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The Cultural Adaptability of Dental Hygiene, Medical Laboratory Sciences, Nursing and Physical Therapy Faculty

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THE CULTURAL ADAPTABILITY OF DENTAL HYGIENE, MEDICAL LABORATORY SCIENCES, NURSING AND PHYSICAL THERAPY FACULTY

by

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ABSTRACT

**THE CULTURAL ADAPTABILITY OF DENTAL HYGIENE, MEDICAL
LABORATORY SCIENCES, NURSING, AND PHYSICAL THERAPY FACULTY**

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The purpose of this study was to determine the cultural
adaptability of full time faculty in the College of Health
Sciences, Old Dominion University, Norfolk, Virginia. The
sample consisted of 40 health science faculty representing
dental hygiene, medical laboratory sciences, nursing and
physical therapy. The principal investigator personally
administered the <u>Cross-Cultural Adaptability Inventory</u>
(*CCAI*), a 50 item instrument, which contains questions to
measure the construct cultural adaptability and its four
dimensions: emotional resilience, flexibility/openness,
perceptual acuity and personal autonomy. The *CCAI* is not
targeted to one particular culture, but rather is designed
to be culture general.

Analysis of variance revealed no statistically
significant difference, at the 0.05 level, in the overall
CCAI scores among dental hygiene, medical laboratory
sciences, nursing and physical therapy faculty. Analysis of
CCAI scores among dental hygiene, medical laboratory
sciences, nursing and physical therapy faculty, using
analysis of variance revealed no statistically difference,
at the 0.05 level, in emotional resilience, perceptual

acuity and personal autonomy. In the dimension flexibility /openness, a significant difference was exhibited between the physical therapy and medical laboratory sciences faculty.

Overall, all four faculty groups exhibited higher average *CCAI* scores than the *CCAI* norm group which consisted of individuals with cross-cultural experience and training. Results suggest that the majority of the health science faculty possess qualities necessary to be cross-culturally adaptable. These qualities provide a strong foundation for the development of additional competence in cross-cultural healthcare and for preparing practitioners who can provide culturally sensitive healthcare.

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CHAPTER I

INTRODUCTION

By the year 2000 and beyond the population of the United States, which has been predominately of white European descent, will be truly multiracial and multicultural. The United States population includes 29,930,524 African Americans, each with a heritage from one of the 58 countries on the African continent, 21,900,089 Hispanics, with three major places of origin; 7,226,986 Asian/Pacific Islanders, with 23 different countries of origin; and 2,015,143 Native Americans (American Indian, Eskimo or Aleut) from more than 500 federally recognized tribes (USDC, 1992). American businesses and the military have recognized the need to become culturally diverse in order to accommodate diversity in both the workforce and their clients. The issue of diversity in healthcare is beginning to be explored in allied health.

Culture plays an important role in healthcare because beliefs and values concerning wellness, disease and illness are culturally determined. The constructs of culture, health and disease are so interrelated that Lewis-Fernandez and Kleinman (1994) suggested that lack of cultural sensitivity can lead to invalid diagnosis. Healthcare educators have a major responsibility to prepare culturally sensitive healthcare practitioners for a world of increasingly interdependent cultures and people.

Although literature exists advocating the integration of cultural information and experience into the health science curricula (Wilkerson, 1992), few faculty or institutions of higher education are actualizing this concept. Inability to recognize cultural differences related to healthcare can lead to treatment failure, frustrations for both providers and clients, and client attrition from the healthcare system.

One strategy for enabling faculty and students to become culturally diverse is to recruit minority faculty and students; however, minority populations have long been underrepresented in the health professions (DeVore, 1995). In the 1960's as a result of the civil rights movement, many programs were initiated to improve minority access to the health professions, yet, more than 25 years later, minorities are still underrepresented in both health science programs and the workforce relative to their representation in the United States population (U.S.Dept.of Health and Human Services,1991). Therefore, alternatives need to be considered (Huntley and Minneman, 1994) such as including cultural sensitivity in the health sciences curriculum to improve the cross-cultural adaptability of healthcare practitioners. Success of a multicultural program depends on the faculty reinforcing the concept of cultural diversity (Kalkwarf, 1995). In order to reinforce cultural sensitivity in students, the faculty themselves must have an

understanding of different cultures and possess cross-cultural skills. Prior to making any curricular changes, the cultural adaptability of faculty needs to be measured; therefore, the cultural adaptability of the faculty within the College of Health Sciences, Old Dominion University, Norfolk, Virginia was determined.

Statement of the Problem

The purpose of this study was to determine the cultural adaptability of health science faculty. The specific research questions were:

1. What is the overall cultural adaptability of health science faculty?

2. What is the cultural adaptability of the health science faculty in terms of the subdimensions of emotional resilience, flexibility/openness, perceptual acuity and personal autonomy?

3. Is there a difference in the cultural adaptability of dental hygiene, nursing, medical laboratory science, and physical therapy faculty?

4. Is there a difference among dental hygiene, nursing, medical laboratory sciences and physical therapy faculty on the subdimensions of cultural adaptability; emotional resilience, flexibility\openness, perceptual acuity and personal autonomy.

Significance of the Problem

American society is a unique conglomerate of many

nationalities. From 1981 to 1989, immigration to the United States was at least four times greater from Asia and North America than from Europe, with the largest North American influx coming from Mexico, Cuba and Central America (Statistical Abstract of the United States, 1992). The Bureau of the Census projections for all regions of the nation predicts the white population to be the slowest growing and the Asian population to be the fastest growing among the racial groups. The Hispanic population is projected to comprise about one third of the growth in the nation's population; Hispanic is considered an ethnic group not a race (Current Population Reports-Population Projections for States, by Age, Race and Hispanic Origin 1993 to 2020). *Healthy People 2000* singles out African Americans, American Indians/Alaska Natives and Pacific Islanders as being the most in need of healthcare because they have a higher risk for disease, disability and premature death than the rest of the population.

If projected demographic trends continue, many healthcare professionals will find themselves living and practicing with culturally different clients or practicing abroad. The Pew Health Professions Commission identified the need for future health providers who can adapt to culturally different clients and provide culturally sensitive healthcare (O'Neil, 1993). As healthcare reforms increase, the barriers to care, such as lack of insurance and high

healthcare costs, may decrease and minority segments of the population will seek healthcare. The need for healthcare professionals who possess knowledge and experience in cross-cultural healthcare and who can adapt to culturally different clients will increase.

The United States is becoming global in healthcare delivery, reaching out to third world countries. Louie (1985) wrote that universities and colleges have a responsibility to prepare students to live and work in a world of increasingly interdependent cultures with different value systems. Healthcare providers need to be culturally sensitive, able to adapt to culturally different clients and able to educate clients taking culture into account. The inability of healthcare practitioners to adapt to diverse cultures serves as a barrier to care for many minorities. Discrepancies in healthcare beliefs, attitudes and behaviors between clients and providers can lead to treatment failure and frustration on both sides and can cause clients to drop out of the healthcare system (Jackson, 1993).

America has often been described as a "melting pot" based on the assumption that cultural differences are minimized and the majority culture adopted. The melting pot theory has not materialized; in reality, ethnic groups prefer to maintain their uniqueness, contributing their diversity to society (Fuller & Schaller-Ayers, 1990). This diversity phenomenon, which exists within our nation, is

better described as pluralism which preserves cultural diversity. Culture is a major determinant of a person's beliefs, values, perceptions and behavior; it provides important information for assessing client needs (Henkle & Kennerly, 1990). Many advocate integrating cultural information and experience into curricula so future healthcare professionals can develop the skills necessary to provide culturally sensitive healthcare. Such skills when developed will benefit healthcare providers by increasing their comfort level in caring for culturally diverse clients. The end result might facilitate access to healthcare for the underserved.

To apply principles of diversity to the teaching and learning environment, the faculty themselves must be culturally adaptable either through education or experience. To teach cross-cultural concepts within a curriculum or program, faculty must impart a sense of comfort and knowledge of the subject and serve as role models for students to emulate. Although a large number of healthcare providers communicate with people of other ethnic and national backgrounds, the numbers who can interact with them without misunderstandings is disproportionately small (Sikkema & Niyekawa, 1987). Healthcare students and providers must understand the culture and socialization process of their clients to understand their behavior patterns and to provide care effectively.

Definition of Terms

Terms significant to this study were defined as follows:

1. Adaptable. Being able to adjust oneself to new or changed circumstances.

2. Culture. Shared patterns of behaviors and beliefs of a social, ethnic, or national group, or a "basic road map" for comprehending the world, defining social norms of individual and interpersonal behaviors (Strauss, 1990). The values, beliefs, norms, and practices of a particular group that are learned and shared and that guide thinking, decisions, and actions in a patterned way (Leininger, 1988).

3. Cultural adaptability. Being able to adjust to situations when the client and or environment is culturally different from oneself. In terms of healthcare it refers to the ability of a healthcare provider to assess the cultural determinants of health and illness within a client, empathize with the client, and provide quality care for the client taking into consideration their beliefs, behaviors, attitudes, and feelings. Cultural adaptability within the health science faculty will be measured using the Cross-Cultural Adaptability Inventory (Kelly & Meyers, 1992)(see Appendix A).

4. Diverse. Different; dissimilar, varied and diversified (Webster's Third Edition, 1994).

5. Culturally diverse clients. Persons receiving healthcare services from culturally different allied health

professionals.

6. <u>Cultural Value</u>. The highly desirable or preferred way of acting or knowing something that is often sustained by a culture over a period of time and governs one's action or decisions.

7. <u>Cultural Sensitivity</u>. An individual's recognition of and response to persons, situations and events which are culturally different from one's self.

8. <u>Health Science Faculty</u>. The full time faculty who teach within the Old Dominion University College of Health Sciences' in dental hygiene, medical laboratory sciences, nursing and physical therapy.

Assumptions

The following assumptions were made for this study:

1. The health science faculty at Old Dominion University have a higher degree of cultural sensitivity than faculty at other institutions because they frequently encounter culturally diverse students and clients and because the university has conducted limited sensitivity training for faculty.

2. The educational experiences of the health science faculty may have given them opportunities to travel and experience cultural diversity first hand.

3. Faculty are truthful in answering the <u>Cross-Cultural Adaptability Inventory</u> because responses are confidential and anonymous. Because the *CCAI* is a self-scoring

instrument, faculty should be interested in obtaining their true scores for self-assessment and improvement.

4. Faculty, knowing the importance of research, will be cooperative and complete the Cross-Cultural Adaptability Inventory.

Limitations

The validity and reliability of the study is limited by the following factors:

1. The health science faculty serving as subjects are from the same university and are not representative of all health science faculty in the United States; therefore, generalization of findings is limited to the health science faculty who are similar to those at Old Dominion University.

2. The items on the Cross-Cultural Adaptability Inventory may be answered ideologically rather than how the respondent actually behaves in a culturally diverse environment. In an effort to decrease this threat to external validity, the scores were kept anonymous.

Hypothesis

The following hypotheses were tested:

There is no statistically significant difference, at the .05 level, in the overall cultural adaptability among dental hygiene, medical laboratory sciences, nursing, and physical therapy faculty, as measured on the Cross-Cultural Adaptability Inventory.

There is no statistically significant difference, at

the .05 level, in the emotional resilience dimension among dental hygiene, medical laboratory sciences, nursing, and physical therapy faculty, as measured by the emotional resilience subscore on the Cross-Cultural Adaptability Inventory.

There is no statistically significant difference, at the .05 level, in the flexibility/openness dimension among dental hygiene, medical laboratory sciences, nursing, and physical therapy faculty, as measured by the flexibility/openness subscore on the Cross-Cultural Adaptability Inventory.

There is no statistically significant difference, at the .05 level, in the perceptual acuity dimension among dental hygiene, medical laboratory sciences, nursing, and physical therapy faculty, as measured by the perceptual acuity subscore on the Cross-Cultural Adaptability Inventory.

There is no statistically significant difference, at the .05 level, in the personal autonomy dimension among dental hygiene, medical laboratory sciences, nursing,and physical therapy faculty, as measured by the personal autonomy subscore on the Cross-Cultural Adaptability Inventory.

<div align="center">Methodology</div>

The Cross-Cultural Adaptability Inventory (CCAI) by Kelley and Meyers (1992) was used to measure the cultural

adaptability of the health science faculty at Old Dominion University, Norfolk, Virginia. This 50 item inventory was administered by the researcher. It takes approximately 30 minutes to complete the *CCAI* inventory, self-score the responses and plot the scores on the four dimensions of the interpretation profile. The outcome is a composite list of all traits and skills associated with ones' ability to adapt to other cultures effectively. Differences among dental hygiene, medical laboratory sciences, nursing, and physical therapy faculty on the variable cultural adaptability and its four dimensions were analyzed using descriptive statistics and analysis of variance procedures. The hypotheses were tested at the .05 level of significance.

CHAPTER II

REVIEW OF THE LITERATURE

This section describes the constructs of cultural
adaptability and cultural sensitivity and the need to
develop cultural awareness in health science faculty and
curricula. Moreover, this review addresses cultural
adaptability, adaptability of immigrants in the United
States, the need for cultural awareness for diagnosis,
minority faculty in the health sciences, minorities
practicing in the health science field, need for cultural
awareness in general education and the health sciences and
some curricula that successfully include cultural diversity
issues. Both the theory of cultural care diversity and
universality and the human needs theory are linked to guide
cultural awareness.

The Constructs of Cross-Cultural Adaptability

Steady immigration and ethnic diversity in the United
States has stimulated research in cross-cultural adaptation.
Serious research began at the turn of the century in
anthropology and sociology focusing on cultural groups
rather than individuals (Kim & Gudykunst, 1987). More
recently studies in psychology, psychiatry, communication
and other related disciplines have focused on cross-cultural
adaptation of the individual.

For years both monocultural and ethnocentric
perspectives have been recognized by the scientific

community as approaches in understanding differences between cultures. From a monocultural perspective, there are no differences in cultures; from an ethnocentric perspective one's own culture is the privileged culture. Recently, both monocultural and ethnocentric perspectives have been criticized and a new paradigm approach has been embraced. Pearce & Kang (1987) claim that the answers to four key questions help to understand the "travelers tales" of the differences between cultures:

> 1. Are there actually differences among cultures in forms of communications?
>
> 2. If so, how should the differences in forms of communication among cultures be described?
>
> 3. Do these differences have to occur? What is the "necessity of these differences?
>
> 4. What differences do these differences make? What are the implications of these forms of communication?

The perspective that the new paradigm provides facilitates the understanding of communication within different cultures. In answer to the questions, there are significant differences among cultures in the meanings and motives of the communication act. The differences among cultures, although difficult to describe, lie on the intention of the communication act rather than the act itself. To answer the third question, communication will differ among cultures because cultures differ. Cultural differences in the forms of communication are the means by which cultures perpetuate their individuality. This

communication is necessary because it is how cultures are expressed and given meaning.

After synthesizing existing conceptualizations pertaining to the cultural adaptation process, Yoshikawa (1987) designed a five stage model of cross-cultural adaptation. In the first stage, "Contact", one's original world views persists. For some, this stage is new and exciting, for others the lack of familiarity is threatening. In the next stage, "Disintegration", which also can be termed cultural shock, one experiences conflict between the world views of the first and second culture. In third stage "Reintegration", one attempts to find a solution through stereotyping, generalization, and judgmental attitudes. At this point, individuals may switch back and forth between the first and second stages. They are not ready to accept cultural similarities or differences until the fourth stage, "Autonomy", in which one becomes increasingly flexible. In this autonomous stage, some individuals develop and identify with the "third culture". The fifth and final stage is termed the "Double-Swing". In this stage, one is independent and simultaneously interdependent, thus capable of bringing new ways to explore the paradox of human diversity and unity (Alder, 1975). In this transitional stage, one does not focus on the original culture or the second culture, but instead is able to experience the dynamic and dialogical interaction between them.

