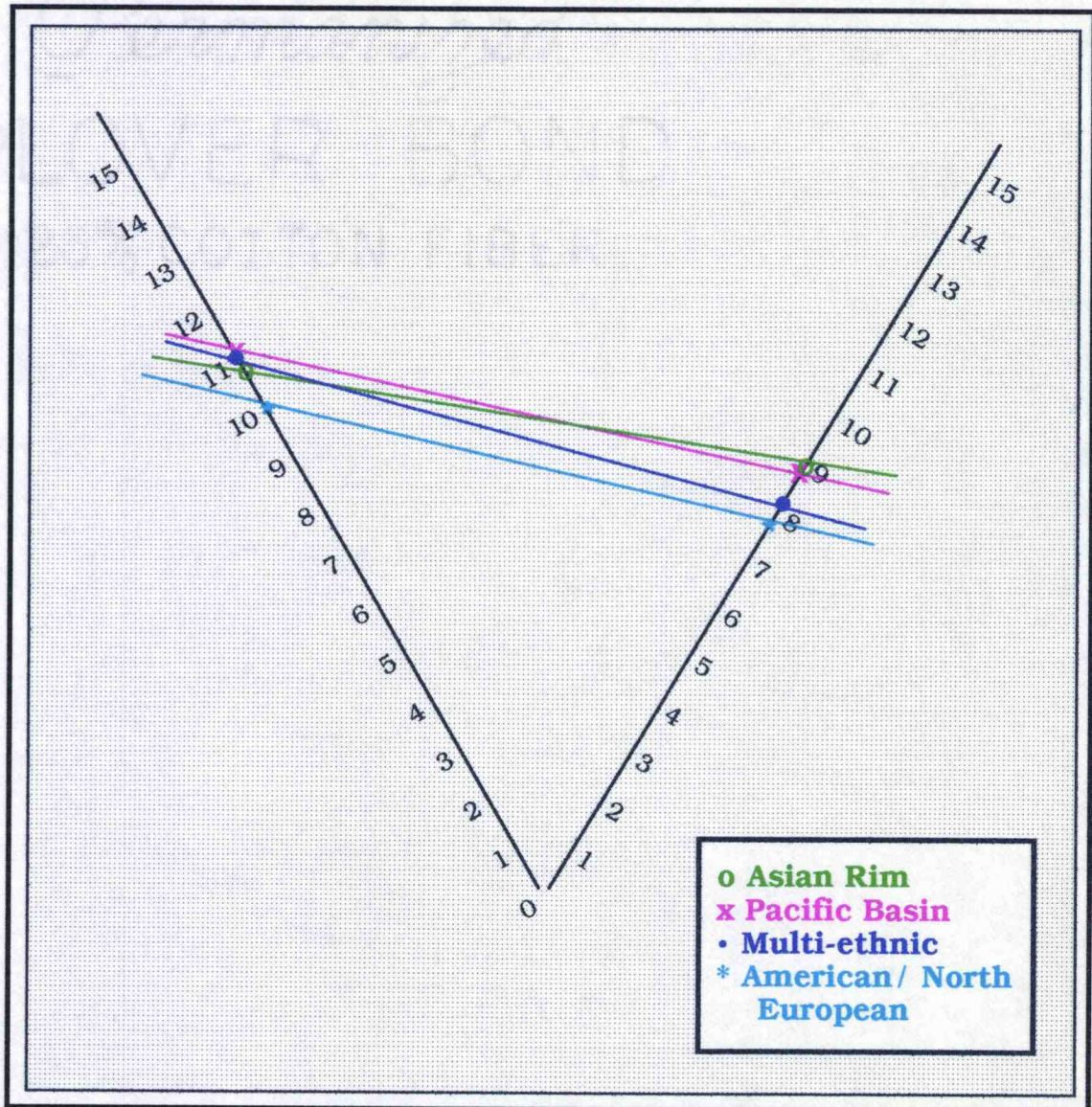


Figure 5.4 Total High and Total Low Comparisons for the Four Major Cultural Groupings.

