

AN ABSTRACT OF THE THESIS OF

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Title: The Relationship Between Terminal Values and Health
Care Preferences Among Chinese Students from the
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The purpose of this study was to determine if significant relationships exist among terminal values, demographic variables and health care preferences for information and behavioral involvement for graduate students from the People's Republic of China and Taiwan. The Rokeach Value Survey and the Krantz Health Opinion Survey were used to collect data from graduate students at Oregon State University. The data derived from 161 returned questionnaires (91 from the People's Republic of China and 70 from Taiwan) were analyzed using the Mann-Whitney U test, multiple regression, and the t-test. Results showed subjects from the People's Republic of China

and Taiwan differed significantly on two terminal values. Students from the People's Republic of China valued more a comfortable life and a world of beauty than the students from Taiwan. The terminal value of health was ranked in the lower half of the 18 terminal values by both groups of students which contradicts the literature.

Respondents from the People's Republic of China had a significantly higher preference for information than Taiwan students who had a significantly higher health care preference for active participation and behavioral involvement. Preferences may be related to the political community and institutional differences in the health care delivery in the two countries.

The value for an exciting life and use of a community physician or hospital were significant predictors of a health care preference for information. The values a world of beauty and social recognition were significantly related to a health care preference for behavioral involvement.

The Relationship Between Terminal Values and Health Care
Preferences Among Chinese Students from The People's Republic of
China and Taiwan Attending Oregon State University

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TABLE OF CONTENTS

I. INTRODUCTION	1
Background of the Problem	4
Statement of the Problem	7
Rationale	9
Limitations of the Study	10
Hypotheses	12
Definition of Terms	13
II. LITERATURE REVIEW	16
Introduction	16
Concepts and Measurements of Values	16
The Influence of Culture and Values on Consumer Behavior	26
Health As A Value and Its Measurement	30
Preferences for Health Care	37
Summary of the Review of Literature	41
III. METHODOLOGY	43
Introduction	43
Population and Sample Description	43
Instrumentation	46
Rokeach Value Survey	47
Krantz Health Opinion Survey	50
Establishment of Chinese Language Equivalence	52
Data Collection Procedures	53
Statistical Analysis	54
IV. ANALYSIS AND DISCUSSION OF RESULTS	57
Introduction	57
Findings	58
Findings for Hypothesis 1	58
Findings for Hypothesis 2	67
Findings for Hypothesis 3	76
Findings for Hypothesis 4	79
Summary of the Statistical Findings	82
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	85
Summary	85
Conclusions	91
Recommendations	94
BIBLIOGRAPHY	96

APPENDICES

Appendix A. Demographic Data	110
Appendix B. Means and Standard Deviations of Krantz Health Opinion Survey by Country	118
Appendix C. English Version of the Rokeach Terminal Values Survey, Krantz Health Opinion Survey, and Background Information Sheet	120
Appendix D. Chinese Version of the Rokeach Terminal Values Survey, Krantz Health Opinion Survey, and Background Information Sheet	130
Appendix E. English Version of Letter Introducing the Study	141
Appendix F. Chinese Version of Letter Introducing the Study	143
Appendix G. English Version of First Followup Letter	145
Appendix H. Chinese Version of First Followup Letter	147
Appendix I. English Version of Second Followup Letter	149
Appendix J. Chinese Version of Second Followup Letter	151

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Overall Medians and Composite Rank Orders of Terminal Values for Students From the People's Republic of China and Taiwan	60
2. Mann-Whitney U-Test for Terminal Values for Students From the People's Republic of China and Taiwan	61
3. Zero Order Correlations of Variables	69
4. Multiple Regression of Health Opinion Survey's Subscale for Information	74
5. Multiple Regression of Health Opinion Survey's Subscale for Behavioral Involvement	77
6. <u>t</u> -test for Krantz Health Opinion Survey Subscale for Information by Country	80
7. <u>t</u> -test for Krantz Health Opinion Survey Subscale for Behavioral Involvement	80