The "Double Swing" stage encompasses five perceptual patterns. The "ethnocentric" perception experiences the other in one's own image. With "sympathetic" perception, one perceives the other's world from one's own perspective, projecting feelings that may not coincide with the other's. Sympathetic perception is a reaction to the other's perspective, whereas the enthnocentric disregards the existence of the other's perspective. "Empathic" perception puts oneself in the other's shoes, enabling one to see things from the other's perspective. The fourth type of perception, the "mirror-reflecting" perception, allows one to view the world from the other's perspective. The fifth type of perception is called "metacontextual", which enables one to perceive the concrete process and context in which two individuals interact. One's capacity for openness, sensitivity, and responsiveness to the world increases as one enters the final stage of cross-cultural adaptation.

This "Double-Swing" stage is different from onesided openness because it is based on "existential trust" which is a trust in life, committing oneself to the changing of being (Friedman, 1974). The stages of cross-cultural adaptation won't necessarily follow a straight, linear progression, nor is the fifth stage necessarily the final stage to perfecting cross-cultural adaptation. In the advanced stage, a considerable amount of perceptual maturity, openness and balance is achieved.

Kelley and Meyers, who designed the <u>Cross-Cultural</u>
<u>Adaptability Inventory</u>, have defined the constructs of
cultural adaptability according to the four dimensions of
emotional resilience, flexibility/openness, perceptual
acuity and personal autonomy. These dimensions are based
upon the works of individuals with specialized knowledge in
the area of cross-cultural adaptability (Hammer, Gudykunst &
Wiseman, 1978; Hannigan, 1990). These dimensions have been
cited in other research as well (Sikkema & Niyekawa, 1987).

<u>Emotional Resilience</u>

Hannigan (1990) in his review of the literature cited
the ability to deal with psychological stress high on the
list of attributes for intercultural effectiveness. In fact,
an overseas candidate is described as one who can snap back
rapidly from discouragement and frustrations. One of the
factors to be considered when selecting people for
international work is resourcefulness and buoyancy (Hammer,
Gudykunst & Wiseman, 1978). Emotional resilience measures
the ability to "fit in" a new culture (Searle and Ward,
1990).

<u>Flexibility/Openness</u>

The ability to deal with different communication styles
is referred to as flexibility (Hannigan, 1990).
Psychologists seem to agree that nonauthoritarian
personalities who are open-minded and flexible will make
better adjustments to different cultures than the

authoritarian type who cannot accept views different from his own (Sikkema & Niyekawa, 1987).

Perceptual Acuity

An important trait in intercultural relationships is to have an accurate sense of another's thoughts, feelings and experiences. Cultural empathy is not merely a matter of getting along with different people, but it has to do with perceptiveness and receptiveness (Hannigan, 1990).

Personal Autonomy

⋅ The first step toward understanding another culture is becoming aware of one's own cultural habits and values so they will not interfere with the learning of another's cultural differences (Sikkema and Nijekawa, 1987). Viewing one's own culture relativisticly has been cited in the literature as paramount in cross-cultural interactions (Hannigan, 1990).

Cross-cultural adaptation with its varied facets and dimensions, is influenced by economic conditions, perception, attitude, behavior, linguistic proficiency and cultural identity. These factors have diverse elements within themselves making the constructs of cultural adaptability complex and a challenge to understand and measure.

Adaptation of Immigrants in the United States

When describing the adhesive sociocultural adaptation of Korean immigrants in the United States, Hurh and Kim

(1994) define adaptation "as the process in which immigrants modify their attitudinal and behavioral patterns in order to maintain and improve their life conditions compatible with the new environment." According to Hurh and Kim (1994), the term "adhesive" refers to certain aspects of the new culture and social relations that are added to the immigrants' own culture and social networks, without modifying a significant part of the old. While acculturation, which refers to the immigrants' changing their cultural pattern, may be achieved, assimilation of non-white immigrants is not usually achieved. Immigrants are not socially accepted by the dominant group. Consequently, involuntary ethnic segregation by the immigrants occurs. Involuntary ethnic segregation is done to satisfy primary group needs, to lower their frustration and dissatisfaction, and to evoke a false sense of success. While Hurh and Kern (1994) did not address adaptation of white Americans to other cultures, their work is important because it emphasizes the barriers immigrants face attempting to adapt to American society, and explains the strong cultural ties some groups have generations after arriving in the United States. Hurh and Kim (1994) theorized that third generation immigrants expect social assimilation more than previous generations, but are more aware of its limited possibilities than past generations.

Americans view cross-cultural adaptation as "becoming a part of" the new cultural system. It is thought that

individuals immigrating to the United State lose their sense
of belonging to the old culture and consider themselves part
of the new. Old ways lose ground and are replaced by new
ways. Contrary to this belief, when describing the
intercultural learning among Iranians in the United States,
Hoffman (1990) found that in spite of high levels of
behavioral and instrumental integration manifested in
Iranians, there was no real feelings of participation in the
American system, or a sense of being an American. Even
though some learned to be more aggressive and open with
their feelings, it did not cross over into the inner self or
effect one's sense of cultural identity. It is a basic
assumption among Americans that adaptation entails changes
in self-identity; in reality, Iranians adopt behaviors
thought to be advantageous to success in American society.
They are learning the skills for survival. Iranians
experience very little identity conflict while learning to
assimilate. Thus, no matter how much a person appears to
have adapted, these changes infrequently occur in their
inner self. Hoffman's study suggests that it may be
difficult to train Americans in behavioral flexibility since
it is less easy for them to separate behavior from inner
sense of self, personality or identity.

<center>Cultural Sensitivity in Communications</center>

Interethnic relations and communications generate
unceasing academic interest and public debate. According to

Kim (1986), interethnic sensitivity is a significant social issue which requires systematic research to understand the ways individuals with different ethnic backgrounds interact and relate to each other. Effective communications and relationships across ethnic boundaries is a goal that needs to be attained. Although the fields of sociology and psychology have answered questions on interethnic relations from a disciplinary perspective, psychological studies focus on cognitive and attitudinal orientations toward in-group and out-group members. Understanding the differences between the communicators' values, norms, language, and verbal and non-verbal characteristics of ethnic cultures, will help one understand potential communication barriers and the ways individuals are successful or unsuccessful dealing with such differences.

When individuals from different cultures interact, misunderstandings usually occur because one expects the other to behave differently from the way he or she actually behaves, or one uses different standards to evaluate his or her behavior. In analyzing the communication and attributional differences between Hispanic and Anglo-American teachers and pupils, Albert (1986) studied the attribute of shame. This attribute was chosen because of its importance in the socialization of Hispanic children. The research, in naturalistic settings, included interviews, structured and unstructured questionnaires and observations.

Preliminary analyses reveled four times as many significant differences overall as would be expected by chance. There were five significant differences for the Hispanic-Anglo factor, six differences occurring between Hispanic pupils and American teachers, and two significant interactions. Data suggest that shame is an important component of Hispanic interpersonal orientation and that shame does not hold the same importance to Anglos. The collectivistic culture of the Hispanics compared to the individualistic Anglo culture may facilitate this attribution although this concept needs further investigation. Hispanics, one of the largest ethnic groups in the United States school system, have the highest dropout rate. These findings could sensitize teachers to the attributions made by Hispanic children and initiate different reactions in certain situations.

Hannigan (1990) found that intercultural communication skills are frequently mentioned in the literature as an important factor in the success of the individual who studies or works with different cultures. After gender, cultural diversity is the second most frequently noted change in the work force (Epting, Glover & Boyd, 1994). It is predicted that 42 percent of the labor force will come from the minority population. This change results in several management issues which must be addressed, communications being the first on the list.

When discussing the importance of effective communication in the business arena, Ivancevich and Matteson (1993) recognized that while language may be a barrier in cross-cultural communication, ethnocentrism is a greater barrier. Business people who familiarize themselves with significant cultural differences that affect the communication process are most successful dealing with culturally diverse clients. This familiarization is usually done by studying, observing and consulting with those who have greater knowledge or experience with the specific culture coupled with a conscious effort to put aside ethnocentric tendencies. While acceptance of customs and perspectives different from their own is not necessary, awareness is required to facilitate communications. More important than familiarization and awareness of different cultures is "knowing that they do not know". Even after extensive exposure to a culture, there are nuances in the communication process to which one is unaware. Rather than assume understanding, it is suggested that one assume that communication is incomplete until proven otherwise.

Need for Cultural Awareness in Healthcare

From a historical perspective, concern for the healthcare of culturally diverse groups began in the early 19th century. Linda Richards was the first US nurse to engage in international nursing in Japan. Nurses such as Lillian Wald and Lavinia Dock attended to the healthcare

needs of European immigrants in New York tenement houses in the early 1900s. In 1970, Madeleine Leininger began her work noting the philosophical and theoretical similarities between nursing and anthropology.

Numerous professional organizations have contributed to the improvement of healthcare for culturally diverse clients. The role of professional organizations in recognizing the importance of cultural diversity in healthcare began when the American Anthropological Association established the Council on Nursing and Anthropology. Today this Council exists as an independent organization with about 350 members. The Transcultural Nursing Society has a current membership of approximately 300.

The lack of knowledge about clients' cultural beliefs hampered nursing students' ability to give optimum nursing care and motivated Lassiter (1995) to write a book describing specific cultural groups in the United States covering communication, chief complaint, child rearing, socialization patterns, religious beliefs and practices, dietary patterns, beliefs about death and dying and physical assessment. One must realize that these are generalizations about common patterns shared by a group and care should be taken not to stereotype.

Some generalizations from Lassiter's (1995) book follow:

The holistic philosophy of health, perceiving mind and body as inseparable and the total person in interaction with the environment, is practiced by African Americans. Illness is believed to occur when there is disharmony or conflict in a persons life. Chinese Americans also embrace the holistic approach believing yin (cold) and yang (hot) to be contrasting yet complimentary aspects of the universe. Yin a female negative energy, passive and unassertive, stores the vital strength of life, while yang a male positive energy is active, excited and assertive. An imbalance of yin and yang within a human body results in dysfunction or disease. Yin conditions such as cancer and pregnancy are treated with yang (hot) foods, and yang conditions such as infections, hypertension and venereal disease are treated with yin (cold) foods. One avoids disrupting the system by practicing moderation. German Americans tend to avoid doctors if at all possible, believing that pure water and air promote good health. This belief is evident by the 250 health resorts and mineral springs in Germany. The Arab American may wear an amulet containing verses from the Quran as a method of preventing or treating illnesses. Although younger generations may not ascribe to traditional beliefs and practices of older generations, they do feel it is the essence of their culture and demonstrates their uniqueness.

Culture determines illness behaviors such as compliance, self-care, pessimism and pain tolerance. The

following examples were documented by Lassiter (1995).
Hispanics when compared to other groups demonstrate high
pain intensity and pain expressiveness and experience a high
degree of emotional stress. While Vietnamese Americans
rarely express negative feelings in public and tend to be
stoic and noncomplaining, they may postpone seeking care for
obvious pathological disorders due to their fear of invasive
procedures and expectation that nature will heal. Mexican
Americans may feel that pain and suffering is atonement for
their sins and not seek medical attention. It is important
for the health professional to recognize that Chinese
Americans are generally quiet, polite and unassertive, and
suppress feelings of anxiety and fear of pain, while Jewish
Americans describe their symptoms in great detail as do
Italian Americans. Haitian Americans tend to form their own
diagnosis before they seek professional care and serious
illness is discussed only with family members.

Lewis-Fernandez and Kleinman (1994) addressing the
cultural biases built into North American professional
models of personality and psychopathology diagnosis, have
identified a new anthropological concept of culture. This
new concept of culture challenges the idea that culture is a
set of cognitive beliefs occurring uniformly in a
population. Rather, the new concept characterizes culture as
value commitments and moral orientations akin to faith that
are embodied in, and experienced by, individuals as what is

at stake in specific, local settings. The cultural theory of personality and psychopathology asserts that the local cultural world precedes the appearance of the individual and fundamentally patterns a persons biological development and psychological processes.

Historically, professional diagnostic criteria have been based on the constructs of personality and psychopathology that are culture bound (Lewis-Fernandez & Kleinman, 1994). The diagnostic criteria reflects those cultures that are of white European descent and it ignores those cultures that reflect 80% of the worlds population. The Chinese and Puerto Rican societies can be used as examples to illustrate the lack of validity in the current clinical diagnostic system. For example, the Chinese conceptions of self and personality are strongly related to family and their birth order within that family. The Chinese concepts of family and birth order provide a framework for understanding how one presents oneself outside the confines of the family. In the mountainous regions of Puerto Rico, women are expected to exert greater self-control than men, who are permitted broader expressions of emotions. Because relationships of confidence serve as outlets for strong emotions, Puerto Rican women are considered in greater need of them than men. The importance of being culturally sensitive to clients is paramount in the Lewis-Fernandez and Kleinman study, suggesting that without this knowledge,

diagnosis can be invalid.

Payne-Johnson (1992) cites the difficulties speech-language pathologists have in understanding elderly African Americans, their communication styles and their priorities. Little research exists on the cultural and related communication differences between elderly African Americans and whites. African Americans have the highest rates of hypertension but they live longer after strokes and require rehabilitation. A number of assessment tools are available to measure communication function, but little is available on cultural diversity within aging populations and how culturally diverse clients respond to these measures.

Pinholt, et al (1987) contend that clinician subjectivity in evaluation of functional status (hearing loss) must be tempered by sensitivity to culturally different communication needs of aging persons. Four important areas have emerged from past studies with implications for culturally derived communication contexts: religion, family relationships, leisure activities and educational interests. These past studies were conducted by Jackson, Jackson and Wood, Taylor, Allen and Chin-Sang, Taylor and Chatters, Multran, Johnson and Barer, Hofferth, and Ralston (as cited in Payne-Johnson, 1992). All four of these areas are integrated into the culture of elderly African Americans more than other age groups. Research on communication differences is needed within larger

populations of the elderly African Americans and culturally
related differences should not be overlooked in their
assessment and rehabilitation. Payne-Johnson (1992) asserts
that to sharpen practitioners cultural sensitivity to
diversity among people who are elderly, diversity issues
should be included in the curricula of colleges and
universities.

Jackson (1993) describes the three major categories of
belief systems commonly found: biomedicine (Western
medicine), personalistic systems (witchcraft, spells, etc.)
and naturalistic systems (equilibrium of the body). Jackson
details the different systems and explains why it is
important for the healthcare provider to understand these
beliefs and integrate them into their treatment. For
example, in a personalistic system, the agent, a ghost or
deity, causes disease by witchcraft or casting a spell.
Curing the illness is done by removing the spell placed upon
the person. Prevention of illness in a personalistic system
involves making sure all your social contacts are in good
working order. The naturalistic system holds that disease is
caused by heat or cold entering the body and causing an
imbalance. This heat or cold can mean actual temperature but
often it means food, medicines, or conditions such as
pregnancy, environmental state and emotional state. In China
anger is believed to be a hot emotion. A person who remains
angry for a long period of time exposes his body to

excessive heat and risks becoming ill with a hot disease
i.e. hypertension. Prevention of sickness in a naturalistic
system involves maintaining a balance of the hot and cold
forces. Again cultural sensitivity is vital in understanding
the clients health beliefs and response to illness and
disease.

Meyers (1992) says that occupational therapists
practicing with culturally diverse client populations need
to understand beliefs, values and family structure that will
affect treatment. Knowledge of cultural background is
especially pertinent for the assessment of children since
one must understand family and social mores to integrate the
family into the plan of care. Meyers (1992) discusses the
Hmong population which is rapidly growing in California,
Wisconsin and Minnesota. The Hmong are similar to the
Southeast Asians but possess some unique characteristics.
The Hmong are from mountainous areas and have limited
exposure to city life, other languages, or cultures. The
household consists of more than one dwelling and sometimes a
whole village. The children are reared by the parents but
all members of the extended family are allowed to discipline
and teach the children. The children, who are very
respectful to elders, are trained to be interdependent and
learn that they are part of an extended family. Women marry
between 13 and 14 years of age. Once the Hmong immigrated to
the U.S., many of their customs began to change to conform

with laws of this country. Asking for help is a shameful
experience for a Hmong. Hmong often do not trust Western
medicine and are advanced in disease stages before they seek
healthcare. Noncompliance is commonplace. Although Meyers
(1992) details the Hmong culture, he emphasizes the
importance of knowing the family's cultural background when
treating children. The passage of the Education for All
Handicapped Children Act (1975) brought Hmong children into
the local school system where service is rendered. Many of
the fears the Hmong have for medical procedures were avoided
by going through the school system for which the Hmong have
great respect. Much of the health evaluation is done in the
home of the child because they are comfortable in this
environment. The author points out that unless the
occupational therapist has knowledge of the culture of this
population and its healthcare practices, diagnosis and
treatment could be mismanaged.