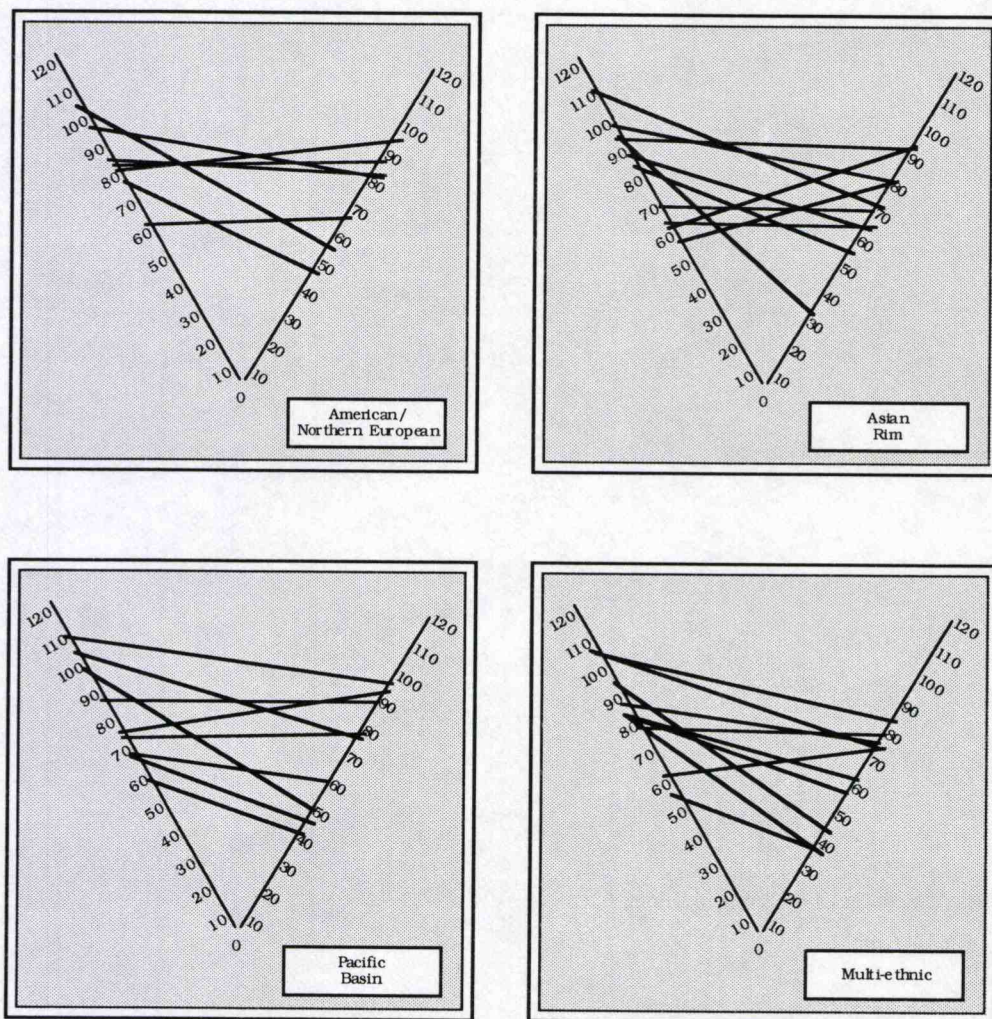


Figure 5.5 Ranges of Individual Scores by Major Cultural Grouping.

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population under study is representative of the larger population and that such larger population groups assume normality. In the case of multi-cultural and cross-cultural research, not all cultures may follow the same norm patterns nor may they yield similar factor structures in an analysis. Some of the theories and assumptions in single culture research may not hold true or be applicable in cross-cultural research.

Organizational Culture Interaction

An additional question to be considered is that of organizational culture. As noted by Fontaine (1989) in the literature review (see pp. 30-33), the organization to which one belongs has a culture of its own and may affect the individual's culture. When individuals from a variety of cultures choose to work within the strong culture of an institution such as a university or large business, they adapt to that culture and to the situations that evolve. In addition, each situation requiring interaction may be unique and induce different reactions from the same individuals. It was for this reason that the decision was made not to pose multiple situational context considerations in the application of the instrument. The situational context was limited to a group oriented learning or decision making process. Preferences were requested since in actual real life applications, the organizational culture and situational context may elicit different responses.

Grouping of Cultures

In a comparison of the variances of each of the sub-set factors, variances for each individual sub-set are significantly larger than the

variance for the total high and total low groupings. This observation becomes a concern since it suggests that it will be more difficult to identify differences using the total variance than by using individual variance or individual scores. The total high and total low mean scores are profiled in Figure 5.4. Figure 5.5 is a sampling of the four major cultural groupings. This sampling profiles those individuals with, 1) the highest difference between the high context and low context scores, and 2) the lowest difference between the high context and low context preference scores, in each of the major cultural groupings. In addition, each profile of high and low context preference scores includes several individual profiles to indicate the range of responses in each grouping. It is clear that a considerable variety exists in the range of responses that composite mean scores may miss when analyzing groups. This range also suggests that specific cultures and individuals need to be considered rather than larger cultural groupings.