LIST OF APPENDIX TABLES

<u>Table</u>	<u>Page</u>
A-1. Age of Students by Country	111
A-2. Sex of Students by Country	111
A-3. Students' Academic Classification by Country	111
A-4. Length of Stay in Months in the United States by Country	112
A-5. Marital Status of Students by Country	112
A-6. Spouses Living in the United States by Country	112
A-7. Children Living in the United States by Country	113
A-8. Source of Financial Support by Country	113
A-9. Orientation Prior to Arriving in the United States by Country	114
A-10. Orientation Post-Arrival in the United States by Country	114
A-11. Use of a Community Physician or Hospital by Country	115
A-12. Use of a Community Dentist by Country	115
A-13. Use of the University Health Center by Country	116
A-14. Performance on TOEFL Exam by Country	116
A-15. Type of Housing by Country	117
B-1. Results of Krantz Health Opinion Survey by Country	119

THE RELATIONSHIP BETWEEN TERMINAL VALUES AND HEALTH
CARE PREFERENCES AMONG CHINESE STUDENTS FROM THE
PEOPLE'S REPUBLIC OF CHINA AND TAIWAN
ATTENDING OREGON STATE UNIVERSITY

If you wish to help a community improve its health, you must learn to think like the people of that community. (Paul, 1951, p.1)

CHAPTER I

INTRODUCTION

Members of an ethnic group share a sense of identity and standards for behavior. In addition to favoring basic styles of interpersonal communications and behaviors, members of an ethnic group share basic beliefs, attitudes, and ideas which carry over into health care situations. Thus, ethnicity plays a major role in influencing personal concepts, values, perceptions, and practices of health.

Numerous studies have shown differences between ethnicity and conceptions of health and health-care practices (Bullough & Bullough, 1972; Spicer, 1977; Weidman, 1978; Zborowski, 1952). In recent years,

the number of international Chinese students attending American colleges and universities has steadily increased. They have become an important segment of the health care system on university and college campuses. According to Breckon (1988) health care providers will need to work with two rapidly increasing populations--Hispanics and Chinese both of which were once thought of as minorities. Therefore, the ethnic differences of these students should be of particular concern and interest to college and university health professionals. Lack of cultural awareness on the part of student health-care providers often results in mis-communication, and treatments being perceived as inappropriate and/or ineffective (Zola, 1963; Williamson, 1982; Zwingman & Gunn, 1983).

Ethnic differences in health beliefs and perceptions have been further complicated by the sub-cultural orientations of the health profession toward scientific and technical aspects of health care. The recent explosion of scientific and technical knowledge has placed more emphasis on aspects of treatment which has resulted in a neglect for patients' backgrounds, values, beliefs, and practices. According to Spector (1985) ethnic factors can result in mis-communication to the degree that technical equality and effectiveness of medical care are

reduced. When health services are delivered on the basis of what is convenient for the institution or health service providers rather than on the basis of people's cultural orientations patients often become dissatisfied, frustrated, and avoid use of these services.

The two most frequent problems with Chinese students and scholars studying in America are understanding English and adapting to a new culture (Maddox & Thurston, 1987). According to Leininger (1978) adapting to a new culture or "culture shock" is manifested by feelings of helplessness, disorientation, and discomfort; these feelings are often expressed by multiple physical symptoms and complaints. These physical symptoms and complaints are likely to result in repeated visits to health facilities (Williamson, 1982). Ruling out any possible physical explanation to account for these complaints and symptoms, health care providers quickly dismiss them as not being serious without discussing possible causes. Consequently, the consumers become dissatisfied with the health services provided since their needs were not met.

Because of the rising costs of health care and the increasing pluralistic nature of our universities and colleges, health professionals are now being challenged to provide health services which are cost

effective and still meet consumers' needs. This study will examine how ethnicity plays a role in influencing terminal values and consumer preferences for self-treatment and information in health care.

Background of the Problem

Central to the theoretical conceptions of values is the proposition that values provide an underlying continuity for beliefs and behaviors. According to Rokeach (1968) values serve as standards or criteria for guiding behavior and, therefore, are important determinants of behavior. Rokeach's premise about the predictive nature of values suggests they are an integral component of the consumer decision making process (Howard & Woodside, 1984).