Although sensitivity and adjustment to cultural
differences have long been part of occupational therapy
philosophy, the ability to adapt treatment to cultural
parameters is a difficult task (Kinebanian & Stomph 1992).
Western therapists view the world through products of their
own culture. Realizing this is the first step in development
of cross-cultural occupational therapy.

Minority Faculty in the Health Sciences

When considering all fields, fewer than 11% of faculty

belong to minority groups (Green, 1989). A look at minority faculty in the health sciences reveals similar statistics. In 1991, directors of all accredited U.S. dental hygiene programs were surveyed to determine, among other things, the number of minority faculty and minority applicants for faculty positions (Huntley and Minneman, 1994). Of the 1,025 dental hygienists employed as faculty, there were 59 ethnic minorities represented and 10 males. Most dental hygiene program directors (66%) reported no minority faculty in their programs. Huntley and Minneman (1994) concluded that, the scarcity of minority faculty in dental hygiene programs restricts the number of dental hygiene students who are exposed to minorities as professional role models. Not only is there a lack of minority role models for the dental hygiene students, but also a lack of opportunities to view problems and solutions in oral health education and practice from a minority non-white perspective.

When speaking on the participation of minorities in U.S. dental education, DeVore (1995) reported that the great majority of faculty in U.S. dental schools to be white and male. This 86% white faculty is greater now than in the 1980's and the female faculty include more racial diversity than male faculty. The distribution of minority faculty among the schools is uneven, with the vast majority having no minorities teaching basic sciences. All schools have at least one minority clinical faculty member.

Campbell and Sigsby (1994) described cultural diversity in nursing education. The authors reported a decline in minority faculty in the past decade. Although nursing faculty have a greater proportion of black faculty as compared to faculty in general, it has a small representation of other minorities which is likely to continue in the near future because of the limited numbers of minority students who enter and complete nursing programs in higher education. A need exists for multicultural faculty to alleviate difficulties faced by minority students in all white teaching facilities. Campbell and Sigsby (1994) suggested that minority faculty in schools of nursing serve as consultants to work with majority faculty to increase cultural awareness. Campbell and Sigsby (1994) emphasize the need for multicultural students and multicultural faculty who are able to meet the needs of increasing diverse healthcare clients. Only with heightened cultural sensitivity will faculty be able to work effectively with diverse students and clients.

Minorities Practicing in the Health Sciences

Evans (1992) did not document the percentage of minority faculty in occupational therapy programs, but stated that 7.2% of registered occupational therapists were ethnic minorities. She also stated that there has been no gain in minority student enrollment in occupational therapy programs in recent years. Evans (1992) work is based on 14

research studies documenting the disparities in healthcare between blacks and whites. Findings from these previous studies reveal that: blacks are 38% more likely to die of heart disease than whites due to lack of preventive care; whites received more intensive and aggressive treatment for pneumonia than blacks; and seclusion, restraints and as-needed medication were used more on blacks than whites with similar disorders. The Council on Ethical and Judicial Affairs of the American Medical Association (1990) blamed these disparities on racial prejudice and failures by the medical profession. The Council issued a recommendation to increase awareness of subconscious biases that affect healthcare and a call for all healthcare professionals to increase their cultural sensitivity. Skawski (1987) found that black occupational therapists felt more prepared to deal with the diversity of their clients than white occupational therapists.

Data on minority practitioners in the allied health professions are in short supply. To rectify this lack of data, the U.S. Bureau of Health Professions, Health Resources and Services Administration, Public Health Service and the U.S. Department of Health and Human Services set priorities to develop more accurate statistics (Brand and Walker, 1993). Targeted professions included practitioners in the clinical laboratory sciences, cytotechnology, dental hygiene, dietetics, nuclear medicine technology,

occupational therapy, physical therapy, radiologic technology and respiratory therapy. Various government agencies, professional associations, national registry and certifying organizations, and colleges and universities were resources for data. Findings revealed that few agencies/organizations kept records on the ethnic backgrounds of their healthcare practitioners. Furthermore, the membership of most professional organizations reflects a small percentage of practitioners, rather than a true representation of practitioners. Consequently, those organizations that had ethnic data were not representative of the total population of practitioners. Information was obtained from the Bureau of Labor Statistics and the Bureau of Health Professionals, but the percentage of women, African Americans, and Hispanics employed in six allied health profession was not stated in this literature.

Brand and Walker (1993) recommended that a private entity be established to collect, maintain and disseminate minority practitioners data. These statistics are necessary to determine if the needs of underserved minority communities can be met. Minority data also are needed by government agencies for the evaluation and continued development of health profession training programs. A key rationale for training minorities in the healthcare professions is that minority health professionals are more likely to provide care for underserved minority populations.

Other reasons include the need to break down cross-cultural barriers to healthcare, to improve access to healthcare for nondominant minority groups, and to increase minority practitioner role models who can stimulate the influx of more minorities into the health professions.

Cultural Adaptability and the Curriculum

The cultural diversity issue in education frequently is met with the suggestion to revamp curricula, diversify staff and embrace new teaching strategies. Implementation of these suggestions is necessary to maintain the richness of cultural diversity (Sklarz,1993), and has been implicated as a mandate for faculty development in the 1990's (Collett, 1990). Wilkerson (1992) stated that eurocentric perspectives of schooling must give way to a curricula reflecting the cultural diversity of the nation, since by 2020 it is predicted that minorities will comprise about half of the school age population.

Individuals who see the world only from their unique cultural and ethnic perspectives are culturally and ethnically encapsulated. These individuals also are unable to see fully their own cultures because of their cultural and ethnic blinders. One can only get a full view of their own culture by viewing them from the perspectives of other ethnic cultures (Banks, 1994). Multicultural education attempts to remove these blinders. One of the goals of multicultural education is to lessen the pain and

discrimination experienced by members of some ethnic and racial groups in school and in society in general. Another goal of multicultural education is to provide students with the skills, attitudes, and knowledge to function within their own culture and to help students develop cross-cultural competence. This goal becomes increasingly important as we live in a global society where cross-cultural skills are necessary to be effective, influential citizens of the world community. Banks (1994), in identifying two major goals for school reform, stated that schools should:

1. create total school environments that are consistent with democratic ideals and cultural diversity; and

2. define and implement curricular policies that are consistent with democratic ideals and cultural diversity.

Following these goals, Banks lists 23 curriculum guidelines for multicultural education. Among these are developing a curriculum to help students understand the totality of the experiences of ethnic and cultural groups in the United States and promote values, attitudes, and behaviors that support ethnic pluralism and cultural diversity; and develop the skills necessary for effective interpersonal, interethnic, and intercultural interactions. Certainly these guidelines are applicable to the education of future healthcare professionals.

The educational literature concerning cultural

diversity stresses the challenges colleges and universities face in meeting their commitment to ethnic and cultural diversity. Minority student recruitment, minority faculty recruitment and infusing cultural diversity into the curricula are strongly advised. In business management, culture and values are considered part of the environmental forces and management is encouraged to be sensitive and knowledgeable in this arena (Hellriegel & Slocum, 1991). If incorporating cultural sensitivity and adaptability is important in educational and business settings, its importance in healthcare cannot be ignored.

Andrews (1992) observes that the lack of cultural sensitivity by healthcare providers wastes millions of dollars and alienates the very population nurses purport to help. Population trends indicate that by the year 2000, more than a quarter of our population will consists of minorities and that this percentage is projected to increase by 2080. Although it has been more than two decades since the first transcultural nursing course was taught, Andrews (1992) says only a handful of nursing programs have integrated cultural knowledge into the curriculum. From the 1970's on, Leininger has completed several studies and a theory related to transcultural nursing; yet only 18% of nursing baccalaureate programs included some content on multicultural issues (Eliason & Macy, 1992).

In 1986 the American Nurses' Association identified

four approaches that educators might use to achieve cultural
diversity in the nursing curriculum. These include the
concept approach, the unit approach, the course approach and
the multidisciplinary approach. The concept approach refers
to the integration of cultural concepts throughout the
entire curriculum; the unit approach refers to the inclusion
of cultural aspects of healthcare in a specific unit or
units; the course approach refers to the offering of a
specific course in which the emphasis is on the cultural
aspects of healthcare; and the multidisciplinary approach
refers to the team-teaching of cultural content by
healthcare faculty, anthropologists, medical sociologists,
and others. No evidence exists to support the superiority of
any of these aforementioned approaches.

Kerfoot (1990) speaks about taking the principles of
working with culturally diverse patients and applying them
to culturally diverse staff members. Rather than molding a
person into the existing cultural mores, Kerfoot recommends
using the cultural differences that people bring into a
setting. For example, inservices can be offered in the unit
for individuals to share experiences that relate to their
cultural background. A culturally diverse unit can be
brought together by setting common goals and clearly
understanding the purpose and direction of the unit. A
program of diversity training goes beyond developing
sensitivity in others to coexistence peacefully. The program

centers on using diversity to the advantage of the unit and for client care. Kerfoot (1990) emphasizes the importance of cultural sensitivity for all levels of nursing.

Several authors advocate exposing students to cultures other than their own. Two students, one from Northern Arizona University (rural area) and the other from San Francisco State University (urban area), exchanged schools so they could experience different cultures and settings (Huttlinger & Keating, 1991). The students developed new cultural perspectives and appreciation for the health needs of urban verses rural populations, and compared community resources for healthcare in both rural and urban settings.

Classroom activities to introduce cultural diversity are discussed by Elison and Macy (1992). Two primary components of culture are identified: objective components (tangible) such as language and clothing, and subjective components (intangible) such as attitudes and social roles. Both of these components are learned cognitively and affectively. Student's were asked to record the first word or phrase that they could think of for people in a particular group. The students responses stereotyped groups and were often negative in nature. Anonymity of the responses allowed students to discuss openly their perceptions of diverse groups in the activity that followed. Discussion of stereotypes in the relatively safe environment may help students prepare for real-life experiences where

they will find themselves serving diverse populations.
Talking about stereotypes validates a minority's existence
and experiences.

Saylor and Taylor (1993) discussed teaching as
transformation; the process involving changing curriculum
content to meaningful representations for nursing students.
In 1991, San Jose State University began teaching its
Bachelor of Science in Nursing program to nurses from Saipan
Island. These students, Micronesian from Saipan and other
outlying islands, had an opportunity to transform cultural
beliefs and rituals of their own islands into acceptable
healthcare. Assignments were changed so the students could
prepare individual nursing care plans taking into account
the customs and values of the island's population. For
example, the local diet, which is high in fat, caused the
problem of high morbidity and mortality on the island. The
cultural habits of the people had to be taken into account
before changes could be made in the diet. In the program,
the students themselves become the transformers. Although
Saylor and Taylor (1993) focusing on teaching culturally
diverse students, felt that the process of transformation
could be applied to many nursing schools experiencing
dramatic cultural changes in both student body and in client
care.

Lindquist (1990) reviewed both nursing and education
literature and found it essential to develop a global

perspective when preparing nurses to practice in a world of
increasingly interdependent nations and people. In a
descriptive study, Lindquist identified ways in which
curricula are being internationalized by National League of
Nursing accredited schools. Some of these strategies
included study-aboard programs, international courses taught
on campus and faculty and student exchange programs.
Workshops dealing with transcultural nursing conducted for
faculty and students are other means of increasing
international and cross-cultural sensitivity. Healthcare
professionals, if they are educated in the international
arena, can be one of the greatest resources for
accomplishing the World Health Organization goal of health
for all by the year 2000.

Leininger (1970), a pioneer in transcultural
healthcare, viewed the ultimate challenge for the nurse to
be that of making the care for the patient more specific,
refined and culture focused. Her concept is applicable to
client care in any of the healthcare professions. Leininger
believes that students' cultural sensitivity can be
developed by exploring different perspectives of various
cultural backgrounds. For example, allowing students to
identify family customs and traditions can be incorporated
into classroom activities. Moreover, exploring the beliefs
and values related to wellness, health promotion and
intervention within the students own culture helps students

consider different cultural perspectives as part of total client assessment.

Cultural assessment offers a systematic mechanism for understanding client behaviors within the individual's cultural context. The first process to heighten students awareness of different cultures might be to examine the lifestyle of a sociocultural or ethnic group within their own geographic area. Sharing with other students, customs and beliefs indigenous to their own culture, while focusing on related nursing needs, can enhance cultural sensitivity. As students progress into the nursing program, activities that appraise their own attitudes of health and wellness can be explored and shared in group discussions. Students can than consider multiple differences among cultures and their relationship to healthcare. For example, a nutritional assessment of eastern Indians revealed that they were vegetarians. This finding explained their noncompliance when eating hospital food, and arrangements could be made to ensure culturally acceptable yet healthy diets. Cultural assessment offers a systematic mechanism for understanding client behaviors within the individual's cultural context. An abbreviated form of Leninger's (1978) nine assessment domains help students identify data essential to formulating a cultural assessment of the client. Four major categories were identified: (1) cultural lifestyles and values, (2) folk and professional health cultural systems, including

home remedies and perceptions of health and illness, (3)

religion, and (4) cultural taboos, myths, and superstitions.

Assessment tools may provide the framework for broadly

assessing cultural information, although caution should be

taken not to generalize to certain cultures but to

individualize client care (Henkle & Kennerly, 1990).

Theory of Transcultural Nursing and the Human Needs Theory

Leininger (1985) developed the theory of culture care

diversity and universality with the assertion

> that different cultures perceive, know, and
> practice care in different ways; yet there are
> some commonalities about care among all cultures
> in the world.

Several assumptions were made by Leininger to support

this theory, i.e.,

> care has been essential for human survival,
> development, and to face critical or recurrent
> like events such as illness, disability, and
> death" and although "human care is universal......
> there are diverse expressions, meanings, patterns
> (or lifestyles), and action modalities.

Since care is the dominant domain of nursing, the basis for

the theory of cultural care diversity and university is

care.

The Sunrise Model was developed by Leininger to depict

the theory of cultural care diversity and universality. The

model contains four levels which address the knowledge base

needed for the provisions of culturally sensitive care:

(level 1) care within the social systems, (level 2) care

within individuals, families, and cultures, (level 3) care within the context of the folk and professional systems, and (level 4) nursing actions and decisions which help provide culturally congruent care. Although the Sunrise Model was designed for nursing care, it could be applied to other health science professions. Concepts from this model could be helpful to practitioners interested in providing culturally congruent healthcare.

Faculty interested in cross-cultural healthcare can guide students to adapt healthcare delivery to meet client human needs within the context of the human needs theory (Yura & Walsh, 1988). Several human needs are particularly relevant within a cross-cultural context: the need for recognition and respect by considering the importance of the client's value system, the territoriality need for a space of one's own, the need for self-determination and responsibility, and the need for appreciation and respect. Once the client's beliefs and customs are understood by the healthcare provider, diagnosis may be more accurate and care tailored to fit his/her unique cultural perspective and environment. The human need for conceptualization and problem-solving refers to one's ability to grasp ideas and abstractions and to make sound decisions. The person responsible for decision making and problem solving within a family unit varies widely across cultures. The need for nutrition, a wholesome body image and freedom from pain and

stress are met more effectively if a healthcare provider recognizes the clients traditions, beliefs, definitions of health and disease and communication styles specific to their ethnicity.

<div align="center">Summary</div>

The importance of both faculty and student cultural sensitivity is addressed in the professional literature of several health science disciplines. Although a considerable amount of literature exists on the subject, little activity actualizing the concept could be found. Surprisingly, the nursing profession, which has focused on this issue, has not incorporated cultural sensitivity into its curriculum in any standard manner. The Sunrise Model (Leininger, 1991) suggests the need to move from knowledge of the client's cultural values and beliefs to their integration into the healthcare process. There is evidence in the literature suggesting that faculty need to be multicultural themselves, or experienced in cultural diversity, to teach this concept effectively. Although literature on all health science faculty could not be found, dental hygiene faculty appear to possess the least cultural awareness. This observation is based on the fact that there are less minorities in the programs and less literature on the subject than could be found in nursing, occupational therapy and speech therapy. With the United States demographics changing so dramatically, the health sciences must be prepared to meet

the challenges of providing healthcare to all persons within our society. Students, who will become the healthcare providers of the future, must be informed of and sensitive to the cultural differences among clients. The ability to be culturally sensitive is often not inherent to individuals entering the healthcare professions, but learning opportunities can increase cultural adaptability.