Recommendations for Further Research

Due to the above observations and concerns, it would be unwise to assume that the current testing situation or instrument can be considered final. In order to determine patterns of reliability, it will be necessary to reapply the instrument to multiple groups. It would also be premature to make definitive decisions as to what statements cannot be considered for further analysis or inclusion in the instrument. Reworking of instrument items must be considered.

It is recommended that:

- 1) this instrument be reapplied to additional cross-cultural

groupings with the first set of identified items temporarily removed due to their very low factor loadings and total item correlations.

2) a small number of additional items be included for testing and validation purposes without inclusion in the scoring of the instrument. These could be selected from the original items that underwent the Delphi process and were accepted at the minimum 75% level but not included in the current instrument. In this way, new items could be analyzed without affecting current testing computations and later included if validated.

3) with future instrument administrations, there be selected follow-up interviews with a variety of cultures. This could add a qualitative depth that cannot be garnered from straight pencil and paper responses. Interviews should explore the degree to which intergroup or cross group differences exist and whether or not the preferences carry situational qualifications to a significant degree.

4) further analysis be completed with the current database and with future databases using multivariate analytical procedures. Cross-cultural research is complex at best and may need more complex analysis to determine the validity of all of the factors involved. The research of human interaction is far more susceptible to interaction than the physical sciences for which statistical analysis was developed.

5) further study be done on the relationships of the contextual factors and the individualist/collectivist factor. Though sharing characteristics and paralleling measures, they did not show the degree of homogeneity expected.

6) a "V" scale profile be developed that is representative of the indicated individual ability to simultaneously change (increase or

decrease) in both high and low context factors. A proposed representation of the context measure is presented in Appendix C. This representation allows for the varied factors and sub-sets to be analyzed and for the over all expression of contextual preference to be expressed so that simultaneous increases in both polar ends of high and low can be accommodated. As such, the slope of a line connected to the intersect points for high and low would indicate the level of adaptability and flexibility of individuals across cultures.

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APPENDIX A
JURY PANEL OF EXPERTS

JURY PANEL OF EXPERTS

Cross-cultural Experts

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Cross-cultural Psychologist

Dr. Morris Graham
Professor of Organizational Psychology
Brigham Young University--Hawaii

Additional Instrument Review

Dr. Rowena Fong
Cultural Psychologist, University of Hawaii

Delphi Committee

Dr. Gary Fontaine
Professor of Communications,
Chairman of Graduate Studies
in Communications,
University of Hawaii
(Also private consultant in
business and industry)

Dr. Jeffrey Ady
Assistant Professor,
Intercultural and Organizational
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multi-cultural organizations and
work force assessment)

Dr. Ronald Heck
Professor of Educational
Administration, Chairman of
Graduate Studies in
Educational Administration,
University of Hawaii (Also
a statistician and anthropologist)

Dr. Sheldon Varney
Professor of Community Health
Development, University of
Hawaii (Developed materials
for doctors working with
patients in cross-cultural
environments)

APPENDIX B
SURVEY INSTRUMENT



The Cross-cultural Interactive Profile

There are no right or wrong answers on this instrument. The answers will only be useful if you respond honestly and candidly. By doing this, you will help us to better understand the ways in which you prefer to interact within a group where there is more than one culture involved.

Answer the questions by filling in the circle which best describes how strongly you agree or disagree with the statements. This should take about 15 minutes.

Example:

You would mark your
questionnaire



If you Strongly Agreed with this statement,



I would expect the team leader to direct members away from problems or issues that would upset the balance of the group.

You would mark your
questionnaire



If you Disagreed with this statement,



The group should deal with only one thing at a time until a decision is made.



SD = Strongly Disagree
 D = Disagree
 MD = Mildly Disagree
 MA = Mildly Agree
 A = Agree
 SA = Strongly Agree

Cross-Cultural Interactive Preferences

Directions: The following items describe how you might interact within a work or learning group activity. Respond to each item according to the way you would prefer to interact as a member of the group. Fill in the circle which indicates the description at right.