Several theories and models have been developed to understand the complexity of the consumer decision-making process. Because of their importance, the roles of culture and values have been incorporated in most models and theories. Engel, Blackwell, and Kollat (1978) categorize cultural norms and values in their buyer decision-making model as internalized environmental influences. According to Howard (1977) consumers form choice criteria based on their value systems

which serve as motives for evaluating products and services. Therefore he feels motives are indicative of the values a person holds. Miller (1987) describes the consumer decision-making process as a series of cost/benefit analyses. Such analyses involve clarifying priorities which are determined by one's values. Miller defines values as high-level preferences that determine lower-level tastes and preferences which regulate our behavior and everyday lives.

The concept of personal values has been applied to the general fields of consumer psychology and business management (Howard & Woodside, 1984). However, health educators and health care providers have been slow to embrace the application of personal values to consumers of health care (Cooper, 1979). In addition, little attention has been given to ethnic and sub-cultural value differences as they pertain to the value of health and the consumptive process of health services.

The concept of health as a value has generally been assumed to be high rather than directly measured. Rokeach (1973) himself felt health as a value was too important to measure. Consequently, health as a value has been underutilized in health research (Lau & Hartman, 1986). A study by Ware and Young (1979) found the health perceptions of healthy respondents in the United States did not rank health among

their highest values. This is contrary to the general assumptions in the literature. Although there is no accepted method of measuring health as a value, the most frequently used method is the Rokeach Value Survey (Rokeach, 1968). Abella and Heslin (1984), Bruhn and Parcel (1982), Kristiansen (1985), and Ware and Young (1979) have measured health value using Rokeach's Value Survey; however, no relationships to cultural components and consumer preferences for health care were considered.

Cooper (1979) stated, "the difference between needs and the perception of true needs is the difference between a marketing and non-marketing approach" (p. 8). In the past health professionals have taken the responsibility of identifying and responding to customers' needs. However, these needs are often defined in terms of what health professionals feel people should have rather than in terms of the motivations that influence human behavior.

Since the 1960s, there has been a growing interest in consumerism. As a result, patients have been encouraged to become active participants in the health-care process. Studies have shown that the more informed and self-reliant a person is, the better the medical outcome (Averill, 1973; Vickery & Fries, 1976; and Langer & Rodin,

1976). These authors believe increased information, participation, and choice result in better medical outcomes because they increase the subjects' sense of personal and cognitive control. These studies along with the growth of consumerism, the scarcity of professional resources, and rising cost of health care have resulted in numerous self-care programs (Hayes, 1986; Harper, 1988; Hackman & Howard, 1989). While the above research suggests the benefits of more information, participation, and self-reliance, other research has not produced similar or consistent results. McIntosh (1974) and Springarn (1978) questioned the benefits of more information and self-reliance and suggested that some individuals prefer less active participation and that they differ in their receptiveness to information.

Statement of the Problem

The central problem of the study was to examine the relationship between health care preferences to the ranking of terminal values for graduate students from the People's Republic of China (PRC) and Taiwan. A comparison of students from the two countries was made to determine differences.

The major objectives of the study were:

1. To review the existing research related to values, health as a value, values and consumer behavior, and preferences for health care;
2. To measure and compare the terminal value orientations for a sample of students from the People's Republic of China and Taiwan attending Oregon State University;
3. To determine if there is a relationship between terminal values, selected demographic characteristics, and health care preferences for information and behavioral involvement; and
4. To determine if differences in health care preferences exist between students from the People's Republic of China and Taiwan.

Rationale

The number of international students from Taiwan and the People's Republic of China attending American universities has been growing (Kallgren & Simon, 1987). This growth is in part due to their governments' desire to achieve modernization and development through the educational and technological expertise available in the United States. The recent influx of Chinese students on American campuses justifies the need to expand our knowledge and understanding of their terminal values and health orientations.

The following rationale presents the need for a value study in relation to health care: (a) theoretical models of consumer decision making include values and culture as components (Williams, 1982; Miller, 1987); (b) although groups of individuals who share a common nationality, experience, history, and language are referred to as members of a particular cultural group, little is actually known about intra-ethnic variations (Gould-Martin & Ngin, 1981; Sue & Kitano, 1973); and (c) the establishment of terminal values and preferences for two types of health care for subgroups of international Chinese students on American campuses has not been undertaken.