CHAPTER III

METHODS AND MATERIALS

This descriptive study surveyed the health science faculty at Old Dominion University, Norfolk, Virginia. The Cross-Cultural Adaptability Inventory was used to measure cultural adaptability of the faculty.

Sample Description

This research targeted the faculty in the College of Health Sciences, Old Dominion University, Norfolk, Virginia. The College of Health Science faculty comprises a purposive sample chosen to determine their cultural adaptability. It was also a convenience sample located in the school of the researcher. The entire full-time faculty of the health sciences was used as the sample population. Their programs include: several certificate programs; baccalaureate programs in dental hygiene, medical laboratory sciences, and nursing; and masters programs in dental hygiene, medical laboratory sciences, nursing and physical therapy. The sample constituted a manageable number and represented all the faculty from schools within the College of Health Sciences.

During the Spring 1995 semester, there were 40 full-time faculty composed of 8 men and 8 women with doctorates, 2 men and 21 women with masters degrees, and 1 woman with a bachelors degree. Of 40 faculty, 50% were tenured. Three faculty members were African Americans and one was Indian.

The faculty in the sample all teach at the same university located in a culturally diverse, international port of Virginia.

Research Design

A descriptive research approach was selected to measure and describe the cultural adaptability of health science faculty. This study also investigated the extent to which the variable, cultural adaptability, differs among faculty in dental hygiene, medical laboratory sciences, nursing, and physical therapy.

This research design controlled for extraneous variables by:

1. Selecting the entire population of health science faculty at Old Dominion University. Although this sample population teaches at the same university, it is common practice at Old Dominion University to hire faculty educated at other institutions which may allow the findings to be relevant to faculty at other similar institutions.

2. Assuring anonymity and confidentially of inventory results.

3. The same principal investigator administered the *CCAI* and collected and analyzed the results thus increasing the reliability of the data.

Methodology

The Cross-Cultural Adaptability Inventory was administered to the health science faculty at Old Dominion

University by the principal investigator. The inventory was accompanied by a cover letter assuring faculty respondents of anonymity and confidentiality (see Appendix B). Instructions for taking and scoring the inventory were given to each group in the same manner by the principal investigator. This procedure took approximately 30 minutes each time the inventory was administered to a faculty group. The subjects had the opportunity to examine their own assets and liabilities in the area of cultural adaptability. Color coded dots were placed on the inventory results indicating the department in which the faculty teaches. The colors were red for dental hygiene, blue for nursing, yellow for medical laboratory sciences and green for physical therapy. The results were kept by the researcher and only the school in which the faculty teaches is known to the researcher.

<u>Protection of Human Subjects</u>

The following information was submitted to the Old Dominion University Committee on the Protection of Human Subjects and approval was received on June 9, 1995.

1. <u>Subject population</u>. The subjects are faculty in the College of Health Sciences. They were chosen because the research is specific to this group.

2. <u>Potential</u>. The research is descriptive in nature and no potential risk to the participants exists. All responses will be kept anonymous and confidential to protect the right of privacy.

3. <u>Consent</u>. Participation in the study is voluntary. By completing and returning the inventory, faculty are giving their informed consent to participate.

4. <u>Protection of Subjects Rights</u>. All results are to be kept confidential and anonymous. Only the individual faculty member will know how they scored. The results will be kept in group form by discipline only.

5. <u>Potential Benefits</u>. The benefits to the faculty will be immediate. They will learn about their own cross-cultural adaptability and examine their assets and liabilities in this area. They also can make decisions about their own readiness to interact with culturally diverse clients or students and establish their comfort level teaching cultural sensitivity to the future healthcare providers.

6. <u>Risk-benefit Ratio</u>. There are no risk in participating in this study, only the opportunity to learn about ones cultural adaptiveness.

<div align="center">

<u>Instrumentation</u>

</div>

The construct, cultural adaptability, rather than knowledge of cultures, was selected for this study since it is not cultural specific. A standardized instrument, the <u>Cross-Cultural Adaptability Inventory</u>, was used to measure the cultural adaptability of the health science faculty population. The *CCAI* takes about 30 minutes to administer which includes completing the inventory, self-scoring and assessing one's cultural adaptability. The 50 item inventory

measures four research based dimensions: emotional

resilience, flexibility/openness, perceptual acuity, and

personal autonomy. These dimensions are described by Kelley

and Meyers (1992) as:

> **Emotional Resilience.**(18 items) People can
> experience feelings of frustration, confusion
> or loneliness when interacting with people of
> other cultures. The emotional resilient
> person has the ability to deal with stressful
> feelings in a constructive way and to "bounce
> back" from them. Emotionally resilient
> people like new experiences and have
> confidence in their ability to cope with
> ambiguity. They tend to take risks, and have
> a sense of humor and positive self-regard.

> **Flexibility/Openness.**(15 items) When people
> live or work with those of other cultures,
> they usually encounter ways of thinking and
> behaving that are different from their own.
> Open, flexible people enjoy interacting with
> people who think differently from themselves.
> They like and feel comfortable with all kinds
> of people. They tend to be tolerant and
> nonjudgmental, and to think creatively.

> **Perceptual Acuity.**(10 items) People sometimes
> find communication with those of other
> cultures difficult because of unfamiliar or
> confusing values, assumptions, customs, body
> language, and words. People who are
> perceptually acute are attentive to verbal
> and nonverbal behaviors, to the context of
> communication, and to interpersonal
> relations. These people are sensitive to the
> feelings of others and to their own impact on
> others. They tend to be empathic and highly
> accurate communicators.

> **Personal Autonomy.**(7 items) People who
> interact with those of other cultures may not
> receive the types of reactions and
> reinforcement they are accustomed to.
> Personally autonomous people are not overly
> dependent on cues from the environment for
> their identity. They have a strong sense of
> who they are, clear personal values, and
> respect for self and others. They tend to be

self-directed and enjoy making their own
decisions. Because they are confident of
their uniqueness they can feel "at home" in
any environment.

Nine negatively worded items are distributed
throughout the instrument to reduce a response bias to rate
all items in a similar way. The *CCAI* uses a six point
response scale ranging from "definitely not true about me
now" to "definitely true about me now." Responses are
circled on an answer sheet and tallied on a scoring sheet to
obtain scores in each of the four research based dimensions.

The *CCAI* is not targeted to one particular culture, it
is designed to be culture general. The *CCAI* was designed to
help people learn useful information about themselves that
can guide them in the development of cross-cultural
abilities and skills and to better understand the importance
of living and working among people of different cultures.
The *CCAI* is not used to predict success or failure in cross-
cultural interaction or for decision making about ones
future. Instead, it examines ones assets and liabilities in
the area of cross-cultural adaptation and helps one to make
decision about their readiness to interact with other
people. It also assesses the need for further training.

Content and criterion-related validity of the *CCAI* has
been established by its authors, Kelly and Meyers (1992).
Content validity was established by identifying the most
consistently identified traits and skills associated with
cultural adaptability as cited in the professional

literature. These traits and skills were scrutinized by experts who specialize in the area of cross-cultural adaptability. The outcome was a composite list of all traits and skills associated with the ability to adapt effectively to other cultures. This composite list was further field tested with a sample population (N=25) who were already known to possess cross-cultural knowledge or sophistication and who had experience living abroad. Traits rated the highest in terms of cultural adaptability were again compared with the finding in the cross-cultural literature. Experts in the field further categorized the traits into four dimensions. Further field testing on 653 people resulting in shifting of items among the four dimensions with the present instrument published in 1992.

The instrument is appropriate for use with educators who work in a multicultural or culturally diverse environment and with healthcare personnel who frequently interact with people of other cultures. The health science faculty in this research possess the characteristics of the population for whom this instrument is intended. Because of the methods used in its construction, it is reasonable to expect that the *CCAI* has predictive validity.

Statistical Treatment

Data from the *CCAI* is continuous in nature and intervally scaled, and therefore, was analyzed using central tendencies and dispersions. Boxplotting, an exploratory data analysis

technique, was used to visually summarize and identify
unique features amongst the faculty groups (Daniel, 1995).
Differences among faculty in different disciplines on the
variable cultural adaptability and its four dimensions were
analyzed using one-way analysis of variance procedures.
Hypotheses were tested at the .05 level of significance.

CHAPTER IV

RESULTS AND DISCUSSION

A study was conducted to determine the cross-cultural adaptability of the health science faculty at Old Dominion University, Norfolk, Virginia. The entire full-time health science faculty (N=40) in 1995 was used as the sample population. The 40 full-time faculty (8 from dental hygiene, 6 from medical laboratory sciences, 16 from nursing and 10 from physical therapy) were able to complete and self-score the 50 item Cross-Cultural Adaptability Inventory in the presence of the principal investigator. The Cross-Cultural Adaptability Inventory, by Kelley and Meyers (1992), measures four research-based dimensions of cross-cultural adaptability: emotional resilience, flexibility/openness, perceptual acuity and personal autonomy. Data were analyzed using descriptive statistics such as frequencies, percentages, measures of central tendency and measures of dispersions. One-way analysis of variance was used to test for significant differences in the inventory scores among faculty in the different disciplines and to test the difference among faculty on each of the four research-based dimensions within the inventory. The computerized SPSS system for windows was used for data analysis.

Results

Question one. Data were examined to test the hypothesis that no statistically significant difference, at the .05

level, existed in the overall cultural adaptability among dental hygiene, medical laboratory sciences, nursing and physical therapy faculty as measure by the Cross-Cultural Adaptability Inventory (CCAI). The mean, standard deviation, range and median were found for each discipline (see Table 1). Boxplots were generated with summaries for each faculty group (see Figure 1). One-way analysis of variance revealed no statistically significant differences between the faculties (F = .9840, df = 39, p = .4112) (see Table 2). A 95% confidence interval for the population mean for each group was established (see Table 3).

The boxplots visually summarize and compare the distribution of values in all four faculty groups. The horizontal line inside the box represents the median score on the inventory. The location of this line within the box depicts the skewness of the data (SPSS, 1993). Dental hygiene CCAI scores were positively skewed since the median line is towards the bottom indicating that most of the dental hygiene faculty scored above the median in their group; whereas medical laboratory sciences scores had a tendency to be negatively skewed, its line appearing toward the top. Fifty percent of the scores fall within the box, which also is an indication of the spread of the scores. Fifty percent of the scores of medical laboratory sciences, nursing and physical therapy fall above the CCAI sample population median of 225 (see Appendix C). The vertical

Table 1

CROSS-CULTURAL ADAPTABILITY INVENTORY SCORES OF
HEALTH SCIENCE FACULTY (N=40)

FACULTY	N	MEAN	STANDARD DEVIATION	VARIANCE	RANGE	MEDIAN
DENTAL HYGIENE	8	231	22.06	486.85	209-261	223.5
MEDICAL LABORATORY SCIENCES	6	231	15.97	255.06	205-254	233.0
NURSING	16	239	22.71	515.93	189-269	241.0
PHYSICAL THERAPY	10	245	15.84	250.93	223-275	243.5
TOTAL	40	238	20.18	407.28	189-275	238.5
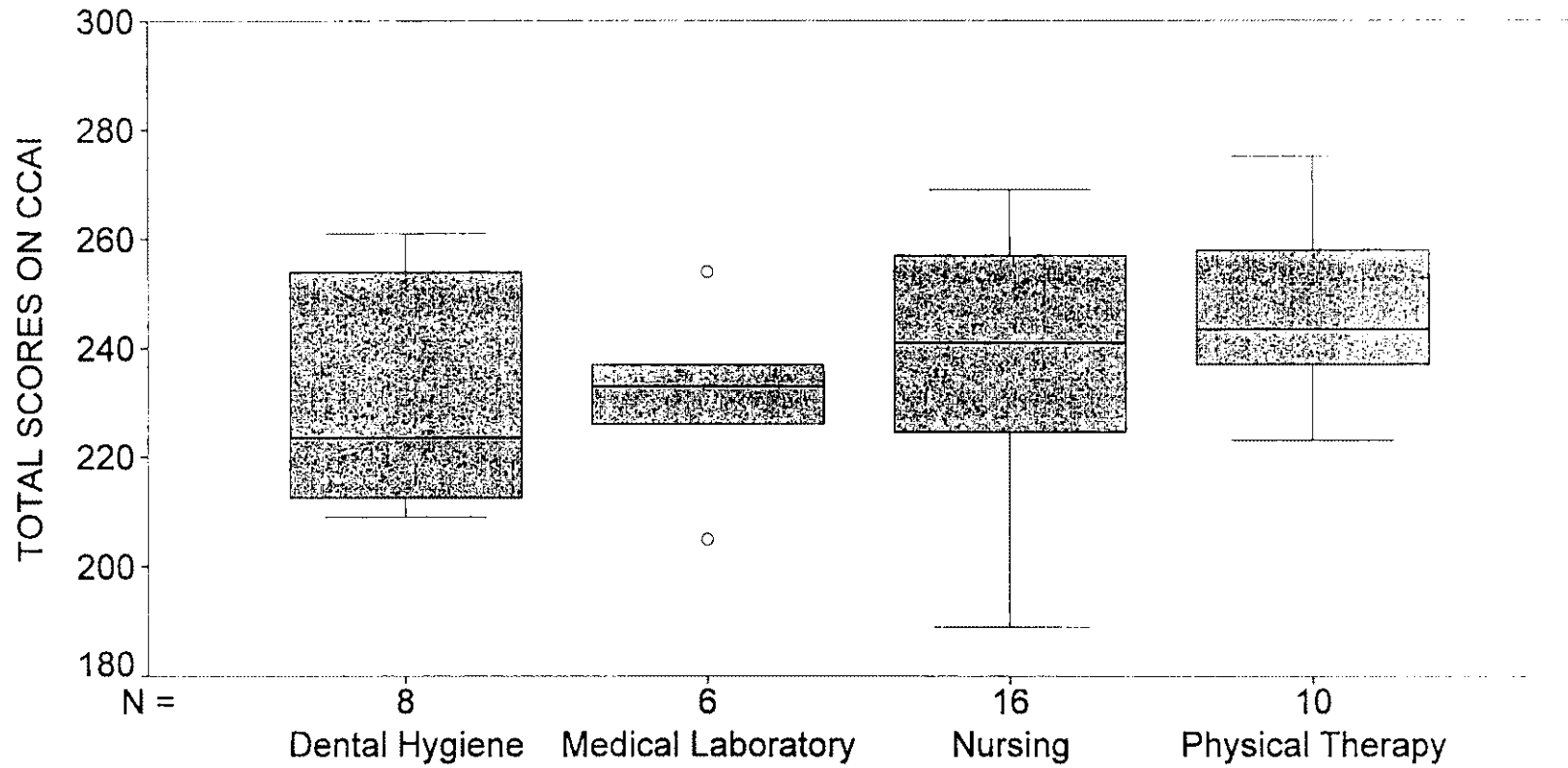
OVERALL SCORES OF FOUR HEALTH SCIENCE FACULTY GROUPS

ON THE CROSS-CULTURAL ADAPTABILITY INVENTORY

FIGURE 1

Table 2

ONE-WAY ANALYSIS OF VARIANCE OF OVERALL CROSS-CULTURAL ADAPTABILITY SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	Prob.
Between Groups	3	1203.7667	401.2556	.9840	.4112
Within Groups	36	14680.2333	407.7843		
Total	39	15884.0000			

TABLE 3

CONFIDENCE INTERVALS FOR THE MEAN CROSS-CULTURAL ADAPTABILITY INVENTORY SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

Group*	N	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean		
Grp 1	8	231.2500	22.0632	7.8005	212.8047	TO	249.6953
Grp 2	6	231.3333	15.9708	6.5201	214.5733	TO	248.0934
Grp 3	16	239.2500	22.7142	5.6785	227.1465	TO	251.3535
Grp 4	10	245.4000	15.8409	5.0093	234.0681	TO	256.7319
Total	40	238.0000	20.1812	3.1909	231.5457	TO	244.4543

*GROUPS

Grp 1 = Dental Hygiene Faculty

Grp 2 = Medical Laboratory Sciences Faculty

Grp 3 = Nursing Faculty

Grp 4 = Physical Therapy Faculty

lines extending from the box extend to the lowest score at
the bottom of the 25 percentile to the highest score of the
75 percentile. Two outliers were found in the medical
laboratory sciences faculty group. (Outliers, designated on
the boxplots by 0 indicate that scores fell 1.5 to 3.0 box-
lengths from the upper or lower edge of the box.) Since
there is no evidence of heterogeneity in the analysis of the
data and the fact that these outliers are likely to occur in
small sample sizes, these outliers were ignored.