- | | |
|---|--|
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 1. I need the leader of the group to explain the details before I can make a decision. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 2. I work best when we share information and then come to a consensus as a group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 3. Information should be held in common and not controlled by specific individuals or parts of the group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 4. It is better to suggest that a person may be incorrect or needs to change rather than be abrupt or confront an individual in the group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 5. It is more important to know who is providing information than to know that we have all the information involved. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 6. The best way is for all decisions to be approved by the whole group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 7. One must be precise and direct in communicating information or a message to others. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 8. Experts within a group should be allowed to make decisions for the group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 9. Getting the details of needed information is more important than knowing who provided them. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 10. I am impatient when someone tries to explain something I already know about. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 11. Individuals within a group do not need to share the information they have with the rest of the group until absolutely necessary. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 12. It is not important that all members of a group contribute ideas. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 13. I would compromise with others in order to maintain harmony in the group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 14. I would expect the team leader to direct members away from problems or issues that would upset the balance of the group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 15. I would trust the group members and support their shared interests even if I do not agree with them. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 16. I would use the utmost diplomacy not to embarrass anyone while working through problems in the group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 17. I would want an equal distribution of rewards to each member in the group even though some put in more or less effort. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 18. Once a commitment has the group's approval it is expected to be honored. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 19. I would decide on my own what should be done and how it should be done. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 20. I would direct others toward getting results as soon as possible. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 21. I would directly confront problems or conflicts between individuals in the group. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 22. I would say what I thought, even though it may hurt others' feelings. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 23. I would want outstanding individual performance in group activities rewarded more than those who did not contribute as much. |
| <input type="radio"/> SD <input type="radio"/> D <input type="radio"/> MD <input type="radio"/> MA <input type="radio"/> A <input type="radio"/> SA | 24. Members should have complete freedom to enter or leave the group as they feel necessary. |



SD = Strongly Disagree
 D = Disagree
 MD = Mildly Disagree
 MA = Mildly Agree
 A = Agree
 SA = Strongly Agree

Cross-Cultural Interactive Preferences

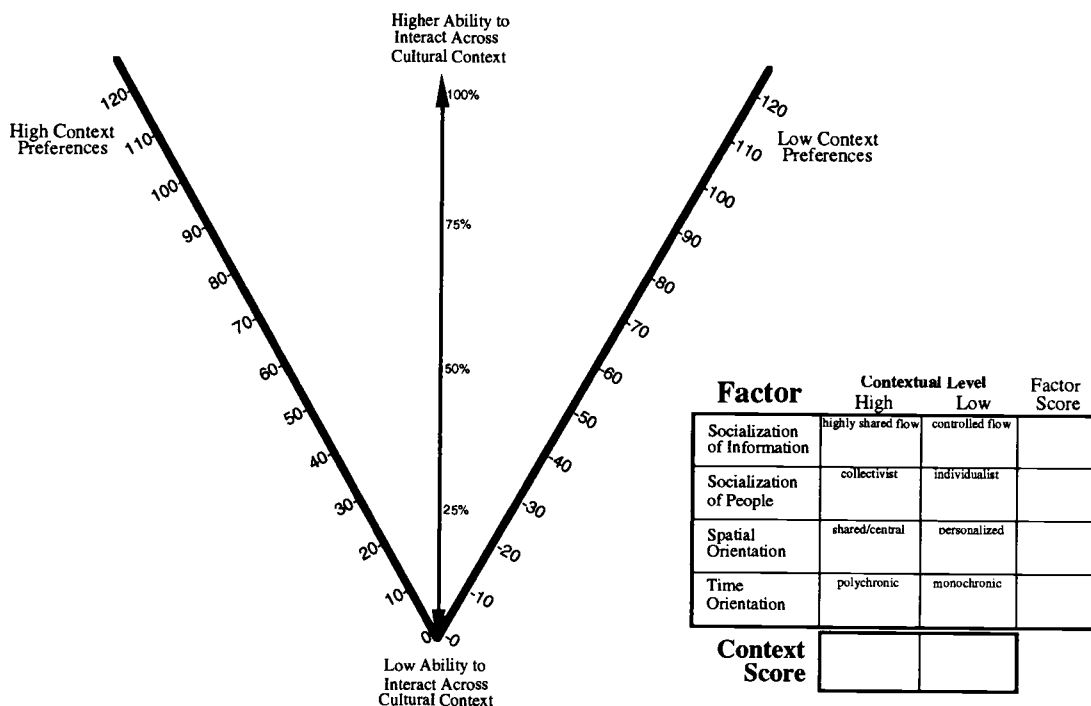
Directions: The following items describe how you might interact within a work or learning group activity. Respond to each item according to the way you would prefer to interact as a member of the group. Fill in the circle which indicates the description at right.