According to Stephen Blom (1986), former executive director of the American College Health Association, international students represent five to ten percent of student populations and on some campuses the numbers are as high as 20 percent or more. The subject of health care for international students on college and university campuses is important because of the large numbers attending our schools. These numbers indicate that international students are an important segment of the health-care market on our campuses. Blom further stated that student health services can more effectively serve international students by developing marketing strategies and health services that are targeted to their special needs.

Limitations of the Study

The ability to generalize the findings may be limited by the following:

1. Only Chinese graduate students from the People's Republic of China and Taiwan enrolled at Oregon State University during the 1986-87 academic school year will be included in the study;

2. Only names of international Chinese students from the People's Republic of China and Taiwan provided by the Office of International Education at Oregon State University will be included in the study;
3. The subjects utilized in this study cannot be considered as necessarily representative of the national population of international Chinese students from the People's Republic of China and Taiwan;
4. Rokeach's Value Survey and the Krantz Health Opinion Survey may not be applicable to international Chinese students from Taiwan and the People's Republic of China;
5. Health value in this study is limited to measuring health as it is ranked in relation to other terminal values;
6. The subjects will understand the survey administration instructions and questions, and respond truthfully to all items;
7. The examiner's behavior and rapport will not differ among individuals or groups being assessed;
8. Only the terminal Value Survey portion of Rokeach's Value Survey will be administered; and

9. The sample is not randomized and variations among the two groups of Chinese students may not reflect Chinese values and health preferences.

Hypotheses

The study shall test the following hypotheses:

1. H_{01} : There is no significant difference in the ranking of terminal values between students from the People's Republic of China and Taiwan.
2. H_{02} : There is no significant relationship between terminal values and selected demographic variables to a health care preference for information.
3. H_{03} : There is no significant relationship between terminal values and selected demographic variables to a health care preference for behavioral involvement.
4. H_{04} : There is no significant difference in health care preferences for Chinese students from the People's Republic of China and Taiwan.

Definition of Terms

The following definitions are provided for clarifying the terms used in this study:

Academic classification: Baccalaureate, masters, or doctoral degree student.

Academic major: Field of study.

Chinese: Self-ascribed ethnic identification.

Culture: The ideas, customs, skill, arts, ways of thinking, talking and acting of a given people.

English proficiency: Attainment of a score of 500 and above on the TOEFL exam.

Graduate student: Students officially enrolled in a program leading to a master's or doctoral degree.

Health value: The belief that a healthy life is personally and socially desirable. In this study health value is measured by the ranking of health on Rokeach's Value Survey.

Instrumental value: An enduring belief that a specific mode of conduct is personally and socially preferable.

International student: Student who is not a U.S. citizen and is enrolled at Oregon State University on a student visa.

Multiple regression: A statistical technique used to analyze the relationship between a dependent or criterion variable and a set of independent variables.

Off-campus housing: Living accommodations privately owned and operated.

On-campus housing: Living accommodations directly or indirectly owned or operated by a university.

Post-arrival orientation: Program offered by the host university designed to introduce aspects of American culture and education and orientation to the university.

Pre-departure orientation: Program offered by the sponsoring government or home institution designed to introduce aspects of American culture and education prior to departure to the United States.

Preference for information: A high desire to ask questions and wanting to be informed about medical decisions as measured by

Krantz's Health Opinion Survey.

Preference for behavioral involvement: Favorable attitudes and the desire for active behavioral involvement and self-treatment in medical care as measured by Krantz's Health Opinion Survey.

Terminal value: "An enduring belief that specific end states of existence are personally and socially preferable" (Rokeach, 1973, p.5).

Value: "A type of belief, centrally located within one's total belief system about how one ought to behave, or about some end state of existence worth or not worth attaining" (Rokeach, 1968, p.124).

CHAPTER II

LITERATURE REVIEW

Introduction

The topics discussed in this chapter are the issues related to the concept and measurement of values; the influence of culture on values and consumer behavior; the concept of health as a value and its measurement; and the literature related to preferences for self-treatment and information for health care.

Concepts and Measurements of Values

Many definitions, conceptualizations, and empirical measurements of values have been made by value theorists. For the purpose of this study, the four major theories which have led to the development of empirical methods for measuring values will be reviewed.