To have an overall account of the following four
research questions, a table was constructed presenting the
mean scores of each discipline on the four research based
dimensions: emotional resilience, flexibility/openness,
perceptual acuity and personal autonomy on the Cross-
Cultural Adaptability Inventory (see Table 4).

Question two. Data also were examined to test the
hypothesis that no statistically significant difference, at
the .05 level, existed in the emotional resilience dimension
among dental hygiene, medical laboratory sciences, nursing
and physical therapy faculty as measured by the Cross-
Cultural Adaptability Inventory. The mean, standard
deviation, range and median were found for each discipline
(see Table 5). Boxplots were generated with summaries for
each faculty group (see Figure 2). One-way analysis of
variance revealed no statistically significant differences
between the health science faculty groups on the dimension

Table 4

MEAN SCORES ON HEALTH SCIENCE FACULTY
DIMENSIONS OF CROSS-CULTURAL ADAPTABILITY

FACULTY	EMOTIONAL RESILIENCE	FLEXIBILITY OPENNESS	PERCEPTUAL ACUITY	PERSONAL AUTONOMY
DENTAL HYGIENE	80.625	69.625	46.250	34.750
MEDICAL LABORATORY	83.000	66.667	45.833	35.833
NURSING	85.063	72.438	47.813	33.938
PHYSICAL THERAPY	84.700	75.438	49.900	34.900
TOTAL	83.775	71.875	47.725	34.625

Table 5

CENTRAL TENDENCY AND DISPERSION
OF THE FOUR HEALTH SCIENCE FACULTY GROUPS
ON THE EMOTIONAL RESILIENCE DIMENSION OF THE
CROSS-CULTURAL ADAPTABILITY INVENTORY

FACULTY	N	MEAN	STANDARD DEVIATION	RANGE	MEDIAN
DENTAL HYGIENE	8	80.625	9.226	70-98	78.500
MEDICAL LABORATORY	6	83.000	9.487	65-92	84.500
NURSING	16	85.063	9.190	66-99	85.000
PHYSICAL THERAPY	10	84.700	8.945	66-96	86.500
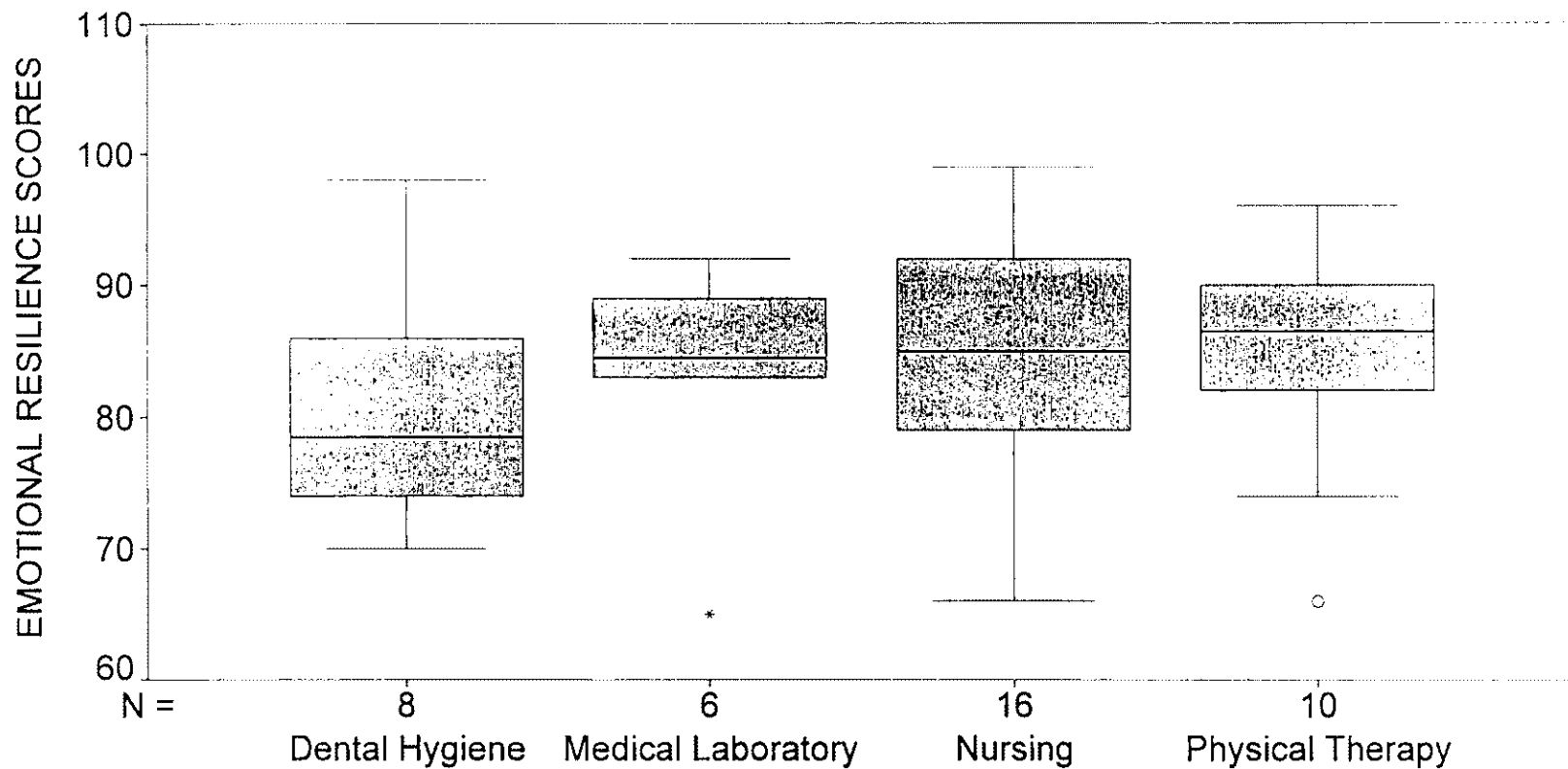
EMOTIONAL RESILIENCE SCORES OF FOUR HEALTH SCIENCE FACULTY GROUPS

ON THE CROSS-CULTURAL ADAPTABILITY INVENTORY

FIGURE 2

emotional resilience (F = .4671, df = 39, p = .7070)(see

Table 6). A 95% confidence interval for the population mean

of each group was established (see Table 7).

Question three. Data were examined to test the

hypothesis that no statistically significant difference, at

the .05 level, existed in the flexibility/openness dimension

among dental hygiene, medical laboratory sciences, nursing,

and physical therapy faculty as measured by the Cross-

Cultural Adaptability Inventory. The mean, standard

deviation, range and median were found for each health

sciences faculty group by discipline (see Table 8). Boxplots

were generated with summaries for each faculty group (see

Figure 3).

There was evidence of a substantial difference in the

standard deviation among the groups; therefore, doing an

analysis of variance on all four faculty groups would be

invalid (see Table 9). After eliminating the dental hygiene

faculty because this group did not meet the assumption of

homogeneity of variance, one-way analysis of variance

revealed a statistically significant difference among the

three remaining groups (F = 3.9280, df = 31, p = .0309)(see

Table 10). Since the analysis of variance led to a

significant difference, the least significant difference

(LSD) procedure was used to identify the groups in which

this difference occurred. The LSD procedure identified the

difference between the two means to be statistically

Table 6

ONE-WAY ANALYSIS OF VARIANCE OF EMOTIONAL RESILIENCE SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	Prob.
Between Groups	3	118.0625	39.3542	.4671	.7070
Within Groups	36	3032.9125	84.2476		
Total	39	3150.9750			

Table 7

CONFIDENCE INTERVALS FOR THE MEAN EMOTIONAL RESILIENCE SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

Group*	N	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean		
Grp 1	8	80.6250	9.2263	3.2620	72.9116	TO	88.3384
Grp 2	6	83.0000	9.4868	3.8730	73.0443	TO	92.9557
Grp 3	16	85.0625	9.1903	2.2976	80.1653	TO	89.9597
Grp 4	10	84.7000	8.9449	2.8286	78.3012	TO	91.0988
Total	40	83.7750	8.9886	1.4212	80.9003	TO	86.6497

*GROUPS

Grp 1 = Dental Hygiene Faculty
Grp 2 = Medical Laboratory Sciences Faculty
Grp 3 = Nursing Faculty
Grp 4 = Physical Therapy Faculty

Table 8

CENTRAL TENDENCY AND DISPERSION
OF THE FOUR HEALTH SCIENCE FACULTY GROUPS
ON THE FLEXIBILITY/OPENNESS DIMENSION OF THE
CROSS-CULTURAL ADAPTABILITY INVENTORY

FACULTY	N	MEAN	STANDARD DEVIATION	RANGE	MEDIAN
DENTAL HYGIENE	8	69.625	12.141	52-85	70.500
MEDICAL LABORATORY	10	66.667	5.428	58-72	67.000
NURSING	16	72.438	7.642	56-83	74.000
PHYSICAL THERAPY	8	75.900	4.175	71-82	75.000

FLEXIBILITY/OPENNESS SCORES OF FOUR HEALTH SCIENCE GROUPS
ON THE CROSS-CULTURAL ADAPTABILITY INVENTORY

FIGURE 3

Table 9

CONFIDENCE INTERVAL FOR THE MEAN FLEXIBILITY/OPENNESS SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

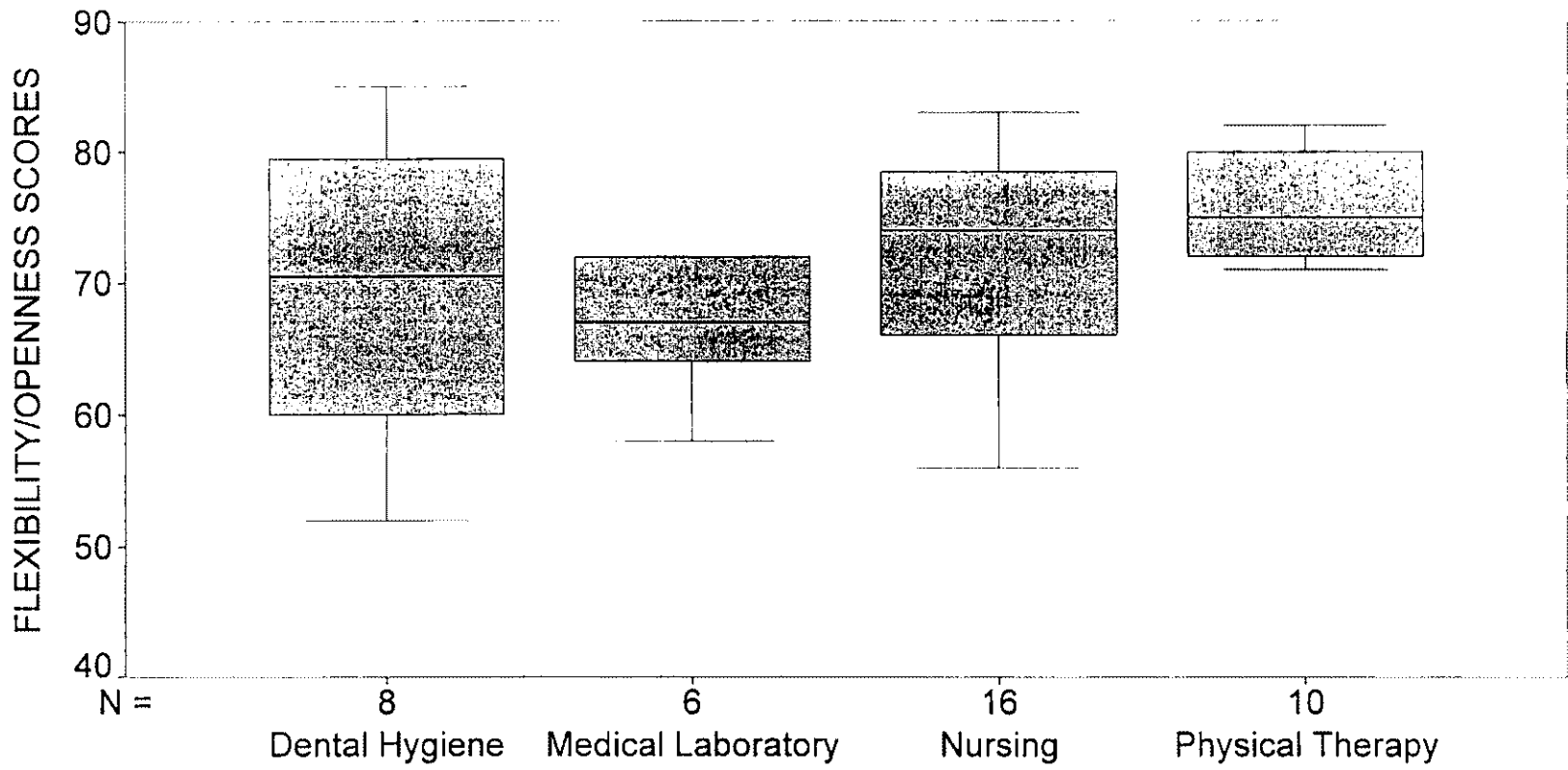| Group*	N	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean		
Grp 1	8	69.6250	12.1413	4.2926	59.4747	TO	79.7753
Grp 2	6	66.6667	5.4283	2.2161	60.9701	TO	72.3633
Grp 3	16	72.4375	7.6417	1.9104	68.3655	TO	76.5095
Grp 4	10	75.9000	4.1753	1.3204	72.9132	TO	78.8868
Total	40	71.8750	8.1372	1.2866	69.2726	TO	74.4774

*Groups
Grp 1 = Dental Hygiene Faculty
Grp 2 = Medical Laboratory Sciences Faculty
Grp 3 = Nursing Faculty
Grp 4 = Physical Therapy Faculty

Table 10

ONE-WAY ANALYSIS OF VARIANCE OF FLEXIBILITY/OPENNESS SCORES
OF MEDICAL LABORATORY SCIENCES, NURSING AND PHYSICAL THERAPY FACULTY GROUPS

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	Prob.
Between Groups	2	319.7042	159.8521	3.9280	*.0309
Within Groups	29	1180.1708	40.6955		
Total	31	1499.8750			

*Significant

The dental hygiene faculty group was eliminated from this analysis because scores failed
to meet the assumption of homogeneity of variance as required for the application of the
analysis procedure.

significant. This difference occurred between medical laboratory sciences and physical therapy faculty; therefore, physical therapy faculty have significantly higher flexibility/openness scores than the medical laboratory sciences faculty.

To test the hypothesis that the population variances are equal between dental hygiene faculty and each of the other three faculty groups individually, medical laboratory sciences, nursing and physical therapy, the variance ratio test was conducted. The population variances of dental hygiene faculty when compared with medical laboratory sciences faculty were equal (Computed Value 5.002 < 6.85 Critical Value), as well as the population variances of dental hygiene faculty compared to nursing faculties (Computed Value 2.524 < 3.29 Critical Value); therefore, an independent t test was preformed to determine if a difference existed in the population means of these groups. Based on these data, there was no difference in the population mean scores of dental hygiene and medical laboratory sciences faculty (Critical Value ± 2.1788, t =.55), nor between dental hygiene and nursing faculty (Critical Value ± 2.0739, t = -.70). The variance ratio test comparing dental hygiene and physical therapy faculty revealed unequal population variances (Computed Value 8.456 > 4.20 Critical Value); therefore, a t prime test was conducted to determine if the population means were

different. These results suggest that the dental hygiene
population mean scores are not different from the physical
therapy population means scores (Critical Value ± 2.355,t =
-1.40).