-
- SD D MD MA A SA **25.** I don't like doing work on my own or being separate from the group.
-
- SD D MD MA A SA **26.** I feel uncomfortable when there are those in the group that remain distant and don't interact with the group.
-
- SD D MD MA A SA **27.** I would not go to see my superior at his office unless requested to go.
-
- SD D MD MA A SA **28.** In a group meeting, it is important that we stay close together.
-
- SD D MD MA A SA **29.** It is best to have the leader in a centralized location where all members of the group can interact with him/her.
-
- SD D MD MA A SA **30.** The best way to work in a group is to stay together in the same room until agreement is reached.
-
- SD D MD MA A SA **31.** I don't want to be interrupted when I'm working on or thinking about a problem.
-
- SD D MD MA A SA **32.** I need to be away from the group in order to think and make a decision.
-
- SD D MD MA A SA **33.** I prefer to work alone until I am ready to get with the group.
-
- SD D MD MA A SA **34.** I would not hesitate to go straight to the leader of a group without consulting with others in the group.
-
- SD D MD MA A SA **35.** The leader of a group or organization needs to be separate but where I can go to him/her when I need to.
-
- SD D MD MA A SA **36.** When working in a group, I prefer to work with individuals that think as I do.
-
- SD D MD MA A SA **37.** A group should not stop working or discussing until a solution is found or decision reached.
-
- SD D MD MA A SA **38.** I would not tolerate postponements.
-
- SD D MD MA A SA **39.** It is very important that a schedule be maintained.
-
- SD D MD MA A SA **40.** The group should deal with only one thing at a time until a decision is made.
-
- SD D MD MA A SA **41.** When an answer is apparent, it is not necessary to take time for everyone to review the facts.
-
- SD D MD MA A SA **42.** When the group has finished its work, it is best to move on and form new relationships.
-
- SD D MD MA A SA **43.** I would desire lots of time and flexibility to accommodate the different personalities in the group.
-
- SD D MD MA A SA **44.** If there is disagreement in the group, I would be patient while others work through and resolve conflicts before proceeding.
-
- SD D MD MA A SA **45.** It's good if the group can work on many tasks at the same time.
-
- SD D MD MA A SA **46.** It's more important to take the time needed to develop or share ideas before making a decision than to meet deadlines.
-
- SD D MD MA A SA **47.** It's okay to stop a group discussion and take a break whenever needed.
-
- SD D MD MA A SA **48.** Plans should always be open for change.
-

APPENDIX C
PROPOSED CONTEXTUAL
REPRESENTATION
(THE "V" PROFILE)



the Cross-Cultural Interactive Preference Profile



Directions:

1. After placing the total scores from the Instrument Scoring Sheet in the Factor Chart above, add the rows across for the Factor Score. Add the columns for Context Score.
2. Plot the contextual level scores on the graph with the High Context score on the left axis and the low context score on the right axis.
3. Draw a line between the two plotted points.

General Interpretation (See interpretation section for more detail):

Depending on how individuals have developed in their acculturation process and in their interaction with others, each will have a preference for contextual levels or requirements. Such context aids individuals in their socialization with others and in interpreting information used in communication and decision making.

Individuals scoring high on either side and low on the opposite side, a steeply sloped profile, may interact well with those of similar profiles, but not with others. Those with profiles scoring relatively high on both sides of the graph, a flat profile, should have little difficulty in interacting within groups where varying levels of contextual requirements exist. As such, they will be able to move between situations and/or groups with greater ease, be more flexible and adaptable in interpretation and decision making situations, and more responsive in learning and decision making. Higher percentage profiles should have greater flexibility.

The factor scores represent relative levels in each of the factor preference areas. Where flexibility and adaptability problems exist, low scores may indicate which orientation or requirement may be responsible. Sub scores will indicate the dominance of the characteristic. The difference between the sub scores will indicate a level of flexibility for that characteristic (Higher score differences represent higher flexibility). Low scores in general will represent a potential difficulty to interact across acculturated contextual boundaries.

Note: Language, religion, philosophical and other communication or social barriers are not included in this profile.