Spranger (1928) conceptualized values as levels of self which included the economic, aesthetic, theoretical, political, social, and religious self. According to his theory, dominant valuing attitudes

emerge out of these levels of self and social environment to form a hierarchy by which individuals shape and live their lives. Spranger's theory provided a psychological classification system for determining differences among individuals which extended beyond race, nationality, and religion. However, Spranger did not develop any instruments to test his theory.

Vernon and Allport (1931) developed an instrument called the Study of Values to measure values based on Spranger's six levels of self. The instrument has since been updated and revised by Allport, Vernon, and Lindzey (1960). The revised version improved the diagnostic power of items, simplified the test language, and modified the scoring system. These revisions increased the test's reliability and established new norms. The revised instrument operationalizes the six valuing types by asking respondents for their preferences for economic, political, aesthetic, religious, social, and theoretic values. Based on the respondent's preferences a Profile of Values is produced reflecting the respondent's valuing tendencies for theoretic, social, economic, and political value items.

Several researchers (Lurie, 1937; Brogden, 1952; Gordon, 1972) have attempted to check the validity of Spranger's six valuing

tendencies. Lurie's data reduced Spranger's six valuing tendencies to four factors (theoretical, social, religious, and political-economic), while Brogden's data resulted in ten factors or categories. Gordon's data also resulted in four factors. The first factor being bipolar was economic-political versus social; other factors were Christian conservative, theoretical, and aesthetic. Both Lurie and Brogden made different revisions in the format items on the Study of Values instrument, while Gordon factor analyzed data from sixty different groups who had been given the instrument. Because of methodological differences among the three researchers, comparative findings are inconclusive.

In assessing the Study of Values instrument, Zavalloni (1980) noted that the culture specific content of the items makes the instrument inappropriate for cross-cultural testing. Brislin, Lonner, and Thorndike (1973) have also criticized the instrument because it makes the general assumption that Spranger's six valuing attitudes are culturally invariant; they also criticize the survey because it compares how the values compete with one another in the same individual rather than a person's relative standing within a normative group. Robinson and Shaver (1973) felt the Study of Values measures basic personal interests rather than moral imperatives such as what ought to be preferred. The Study of

Values (Allport, Vernon, & Lindzey, 1960) has been primarily used in vocational guidance and counseling.

In contrast to Spranger's theory of values based on hypothesized levels of self, Morris (1942) based his theory of values on religious and philosophical systems. He postulated three dimensions of the personality (Dionysian, Promethean, and Buddhistic) and derived seven value patterns (Buddhist, Dionysian, Promethean, Apollonian, Christian, Mohammedan, and Maitreyan). In his investigations with the seven ways to live, Morris later enlarged his model to include 13 patterns of living which resulted in The Ways to Live Document (Morris, 1956). Morris' model provided another means of analyzing human values.

In his discussion of values, Morris (1956) distinguished the term "value" in three ways: operative, conceived, and object values. He differentiated operative values as values expressed as actual behaviors. Conceived values, on the other hand, are values that are thought or anticipated to be preferable and involve a preference for a symbolic object, while object values are values that stress properties of the object that are preferable regardless if they are conceived as preferable. According to Morris, preferential behaviors define the theory of values since it is a common element to all three types of values. In developing

The Ways to Live Document, Morris was primarily attempting to measure the conceived value of what respondents conceived as a good life.

Morris and Jones (1955) have shown the validity of the valuing system across cultures using factor analysis. However, Jones and Bock (1960) noted that although factor analysis is appropriate for analysis within cultures, multiple discriminant analysis is more appropriate for between culture analysis. The Ways to Live Document has been used extensively (Jones & Bock, 1960; Prothro, 1958; Singh, Huang, & Thompson, 1962; Ando, 1965; and Varga, 1970) in cross-cultural comparisons of value patterns. According to Kilby (1963), The Ways to Live Document is somewhat lengthy with multiple emphases on some statements and worded in such a way that it stress what a given way was against rather than what the given way represents.