Question four. Data were examined to test the
hypothesis that no statistically significant difference, at
the .05 level, existed in the perceptual acuity dimension
among dental hygiene, medical laboratory sciences, nursing
and physical therapy faculty as measured by the Cross-
Cultural Adaptability Inventory. The mean, standard
deviation, range and median were found for each health
science faculty group (see Table 11). Boxplots were
generated with summaries for each faculty group (see Figure
4). One-way analysis of variance revealed no statistically
significant difference between the four health sciences
faculty groups (F = 1.1667, df = 39, p = .3359) (see Table
12). A 95% confidence interval for the population mean of
each group was established (see Table 13).

Question five. Data were examined to test the
hypothesis that no statistically significant difference, at
the .05 level, existed in the personal autonomy dimension
among dental hygiene, medical laboratory sciences, nursing
and physical therapy faculty as measured by the Cross-
Cultural Adaptability Inventory. The mean, standard
deviation, range and median were found for each health
science faculty group by discipline (see Table 14). Boxplots

Table 11

CENTRAL TENDENCY AND DISPERSION
FOR THE FOUR HEALTH SCIENCE FACULTY GROUPS
ON THE PERCEPTUAL ACUITY DIMENSION OF THE
CROSS-CULTURAL ADAPTABILITY INVENTORY

FACULTY	N	MEAN	STANDARD DEVIATION	RANGE	MEDIAN
DENTAL HYGIENE	8	46.250	5.776	36-53	47.000
MEDICAL LABORATORY	6	45.833	2.787	41-49	46.000
NURSING	16	47.813	5.023	40-56	46.500
PHYSICAL THERAPY	10	49.900	5.131	44-60	48.500
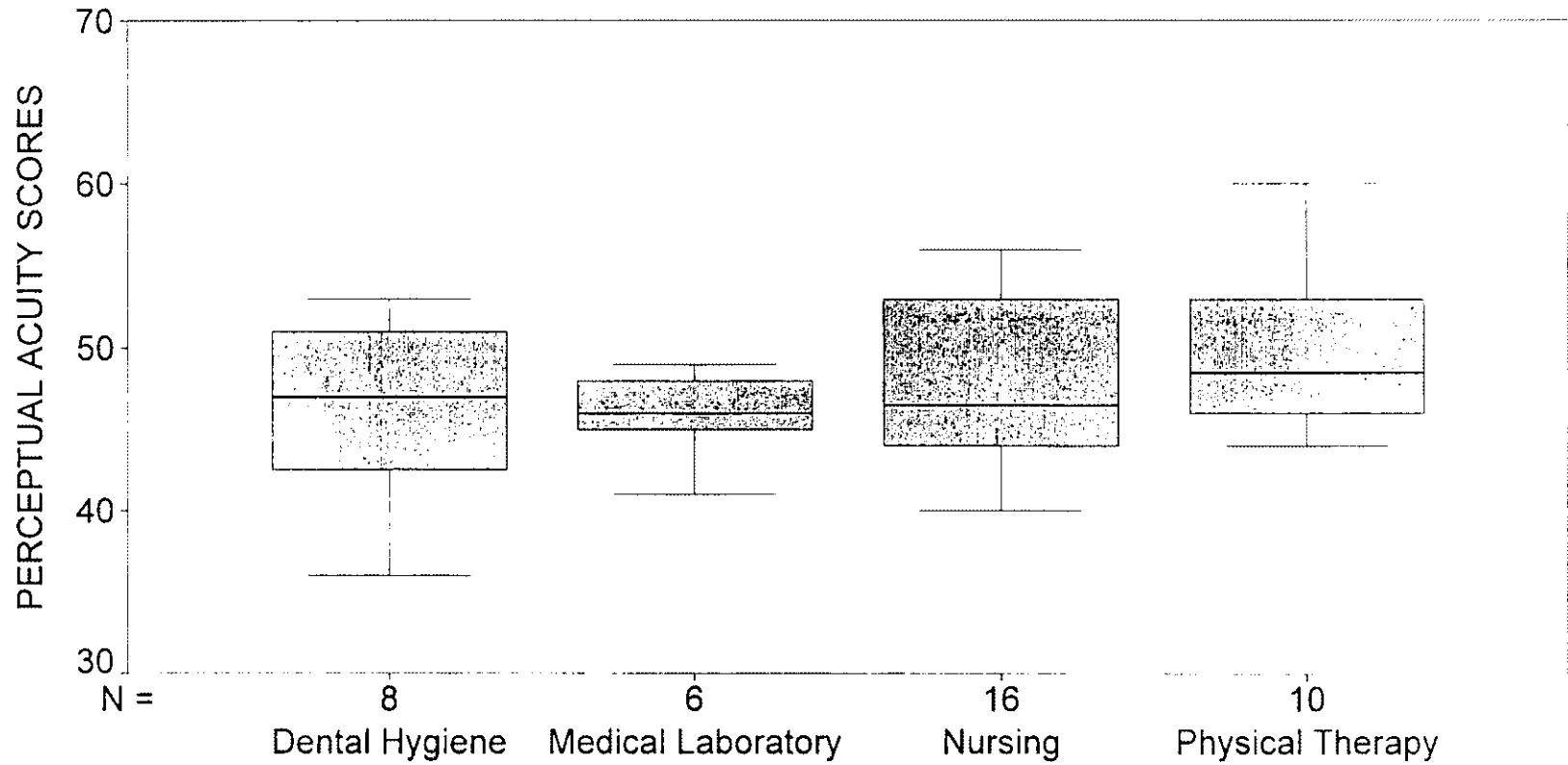
PERCEPTUAL ACUITY SCORES OF FOUR HEALTH SCIENCE FACULTY GROUPS

ON THE CROSS-CULTURAL ADAPTABILITY INVENTORY

FIGURE 4

Table 12

ONE-WAY ANALYSIS OF VARIANCE OF PERCEPTUAL ACUITY SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	Prob.
Between Groups	3	86.3042	28.7681	1.1667	.3359
Within Groups	36	887.6708	24.6575		
Total	39	973.9750			

Table 13

CONFIDENCE INTERVAL FOR THE MEAN PERCEPTUAL ACUITY SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

Group	N	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean		
Grp 1	8	46.2500	5.7756	2.0420	41.4215	TO	51.0785
Grp 2	6	45.8333	2.7869	1.1377	42.9087	TO	48.7579
Grp 3	16	47.8125	5.0229	1.2557	45.1360	TO	50.4890
Grp 4	10	49.9000	5.1305	1.6224	46.2298	TO	53.5702
Total	40	47.7250	4.9974	.7902	46.1268	TO	49.3232

*GROUPS

Grp 1 = Dental Hygiene Faculty
Grp 2 = Medical Laboratory Science Faculty
Grp 3 = Nursing Faculty
Grp 4 = Physical Therapy Faculty

Table 14

CENTRAL TENDENCY AND DISPERSION
OF THE FOUR HEALTH SCIENCE FACULTY GROUPS
ON THE PERSONAL AUTONOMY DIMENSION OF THE
CROSS-CULTURAL ADAPTABILITY INVENTORY

FACULTY	N	MEAN	STANDARD DEVIATION	RANGE	MEDIAN
DENTAL HYGIENE	8	34.750	3.370	30-41	34.500
MEDICAL LABORATORY	10	35.833	6.210	25-42	37.000
NURSING	16	33.938	3.660	25-39	35.000
PHYSICAL THERAPY	10	34.900	3.573	30-40	34.500

were generated with summaries for each faculty group (see Figure 5). One-way analysis of variance revealed no statistically significant difference between the four health science faculty groups (F = .3510, df = 39, p = .7886) (see table 15). A 95% confidence interval for the population mean for each group was established (see Table 16).

Discussion

Question one. Analysis of mean differences in the overall *CCAI* scores revealed no statistically significant difference among dental hygiene, medical laboratory sciences, nursing, and physical therapy faculty; therefore, the null hypothesis was retained. The population means for all four faculty groups were equal, and there was evidence of homogeneity in the overall cultural adaptability scores of the health sciences faculty. The mean score for the entire health sciences faculty was 238.00 (see Table 3) and the mean score for the norm group for the *CCAI* is 225.85 as reported by Kelley and Meyers (1992)(see Appendix C). This norm group consisted of 653 persons who took the *CCAI*, administered by a pool of cross-cultural trainers, in conjunction with cross-cultural training, education, or team building (Kelley & Meyers 1992). As reflected in the demographic statistics of the *CCAI*, the norm group had experience living abroad and had relatively high educational levels. The *CCAI* norm group mean was within the 95% confidence interval of both the dental hygiene and the
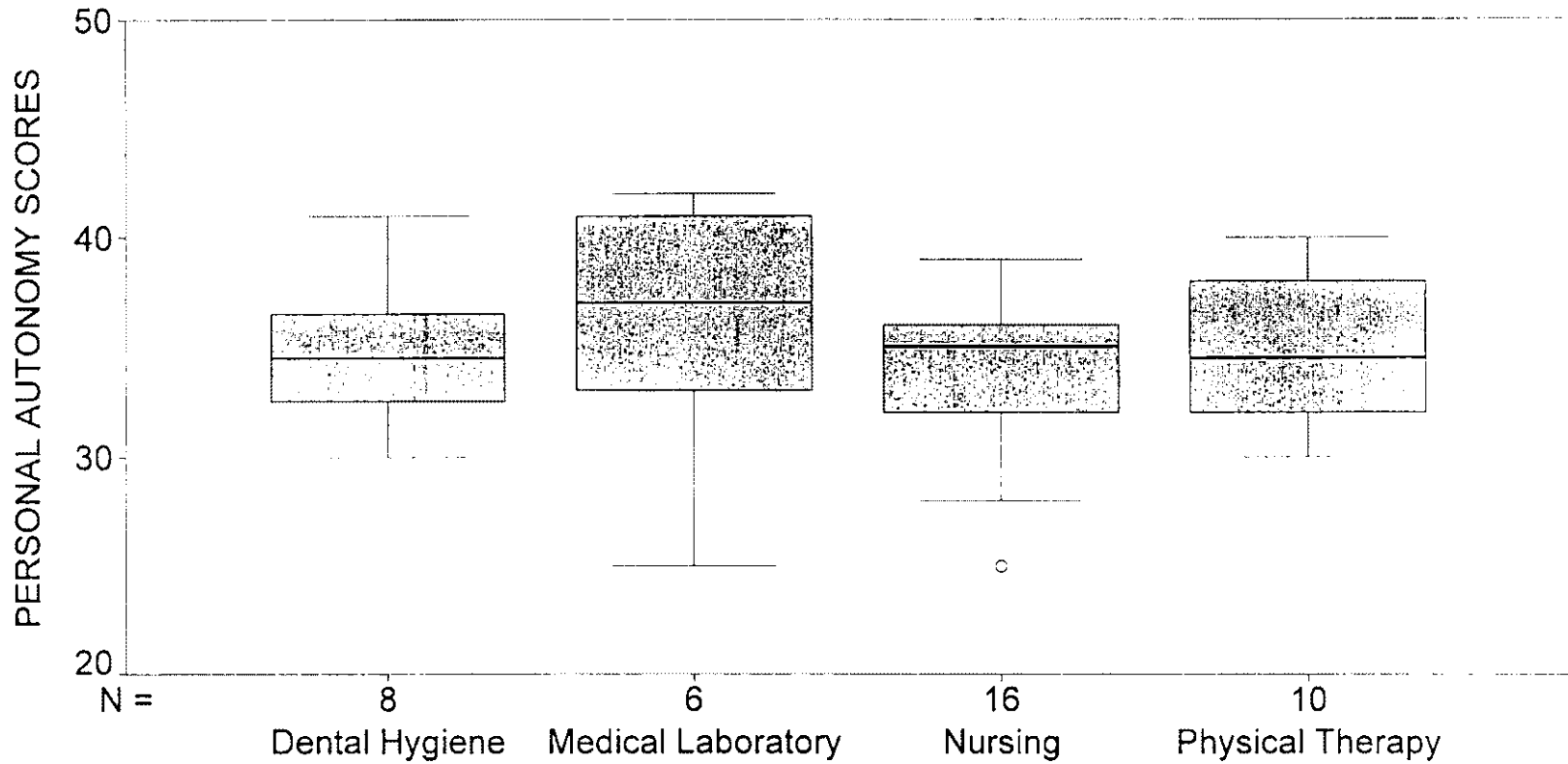
PERSONAL AUTONOMY SCORES OF FOUR HEALTH SCIENCE FACULTY GROUPS
ON THE CROSS-CULTURAL ADAPTABILITY INVENTORY

FIGURE 5

Table 15

ONE-WAY ANALYSIS OF VARIANCE OF PERSONAL AUTONOMY SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	Prob.
Between Groups	3	17.2042	5.7347	.3510	.7886
Within Groups	36	588.1708	16.3381		
Total	39	605.3750			

Table 16

CONFIDENCE INTERVAL FOR THE MEAN PERSONAL AUTONOMY SCORES
OF FOUR HEALTH SCIENCE FACULTY GROUPS

Group*	N	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean		
Grp 1	8	34.7500	3.3700	1.1915	31.9326	TO	37.5674
Grp 2	6	35.8333	6.2102	2.5353	29.3162	TO	42.3504
Grp 3	16	33.9375	3.6600	.9150	31.9872	TO	35.8878
Grp 4	10	34.9000	3.5730	1.1299	32.3440	TO	37.4560
Total	40	34.6250	3.9399	.6229	33.3650	TO	35.8850

*GROUPS
Grp 1 = Dental Hygiene Faculty
Grp 2 = Medical Laboratory Science Faculty
Grp 3 = Nursing Faculty
Grp 4 = Physical Therapy Faculty

medical laboratory sciences faculty scores, but fell below
the 95% confidence interval of both the nursing and physical
therapy faculty scores (see Table 3 and Appendix C). The
mean score of 225.85 for the *CCAI* norm group fell below the
95% confidence interval of the entire health sciences
faculty when all four faculty groups scores were combined
(see Table 3). Therefore, higher levels of cross-cultural
adaptability scores were exhibited among dental hygiene,
medical laboratory sciences, nursing and physical therapy
faculty than found in the *CCAI* norm group (Kelley & Meyers,
1992). Faculty must be somewhat culturally adaptable to
teach cross-cultural concepts within a program or
curriculum. The *CCAI* scores exhibited by the health
sciences faculty suggest that, on average, they possess
qualities cross-cultural experts often cite as necessary to
be successful in cross-cultural adaptability (Kelley &
Meyers, 1992). However, with *Healthy People 2000* singling
out the minority populations of African Americans, American
Indians/Alaskan Natives and Pacific Islanders as being most
in need of healthcare, then faculty must further develop
cultural adaptability skills if they are to incorporate
skill training into the health sciences curricula. Cross-
cultural training is necessary if healthcare providers are
to care for and communicate effectively with people who are
culturally different. The *CCAI* instrument was designed on
established concepts of cross-cultural effectiveness and

measures factors documented in the literature as important

for successful cross-culture functioning (Hannigan, 1990).

Although no literature was found assessing the cross-

cultural adaptability of other health sciences faculty, the

literature by Sikkema and Nijekawa (1987) suggests that the

qualities measured by the inventory are paramount for

successful cross-cultural interactions.

Further analysis of each dimension within the *CCAI*,

when comparing the mean scores among dental hygiene, medical

laboratory sciences, nursing, and physical therapy

faculties, revealed no statistically significant difference,

at the .05 level, in emotional resilience, perceptual acuity

and personal autonomy. All the null hypotheses were

retained. A statistically significant difference, at the .05

level, did occur in the dimension flexibility/openness

between physical therapy and medical laboratory sciences.

That null hypothesis was rejected.

Question two. The boxplots show 50% of the medical

laboratory sciences, nursing and physical therapy faculty

scores, in the dimension emotional resilience, falling above

the *CCAI* group norms of 79 (see Figure 2 and Appendix C).