Clyde Kluckhohn (1962) defined value as "a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means, and ends of action" (p.395). Like Morris, Clyde Kluckhohn felt values were those preferences or behaviors that are conceived as desirable. The anthropologists, Florence Kluckhohn and Fred Strodtbeck (1961), noted that values have a direct influence on behavior and cognition and

provided the basis of social living. They viewed values as solutions to five common problems to all human groups. These common human problems are limited in number and include: (a) the innate nature of humans, (b) people's relationship with nature, (c) orientation to time, (d) orientation to activity, and (e) intragroup relationships (people's relationship with others). According to Kluckhohn & Strodtbeck's theory there is a limited number of common human problems, and there is a limited range of variability in solutions. This variability in solutions is available in all societies. However, they are differentially preferred so that a dominant profile emerges. The dominant profile or value orientation becomes the basis for guiding and influencing behavior and constructing patterns of daily living. Florence Kluckhohn conceded that variant profiles may also emerge within cultures which serve to accommodate individual needs, provide stability for society, allow for adaption, integration and change. She believed the differences among cultures and individuals are the priorities given to the alternative solutions to the common problems and the exhibited dominant value orientations. Similar to Rokeach's belief of universal values (Rokeach, 1973), Kluckhohn believed there are universal cultural orientations and that they

are only variable in the ranking patterns of the universal component parts.

To study values orientation, Kluckhohn and Strodtbeck designed the Variations in Value Orientations Scale (1961). This instrument presents problem situations in which respondents choose solutions to the situations presented. Advantages of this Variations in Value Orientations Scale are that the instrument can be administered orally which allows for clarification of answers and it can be administered to cultures who do not have a written language. Disadvantages of the instrument are that it is time consuming and fatiguing for both the interviewer as well as the respondent and translation is dependent upon the interviewer. Only one cross-cultural study (Papajohn & Spiegel, 1975) has been done with the Variations in Value Orientations Scale. The Variations in Value Orientations Scale has also been criticized for its lack of ability to measure the degree or intensity to which a value is held (Robinson & Shaver, 1973).

Rokeach (1973), a social psychologist, defined a value as:

an enduring belief that a specific mode of conduct or end state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. (p.5)

Rokeach conceptualized values as two sets of separate but functionally interconnected systems. He differentiated one set as "terminal" values (ultimate goals or end-states worth striving for) and the other set as "instrumental" values (means or desirable modes of behavior for attaining end-states of existence). According to Rokeach, a person's value system consists of a rank ordering of a set of terminal and a set of instrumental values. Individuals differ in the way they organize terminal and instrumental values to form a hierarchy. The different ways individuals arrange their hierarchy enables them to make decisions and resolve conflicts. Rokeach assumed values are relatively few and universally present "on the grounds psychologist assume basic individual needs are universally present" (1979, p.49). Based on his definition, the Value Survey (Rokeach, 1968) consists of two parts. One part consists of eighteen items related to terminal values, and another part consists of eighteen items related to instrumental values. Respondents are asked to rank order each set separately placing the most important value as number one and so on until all eighteen values are ranked.

Perhaps Rokeach's greatest contribution to the study of human values has been in his distinctions among the terms values, attitude, need, social norms, trait or interest which were often used interchangeably by scholars (Simmons, 1982). The previous use of these terms simultaneously and/or

interchangeably has led to much confusion among scholars doing values research. An advantage to using Rokeach's Value Survey for research is its relative priority perspective on the organization of a person's value system versus the absolute static perspective of the Study of Values and Ways to Live Document (Simmons, 1982). Based on its design for use with college students, its recency, inclusiveness, and relevance to empirical psychology, Rokeach's Value Survey is a widely used instrument for measuring cross-cultural values. According to Robinson and Shaver (1973), the Value Survey (Rokeach, 1968) is simple in design and economical to administer to individuals or groups and serves as an all purpose instrument for research on human values. Also, numerous cross-national and cross-cultural studies (Rokeach, 1973; Feather, 1970, 1971; Feather & Hutton, 1973) have been done using the Value Survey (Rokeach, 1968).