Although dental hygiene faculty scored lowest of the groups

in the emotional resilience dimension, their scores were

comparable to the *CCAI* group norms. The emotional resilience

dimension measures the ability to "fit in" to a new culture

and interact positively (Searle and Ward, 1990). One's

ability to deal effectively with culture shock is very
important in the cross-cultural experience (Kelley & Meyers,
1990). These lower scores may be attributed to the fact that
Old Dominion University's full time dental hygiene faculty,
unlike the other health sciences groups, has no minorities.
This finding is within the range of findings from the total
population of full-time faculty in U.S. dental hygiene
programs where only 6% are minorities (Huntley & Minneman,
1994). Scores with values more than 3.0 box-lengths from the
upper or lower edge of the box are considered extreme values
and are designated by an asterisk(*) (SPSS, 1993). There is
evidence of an extremely low score in the medical laboratory
sciences faculty group; however, since there is no evidence
of heterogeneity in the analysis of the data and extremes
can occur in small sample sizes, these extremes were
ignored. Physical therapy faculty exhibited one outlier
which, for the same reasons, was ignored.

Question three. Dental hygiene faculty exhibited a
substantially greater standard deviation than the other
three faculties in the dimension flexibility/openness (see
Table 9); therefore, a one-way analysis of variances was
conducted on three faculty groups without the dental hygiene
faculty scores (see Table 10). This one-way analysis of
variance revealed a significant difference at a .03 level;
further Least Significant Difference (LSD) test identified a
difference between the medical laboratory sciences and

physical therapy faculties. The physical therapy faculty's mean of 76 was considerably higher than the *CCAI* mean of 67 for the dimension flexibility/openness. This could have occurred because of the physical therapy's experience with individuals from other cultures. Two of the faculty members chose to practiced abroad and another participated in a project in Haiti in fulfillment of his doctoral degree. During academic year 1994-1995, the faculty also hosted an exchange professor from the Netherlands. The chairman of the department of physical therapy had spent 24 years in the U.S. Public Health Service providing healthcare to culturally diverse individuals (Echternach,1996). This interpretation is supported by Yoshikawa (1987) who suggests that a person does not accept cultural differences unless he is flexible and open.

Question four. In the dimension perceptual acuity, the scores for the four health sciences faculty groups are equal to or greater than the mean and median of the *CCAI* group norms (see Table 11 and Figure 4). Perceptually acute people tend to be empathic and effective communicators; both of these characteristics are highly encouraged in the healthcare professions (Kelley & Meyers, 1992). The lowest mean score among the four health science faculty groups was exhibited by the medical laboratory sciences faculty. Medical laboratory sciences professionals, having the least direct interaction with the clients may lack the

opportunities to develop cross-cultural skills in the healthcare setting.

Question five. Fifty percent of the scores for all four health sciences faculty groups in the dimension personal autonomy are above the *CCAI* norms (see Table 16, Figure 5 and Appendix C). In fact, the *CCAI* group norm mean of 32.88 falls below the 95% confidence interval of the total health sciences faculty groups means of 33.37 to 35.89 (see Table 16 and Appendix C). An explanation for the higher than average scores in the personal autonomy dimension among all four of the health science faculty groups may be that faculty tend to be independent people and that independence gets reinforced by the autonomy they have in their roles. Personally autonomous people tend to be self-directed and are not dependent on cues from the environment to give them a sense of identity (Kelley & Meyers, 1992). Since the responsibilities and achievements of most college instructors are not influenced by their peers, self-direction is a behavior that most faculty possess.

A closer look at the mixed nature of the health science faculty, having "dual roles" as healthcare providers and as college teachers, may explain the higher than average *CCAI* scores exhibited by all four health science faculty groups as compared with the *CCAI* group norms. For instance, the very nature of providing healthcare exposes individuals to clients' diets, family life, health behaviors, values and

beliefs, all of which are culturally determined. The Old Dominion University health science faculty are involved in providing services to migrant workers, indigent populations who are often minorities and immigrant populations. Some faculty members have traveled abroad to third world countries as part of goodwill healthcare teams. In the educational arena, the increasingly diverse student body at Old Dominion University requires some cultural adaptability on the part of the health science faculty. During academic year 1994-95, the health science student body of approximately 1500, was comprised of 25% minorities.

As on many campuses, cultural diversity is an important issue in higher education and is being addressed on an ongoing basis at workshops and seminars. The general education goals at Old Dominion University include developing students' understanding of Western and non-Western cultures and values, and developing their understanding of the perspectives, contributions, and concerns of women and minorities. All these experiences tend to increase faculty's knowledge of different cultures and emphasize the need to be adaptable (Leininger, 1985). Still, this degree of cross-cultural knowledge and experience is inadequate to provide increasing numbers of culturally diverse individuals optimum healthcare (USDC, 1992). This cross-cultural knowledge needs to be consciously included in the curriculum making it possible for students to

incorporate cultural awareness into healthcare planning,
client education and decision making (Lindquist,1990).

The environment, an important factor, may also help
explain the higher than average *CCAI* scores of the health
sciences faculty, as compared with the *CCAI* groups norm
scores. The city of Norfolk, in which Old Dominion
University is located, has a unique geographic attribute,
that of a large deep water harbor, making it the largest
naval base on the east coast and a growing international
port. These features attract people from around the globe.
Therefore, it is likely that the health science faculty at
Old Dominion University, both on and off the campus, are
exposed to greater cultural diversity than health science
faculty at universities or colleges in a homogenous
environment.

As stated earlier in both the introduction and
significance of the problem sections, the early immigrants
to the United States were predominantly Caucasian,
possessing Eurocentric beliefs; thus, they were perceived as
being part of the "melting pot" (Fuller & Schaller-Ayars,
1990). With the tremendous growth of ethnically diverse
groups within the United States, (Statistical Abstract of
the United States, 1992), assimilation is being replaced
with pluralism. Healthcare professionals have an
unprecedented challenge to provide culturally sensitive
healthcare to multicultural communities that are not

abandoning their ethnic culture. The first in line to meet this challenge are faculty who educate future healthcare providers, and who must incorporate the concept of culturally sensitive healthcare into existing health science curricula. Since the United States population is increasingly pluralistic, an even higher degree of cross-cultural knowledge and awareness than exhibited by the health sciences faculty on the *CCAI* may be required to meet the challenge of graduating culturally sensitive healthcare providers.

CHAPTER V

SUMMARY AND CONCLUSIONS

The complex issues of diversity, multiculturalism and cultural awareness are being addressed in all facets of American life. The rapidly changing demographics of the United States require cultural adaptability skills for successful communication in business, education and healthcare (Hillriegel & Slocum, 1991; Banks, 1994). This study addressed healthcare and the need to develop interculturally competent practitioners who are skilled in recognizing and working with clients' cultural values and beliefs. As the literature suggests, this process begins with education starting with the faculty (Kalkwarf, 1995; Payne-Johnson, 1992). The purpose of this study was to determine the cross-cultural adaptability of the health science faculty who are responsible for teaching cultural sensitivity to future healthcare providers. Identifying the strengths and weaknesses of the health science faculty on the constructs of cross-cultural adaptability, documents their potential to work successfully in a multicultural environment and to prepare future healthcare providers to work in a multicultural environment.

Forty full-time health science faculty members representing dental hygiene, medical laboratory sciences, nursing and physical therapy at Old Dominion University, completed the Cross-Cultural Adaptability Inventory by

Kelley and Meyers (1992) to determine their potential for cross-cultural effectiveness. Descriptive statistics were used to analysis the frequencies, percentages, measures of central tendency and measures of dispersions. One-way analysis of variance was used to test for significant differences in the inventory scores among the different faculty groups, and to test the difference among faculty on each of the four-research based dimensions, emotional resilience, flexibility/openness, perceptual acuity, and personal autonomy, within the inventory.

The results obtained in this study determined that there was no statistically significant differences in the overall cultural adaptability scores among dental hygiene, medical laboratory sciences, nursing and physical therapy faculty. When comparing these scores with the Cross-Cultural Adaptability Inventory (CCAI) norm group, the health science faculty as a group had higher than average overall scores. This CCAI norm group had experienced living abroad and completed this inventory after cross-cultural training; therefore, these results suggests that the majority of health science faculty possess qualities necessary to be cross-culturally adaptable.

When considering the first of the four researched-based dimensions of the CCAI, emotional resilience, there were no significant differences among the four health science groups. Dental hygiene faculty, the only faculty group with

no minorities, scored lowest of the faculty groups. Since emotional resilience measures the ability to fit into a new culture, this may suggest that having little interaction with culturally diverse individuals on a daily basis increases frustration and confusion when placed in a situation of interacting with people of other cultures.

In the dimension flexibility/openness, which measures the ability to deal with different communication styles, a significant difference was found between medical laboratory sciences faculty and physical therapy faculty. This was attributed to the fact that several members of the physical therapy faculty have experienced working with culturally diverse population in the U.S. and abroad. Medical laboratory sciences faculty on the other hand have the least amount of direct contact with clients than any of the four faculty groups.

In determining the differences among the health science faculty in the dimension perceptual acuity, there was no significant difference among the four health science faculty groups. Perceptually acute people are attentive to nonverbal as well as verbal cues; the health science faculty, being healthcare professionals who are encouraged to be sensitive to these cues during client care, scored around or above the average mean and median for the *CCAI* group norm.

In the dimension personal autonomy, all four of the health science faculty groups scored high. The reason for

these high scores may be that educators in a university setting tend to be self-directed as well as independent in the way they carry out their roles. Independence and self-direction are qualities found in personally autonomous people.

Conclusions

The similarities in the scores among the four health science faculty groups reflect the fact that: they are all educators and health professionals, they all teach in an urban setting, and they are all exposed to culturally diverse clients and students. The results of this study suggest that living or working in an environment that is culturally different from ones own might increase cultural sensitivity, as in the case of the physical therapy faculty. If this is true, deliberately exposing students to cultures other than their own, in culturally different environments, will broaden the cross-cultural experiences and hence enhance their cross-cultural adaptability.

A limitation of the study was that the health science faculty are from the same university and are not representative of all health science faculty in the United States; therefore, these findings are limited to health science faculty similar to those at Old Dominion University. There is also a chance that the faculty answered the *CCAI* ideologically rather than truthfully, but every effort was made to decrease this threat to external validity.

The following recommendations for future studies are:

1.   A replication of this study using full-time health science faculty members within a university in a rural or midwestern setting and compare the results with this study.

2.   A study to determine if cross-cultural training does increase cross-cultural adaptability. Study the results of cross-cultural training of a health science faculty by using the *CCAI* as a pre-test and post-test.

3.   A study comparing the cross-cultural adaptability of the student body and health science faculty to see if students, growing up in a more culturally diverse environment, are more cross-culturally adaptable than faculty?

Results of this study lead to the conclusion that dental hygiene, medical laboratory sciences, nursing and physical therapy faculty possess similar levels of cross-cultural adaptability, and that these levels are slightly higher than the cross-cultural adaptability found in the CCAI norm group. The increasing pluralistic qualities of the changing demographics of the U.S. suggest that faculty must be more than slightly above average to teach cultural sensitivity to future practitioners. The questions remain: Are these levels of cross-cultural adaptability in health science faculty high enough to teach students to provide culturally sensitive healthcare? Can education and

experience increase the cross-cultural adaptability of health science faculty? Does possessing cross-cultural adaptability automatically infer that faculty can impart this attribute to students? Continued exploration of these questions is necessary as health science faculty develop curricula that prepare students to live and work in a world of increasingly interdependent cultures.

BIBLIOGRAPHY

Adler, P.(1975). The boundary experience. Unpublished doctoral dissertation, Union Graduate School, Yellow Spring, OH.

Albert, R.D. (in press). Communication and attributional differences between Hispanics and Anglo-Americans. In Y.Y. Kim (Ed.), Interethnic Communications Current Research, X. Newbury Park, CA. Sage Publications.

Andrews, M.M. (1992). Cultural perspectives on nursing in the 21st century. Journal of Professional Nursing, 8(1), 7-15.

Banks, J.A. (1994). Multicultural education: nature, goals, and practices. The stages of ethnicity:implications for curriculum reform. In Virginia Lanigan, Multiethnic Education. (pp.40-61) (pp. 222-230) Seattle, Washington.

Campbell, D.W., & Sigsby, L. (1994). Increasing minorities in higher education in nursing: faculty consultation as a strategy. Journal of Professional Nursing, 10(1), 7-12.

Collett, J. (1990). Reaching African-American students in the classroom. To Improve The Academy, 9, 177-187.

Daniel, W.W. (1995). Measures of central tendency computed from grouped data. In John Wiley & Sons, Inc. Biostatistics: A foundation for analysis in the health sciences, (pp47-48). New York, NY.

DeVore, L.R. (1995). Participation of minorities in U.S. dental education. Journal of Dental Education, 59(6), 631-633.

Echternach, J.L. personal communication, January 25, 1996.

Eliason, M.J., & Macy, N.J. (1992). A classroom activity to introduce cultural diversity. Nurse Educator, 17(3), 32-35.

Epting, L.A., Glover, S.H., & Boyd, S.D.(1994). Managing diversity. Health Care Supervisor 12(4), 73-83.

Evans, J. (1992). What occupational therapist can do to eliminate racial barriers to health care access. The American Journal of Occupational Therapy, 46(8), 679-683.

Friedman, M. (1974). Touchstones of reality. New York: Viking.

Fuller, J., & Schaller-Ayars, J. (1990). Health assessment: a nursing approach. Philadelphia: J.B. Lippincott Co.

Green, J.W., (1989). Cultural awareness in the human services. Englewood Cliffs: Prentice-Hall, Inc.

Hammer, M.R., Gudykunst, W.B., & Wiseman, R. (1979). Dimensions of intercultural effectiveness: an exploratory study. International Journal of Intercultural Relations/Winter 1979, 2, 382-393.

Hannigan, T.P. (1990). Traits, attitudes, and skills that are related to interclutural effectiveness and their implications for cross-cultural training: a review of the literature. International Journal of Intercultural Relations, Vol 14, 89-111.

Hellriegel, D., & Slocum, J. (1992). Sensitivity to culture in business. In M.C. McEwing, Management. (pp.79-82) Reading, Massachusetts.

Henkle, J.O., & Kennerly, S.M. (1990). Cultural diversity: a resource in planning and implementing. Public Health Nursing, 7(3), 145-149.

Hoffman, D.M. (1990). Beyond conflict: culture, self, and intercultural learning among Iranians in the United States. International Journal of Intercultural Relations, Vol 14, 275-299.

Huntley, D.E., & Minneman, M.A. (1994). Survey of ethnicity and academic preparation of faculty in dental hygiene programs. Journal of Dental Hygiene, 68(4), 181-187.

Hurh, W.M., & Kim, K.C. (1994). Adhesive sociocultural adaptation of Korean immigrants in the U.S.: an alternative strategy of minority adaptation. International Migration Review, 18(2), 188-216.

Huttlinger, K., & Keating, S.B. (1991). Understanding cultural diversity through a student exchange program. Nurse Educator, 16(5), 29-32.

Ivancevich, J.M., & Matteson, M.T. (1993). Multicultural communication. In K.L. Strand, L.H. Spell & R. McMullen, Organizational Behavior and Management. (pp. 643-646) Homewood, Illinois.

Jackson, L.E. (1993). Understanding, eliciting and negotiation clients' multicultural health beliefs. Nurse Practitioner, 18(4), 30-43.

Kalkwarf, K.L. (1995). Creating multicultural dental schools and the responsibility of leadership. Journal of Dental Education, 59 (12), 1107-1110.

Kelly, C.,& Meyers, J.E. The cross-cultural adaptability inventory. Yarmouth, NE: Intercultural Press, Inc. 1992.

Kerfoot, K.M. (1990). Managing cultural diversity: turning demographic factors into a competitive advantage. Nursing Economic$, 8(5), 353, 360-362.

Kim, Y.Y. (1986). Interethnic communication: current research. Newbury Park, CA: SAGE Publications.

Kim, Y.Y., & Gudykunst, W.B. (Eds.), (1987). Cross-cultural adaptation current approaches. International and Intercultural Annual, XI, Newbury Park, CA.