The development of empirical methods to measure the content and organization of personal value systems started with the use of an inventory approach. Such inventories have theoretical structures which have been primarily tested through factor analyses. Although there is no evidence that these inventories are exhaustive, most value theorists generally assume values are universal and limited in number. Spranger proposed that value systems are constructed from six valuing attitudes or interests which are measured

using the Study of Values instrument. Morris proposed value systems are based on religious and philosophical systems. The Ways to Live Document measures values that are desired as well as what ought to be preferred ways to live. The anthropologists Kluckhohn and Strodtbeck have contributed to the study of values by examining the socialization process and culture which influence behavior and are central to the way individuals structure their world. Rokeach differentiated constructs such as beliefs, attitudes, values, interests, and needs and articulated their systematic relationship. He further differentiated values as being terminal and instrumental. All four theories have contributed to advancing the study and assessment of value systems to its present state. Based on each theory's contributions, values are: (a) components of an organized system, (b) organized in a hierarchical pattern, (c) relatively stable although subject to change, (d) central and pervasive to the way individuals structure their world, (e) standards by which choices ought to be made (guiding principles), (f) ultimate means and ends, and (g) influential in decision making and behavior. Although there is no universally accepted theory for assessing values, Rokeach's model is a widely used model and incorporates the major components of the other three theorists.

The Influence of Culture and Values on Consumer Behavior

A reference group serves as an example of what an individual would like to do or be. Thus a reference group can influence consumer product decisions. Foxall (1980) noted that although culture exerts an influence on the consumer it is often taken for granted. He felt culture is important to understanding the power of differences in consumption patterns. The literature gives numerous examples of disastrous results from the lack of understanding of consumption patterns of different cultures (Ricks, Fu, & Arpan, 1974; Montrose & Kernan, 1967; Toyne, 1977). According to Williams (1982) although culture has received less attention than other reference groups it lies at the heart of product consumption. He believed cultural values can determine the importance of products and services and the kind of products and services preferred and consumed. Williams stated, "The very nature of acculturation makes values so natural that we have difficulty in recognizing our own ethnocentricity" (1982, p.316).

Studies have shown the influence of culture on consumer behavior. Henry (1976) used Kluckhohn's and Strodtbeck's (1961) model of value orientation to evaluate purchasing patterns for automobiles. He found that Kluckhohn's cultural values related to automobile ownership. Vinson, Scott,

and Lamont (1977) found personal values identified two marketing segments: the "me-oriented" self-enhancement segment who preferred product performance and the "me-oriented" social recognition segment preferring prestige and style. In studying immigrants, Hair and Anderson (1972) found that acculturation takes place faster for consumer behavior than other forms of behavior since material objects and services are integrated more easily into one's behavior than abstract non-materialistic factors.

Somners and Kernon (1967) studied the relationship between products and six categories of cultural patterns identified by Parsons (1964) and Lipset (1962). They found distinct differences among American, British, Canadian, and Australian cultures. Americans emphasized distinctiveness of parts and were more materialistic while British consumers tended to be less interested in details and more concerned with overall use of products.

Alexander (1959) studied four ethnic subcultures in the United States and found differences among Italian, Black, Jewish, and Puerto Rican homemakers in their acceptance of various food products. Other studies related to Hispanic culture (Cevantes, 1980; Yankelovich, Skelly, & White, 1981; Sturdivant, 1968; Bellinger & Valencia, 1982) further support the influence of culture on consumer behavior. These cross-cultural comparisons between Hispanics and their Anglo-American counterparts suggest there are differences

related to cultural factors rather than income or social economic factors. Messina and Reddick (1980) suggested that the concept of the family is relevant in the buying decision process. They felt extended family members serve as strong opinion leaders and informal sources of consumer information thereby influencing the consumer behavior of family members. Studies by Hoyer and Deshpande (1982) and Kizilbash and Garman (1975-1976) also suggested Hispanics are more likely than their Caucasian-American counterparts to rely on peers and family members for consumer information.

In another study, Schaninger, Bourgeois, and Buss (1985) found significant differences among French-speaking and English-speaking Canadians. These differences also remained after removing effects of social class and income. The authors concluded differences in media usage, consumption behaviors, and durable good ownership reflected cultural values that differed between the two groups.

Dalrymple, Robertson, and Yoshino (1971) compared Whites, Japanese-Americans, and Blacks in the Los Angeles area and found significant differences in attitudes on product information sources and store preferences suggesting the importance of socialization agents as sources of consumer learning.