Kinebanian, A., & Stomph, M. (1992). Cross-cultural occupational therapy: a critical reflection. The American Journal of Occupational Therapy 46(8), 751-756.

Lassiter, S.M. (1995). Multicultural clients: a professional handbook for health care providers and social workers. Westport, CT: Greenwood Press.

Leninger, M. (1985). Transcultural Care Diversity & Universality: A Theory of Nursing. Nursing Health Care, 6, 209-212.

Lewis-Fernandez, R., & Kleinman, A. (1994). Culture, personality, and psychopathology. Journal of Abnormal Psychology, 103(1), 67-71.

Lindquist, G.J. (1990). Integration of international and transcultural content in nursing curicula: a process for change. Journal of Professionl Nursing, 6, 272-279.

Louie, K.B. (1985). Transcending cultural bias: the literature speaks. Topics in Clinical Nursing,7, 78-84.

Myers, C. (1992). Hmong children and their families: consideration of cultural influences in assessment. The American Journal of Occupational Therapy, 46(8), 137-144.

O'Neil, E.H. Health professions education for the future: schools in service to the nation. San Franciso, CA: Pew Health Professions Commission, 1993, p33.

Payne-Johnson, J.C. (1992). Communications and aging: a case for understanding African Americans who are elderly. American Speech-Language-Hearing Association,January, 41-43.

Pearce, W.B., & Kang, K.W. (in press). Conceptual migrations: understanding "travelers' tales" for cross-cultural adaptation. In Y.Y. Kim & W.B. Gudykunst (Eds.), Cross-cultural adaptation current approaches. International and Intercultural Communication Annual,XI. Newbury Park, CA.

Pinholt, E.M., Kroenke, K., Hanley, J.F., Kussman, M.J., Twyman, P.L. & Carpenter, J.L. (1987). Functional assessment of the elderly: a comparison of standard instruments with clinical judgement. Archives of Internal Medicine, 147, 484-488.

Saylor, C., & Taylor, T. (1993). Transformation nursing education and cultural diversity. Nurse Educator, 18(1), 26-28.

Searle, W., & Ward, C. (1990). The prediction of psychological and sociocultural adjustment during cross-cultural transitions. International Journal of Intercultural Relations,14, 449-464.

Sikkema, M., & Niyekawa, A. (1987). Design for Cross-cutural learning. Intercultural Press Inc. Yarmouth, MA.

Skawski, K.A. (1987). Ethnic/racial considerations in occupational therapy: a survey of attitudes. Occupational Therapy in Health Care,4, 37-48.

Sklarz, D.P. (1992). Turning the promise of multicultural education into practice. School-Administrator, 50(5), 20-22.

SPSS for windows base system user's guide, release 6.0 (Computer software manual). (1993) Chicago, Illinios: Microsoft Corporation.

Steinberger, E. (1991). Multicultural curriculum uncovers common bonds, individual strengths, and fiery debate. School-Administrator, 48(4), 8-13.

U.S. Department of Commerce. 1990 Census of Population-General Population Characteristics, United States. Economics and Statistics Administration. Washington, D.C.: Bureau of the Census. U.S. Government Printing Office ISBN0-16-038242-4. Issued November, 1992.

Walker, P.W., & Brand, M.K. (1993). The status of minority practitioners in selected allied health professions. Journal of Allied Health, Winter Issue, 1-7.

Wilkerson, M.B. (1992), Beyond the graveyard: engaging faculty involvement. Change 24.(1), 59-63.

Yoshikawa, M.J.(in press). Cross-cultural adaptation and perceptual development. In Y.Y. Kim & W.B. Gudykunst (Eds), Cross-cultural adaptation, current approaches. _International and Intercultural Communication Annual, XI_. Newbury Park, CA.

Yura, H., & Walsh, M.B. (1988). _The nursing process_, Norwalk, CT: Appleton & Lange.

APPENDICES

APPENDIX A

THE CROSS-CULTURAL ADAPTABILITY INVENTORY
CCAI SCORING SHEET
THE CROSS-CULTURAL ADAPTABILITY INVENTORY PROFILE
THE CROSS-CULTURAL ADAPTABILITY INVENTORY INTERPRETATION

The CROSS-CULTURAL ADAPTABILITY INVENTORY
Dr. Colleen Kelley and Dr. Judith Meyers

This inventory is designed to help you assess your ability to adapt to other cultures. Answer each item as it relates to you. Please respond to each item by circling your answer in the box on the *CCAI Scoring Sheet* containing the corresponding item number. For example, if you think that an item is true about you, circle the "T" in that item's answer box. Do not worry about being consistent. Some items may seem to be similar. Simply answer each item as it best describes you.

1. I have ways to deal with the stresses of new situations.
2. I believe that I could live a fulfilling life in another culture
3. I try to understand people's thoughts and feelings when I talk to them
4. I feel confident in my ability to cope with life, no matter where I am
5. I can enjoy relating to all kinds of people
6. I believe that I can accomplish what I set out to do, even in unfamiliar settings
7. I can laugh at myself when I make a cultural faux pas (mistake)
8. I like being with all kinds of people.
9. I have a realistic perception of how others see me.
10. When I am working with people of a different cultural background, it is important to me to receive their approval
11. I like a number of people who don't share my particular interests
12. All people, of whatever race, are equally valuable.
13. I like to try new things
14. If I had to adapt to a slower pace of life, I would become impatient
15. I am the kind of person who gives people who are different from me the benefit of the doubt
16. If I had to hire several job candidates from a background different from my own, I feel confident that I could make a good judgment
17. If my ideas conflicted with those of others who are different from me I would follow my ideas rather than theirs
18. I could live anywhere and enjoy life
19. Impressing people different from me is more important than being myself with them
20. I can perceive how people are feeling, even if they are different from me
21. I make friends easily
22. When I am around people who are different from me I feel less
23. I don't enjoy trying new foods

24. I believe that all cultures have something worthwhile to offer

25. I feel free to maintain my personal values, even among those who do not share them

26. Even if I failed in a new living situation, I could still like myself

27. I am not good at understanding people when they are different from me

28. I pay attention to how people's cultural differences affect their perceptions of me

29. I like new experiences

30. I enjoy spending time alone, even in unfamiliar surroundings.

31. I rarely get discouraged, even when I work with people who are very different from me

32. People who know me would describe me as a person who is intolerant of others differences.

33. I consider the impact my actions have on others.

34. It is difficult for me to approach unfamiliar situations with a positive attitude

35. I prefer to decide from my own values, even when those around me have different values

36. I can cope well with whatever difficult feelings I might experience in a new culture

37. When I meet people who are different from me, I tend to feel judgmental about their differences.

38. When I am with people who are different from me, I interpret their behavior in the context of their culture

39. I can function in situations where things are not clear.

40. When I meet people who are different from me, I am interested in learning more about them

41. My personal value system is based on my own beliefs, not on conformity to other people's standards

42. I trust my ability to communicate accurately in new situations

43. I enjoy talking with people who think differently than I think

44. When I am in a new or strange environment, I keep an open mind

45. I can accept my imperfections, regardless of how others view them

46. I am the kind of person who gives people who are different from me the benefit of the doubt

47. I expect that others will respect me, regardless of their cultural background

48. I can live with the stress of encountering new circumstances or people

49. When I meet people who are different from me, I expect to like them

50. In talking with people from other cultures, I pay attention to body language

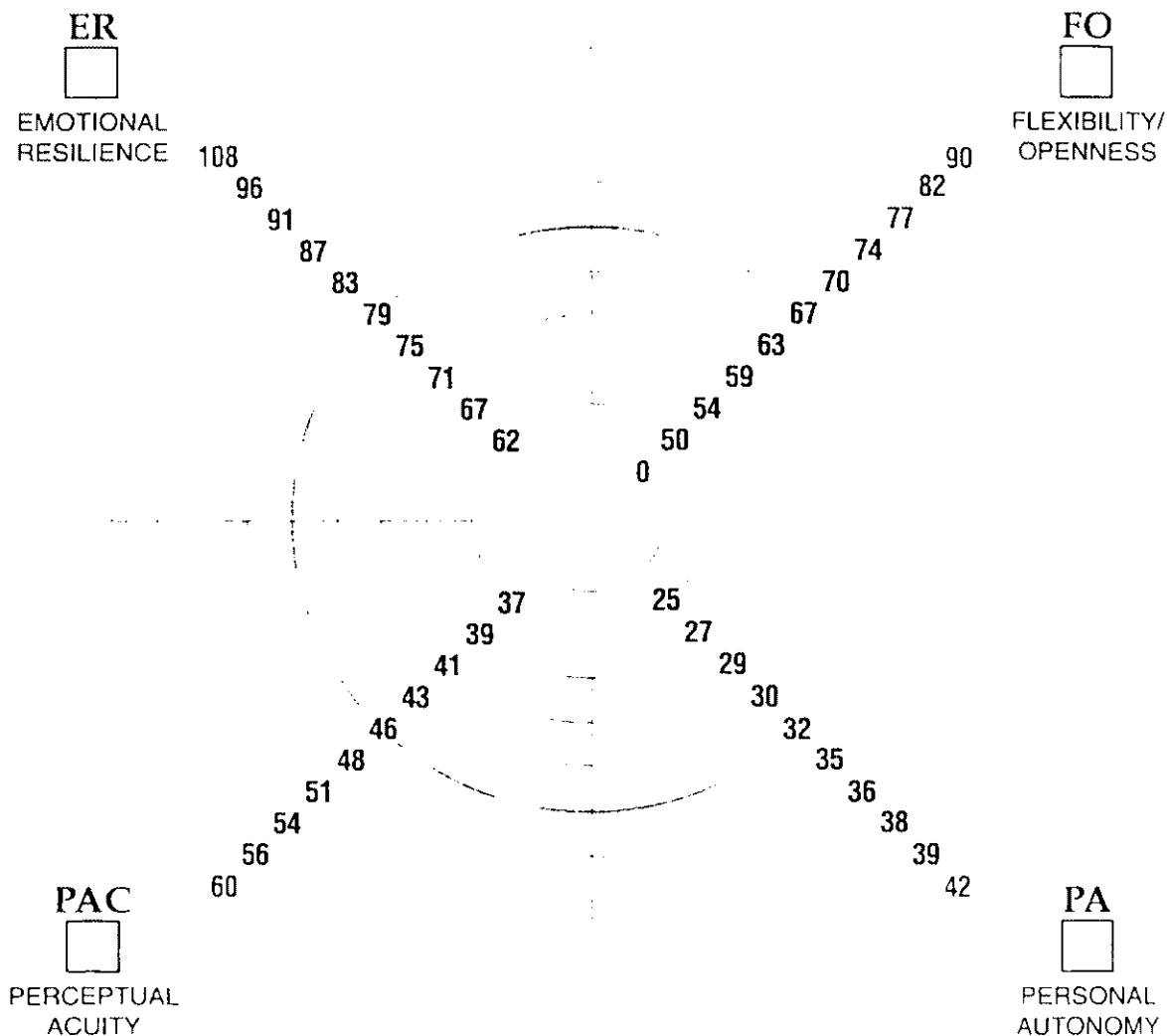| KEY	DT	Definitely true about me right now	TNT	Tends to be not true
	T	True	NT	Not true
	TT	Tends to be true	DNT	Definitely not true about me right now

1	DT T TT TNT NT DNT	2	DT T TT TNT NT DNT	3	DT T TT TNT NT DNT		
4	DT T TT TNT NT DNT	5	DT T TT TNT NT DNT			6	DT T TT TNT NT DNT
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36	DT T TT TNT NT DNT	37	DT T TT TNT NT DNT	38	DT T TT TNT NT DNT		
39	DT T TT TNT NT DNT	40	DT T TT TNT NT DNT			41	DT T TT TNT NT DNT
42	DT T TT TNT NT DNT	43	DT T TT TNT NT DNT	44	DT T TT TNT NT DNT		
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48	DT T TT TNT NT DNT	49	DT T TT TNT NT DNT	50	DT T TT TNT NT DNT		

The CROSS-CULTURAL ADAPTABILITY INVENTORY

Profile

Copy your totals from the Scoring Sheet into the appropriate boxes and shade in the
corresponding portion of each quadrant.

ER □

EMOTIONAL
RESILIENCE 108
96
91
87
83
79
75
71
67
62
0

37
39
41
43
46
48
51
54
56
60

PAC □

PERCEPTUAL
ACUITY

FO □

FLEXIBILITY/
OPENNESS 90
82
77
74
70
67
63
59
54
50

25
27
29
30
32
35
36
38
39
42

PA □

PERSONAL
AUTONOMY

The CROSS-CULTURAL ADAPTABILITY INVENTORY
Dr. Colleen Kelley and Dr. Judith Meyers

Interpretation

The concept of cross-cultural adaptability has been found to involve both personal characteristics and learnable behavior. The CCAI is designed to assist you in determining the extent to which you have acquired those characteristics which are correlated with effectiveness in working in another culture or with people from another culture. The inventory yields four scores, each representing an aspect of yourself which can be modified through training and experience. These four dimensions are listed below.

The graph on your CCAI Profile is a global representation of your scores on the CCAI relative to one another. The dimensions are: Emotional Resilience (ER), Flexibility/Openness (FO), Perceptual Acuity (PAC) and Personal Autonomy (PA).

Emotional Resilience

Being among people from another culture can be frustrating, confusing and lonely. In this situation, the ability to maintain a positive, buoyant, and non-depressed state, to tolerate strong emotion, and to cope with ambiguity and stress are important. Also important is the ability to maintain self-esteem and self-confidence, and to "keep an even keel." Other characteristics associated with emotional resilience include confidence in one's ability to cope with the unfamiliar and the ability to maintain positive feelings toward new experiences. This can involve courage, risk taking, and a sense of adventure.

Flexibility/Openness

Adapting to different ways of thinking and acting requires an ability to maintain a liking for and openness toward different thoughts and people. These characteristics are also helpful in developing and maintaining relationships with those who are different from oneself. Characteristics associated with this ability include tolerance, lack of rigidity, and liking for and comfort with all kinds of people.

Perceptual Acuity

Unfamiliar language— verbal or nonverbal— makes communication more challenging and difficult. Perceptual sensitivity is the key to meeting this challenge. Perceptual acuity is associated with attentiveness to verbal and nonverbal behaviors, as well as to interpersonal relations. It is also associated with attention to the context of communication, the ability to read others' emotions, sensitivity to one's impact on others and accuracy in communication with others. In addition, a person scoring high on perceptual acuity seldom distorts information based on his or her own inner needs

Personal Autonomy

When others hold values and beliefs different from one's own, self-knowledge is important. The main characteristic associated with personal autonomy is a strong sense of identity It includes the ability to maintain one's own personal values and beliefs, to take responsibility for one's actions, and to respect oneself and others. People with high personal autonomy feel empowered They know how to make and act on their own decisions while respecting the decisions of others

APPENDIX B

COVER LETTER

Dear Health Science Faculty Member,

The purpose of this study is to determine the cultural adaptability of health science faculty in working with culturally diverse populations. The *Cross-Cultural Adaptability Inventory* measures your cultural adaptability. The CCAI is not targeted to one particular culture, it is designed to be culture general.

You will need approximately 15 minutes to complete the inventory, self-score and assess your ability to adapt to other cultures. Taking the inventory will allow you to examine your assets and liabilities in the area of cross-cultural adaptability. The results of the scores can indicate your readiness to interact with people of different cultures and you can make choices about future training to acquire the skills necessary to be effective.

Please answer each question honestly and to the best of your ability. Complete anonymity and confidentiality is assured. The colored coded dot on CCAI scoring sheet will identify only the department in which you teach.

Thank you for taking the time to complete this inventory.

Sincerely,

Irene M. Connolly BSDH
Master Degree Candidate

APPENDIX C

CCAI DESCRIPTIVE STATISTICS BY SCALE

CCAI DESCRIPTIVE STATISTICS BY SCALE

$N = 653$

Scale	Mean	Median	Standard Deviation	Range
ER	79.58	79	8.28	45-103
FO	66.92	67	7.76	42-89
PAC	46.47	46	4.96	28-60
PA	32.88	33	3.78	20-42
TOTAL SCORE	225.85	225	19.63	167-287

Kelley/Meyers