Tan and McCullough (1985) found a strong orientation toward Chinese values was associated with reliance in price and quality while low orientation toward Chinese values was associated with a higher preference for image. Tan and McCullough suggested general value orientations may affect specific consumption orientations.

Yau (1985) found Chinese consumers have negative attitudes toward advertising and their choice of products was influenced by situational and environmental factors. Laurent (1985) found consumers in Hong Kong have weak materialistic values and strong family orientation and work ethic void of the success syndrome. Laurent found Hong Kong consumers were innovative and had liberal attitudes about the use of credit.

According to Moschis (1987):

Research regarding Oriental customers is scattered and fragmented. A few studies in select Oriental countries provide limited empirical results and almost no theoretical interpretations. Many of these studies compare a particular Oriental culture with the U.S. culture; other studies compare the Oriental culture with non-U.S. cultures, and still other studies examine subcultures within a country. (p.279)

The literature cited suggests consumer behavior can be studied and better understood in the context of culture and values. The available research seems to support consumer behavior as a socialization process (Rokeach &

Parker, 1970; Witt & Bruce, 1970; Hair, Jr., Bush, & Busch, 1975; Nicosia & Myer, 1976; Hendon, 1979; Hirschman, 1981; Reilly, 1982). However, the relationships between key variables and the reasons for these relationships is not fully understood (Moschis, 1987). The difficulty in understanding the cultural effects on consumer behavior derives from the manner in which the concept of culture is defined and measured. Cultures and subcultures are often defined in terms of large groups of people who are assumed to share similarities. Such groupings do not always exhibit uniform patterns of behaviors, attitudes, or values. Thus, the concept of culture for the purpose of this study is explicitly and operationally defined as ethnic Chinese from the People's Republic of China and Taiwan and their values as measured by the Value Survey (Rokeach, 1968).

Health As A Value and Its Measurement

Health is not an objective condition which can be understood by the methods of natural science alone. It is rather, a condition related to a mental attitude by which the individual has to value what is essential for life. "Health" appears thus as a value, its value consists in the individual's capacity to actualize his nature to the degree that, for him at least, it is essential (Goldstein, 1959, p.183).

According to Goldstein, for individuals to value health they must realize being ill becomes a loss or diminution of self-realization and existence. In this instance, the term "existence" means more than mere survival. It refers to the fulfillment of all the individual's capacities in harmony with each other so that life is worth living.

Rokeach (1973) believed that values are not inherent in objects, places, persons, or things but are instead judgements determined by factors such as personality, mental capacity, culture, and environment. The arbitrariness and relativity of these factors are mirrored in value judgments. Based on Rokeach's beliefs, the value of health can be defined as an experience of adequacy between individuals and their world rather than mere physical existence.

The concept of health as a value has been given less attention than other concepts such as health status and patient satisfaction (Lau & Hartman, 1986). Furthermore, there is little information about instruments for measuring the value placed on health and about the population differences in valuing health (Ware & Young, 1979). This lack of research is in part due to the controversial role the value that health plays in models of health and illness (Becker, 1974). Many researchers have concluded health is a value too important to measure especially in relation to other values (Bull, 1941; Freeman, Levine, & Reeder, 1972; Becker, Haefner, Kasl, Kirscht, Maiman, &

Rosenstock, 1977; Rokeach, 1973). However, Mechanic (1968) has argued that health is less likely to be valued when other values are conflicting or are being threatened. Kasl and Cobb (1966) also felt the value of health may not be so high in non-symptomatic states. Rotter, Chance, and Phares (1972) also felt the value for health may not be so high when the individual's estimate of a given action is unlikely to result in the desired outcome.

The assumption that all people uniformly place a high value on health has been challenged by recent research. Ware and Young (1979) studied five populations of healthy American adults. They found that health was ranked high on the average. However, 20 to 40 percent of the subjects across the five samples did not rank health among the first five values. Mechanic (1972) found women valued health more than men and attributed this finding to women being in more frequent contact with the medical system throughout their life span. Mechanic also speculated that the elderly are likely to value health more highly than younger subjects because they are more likely to be ill.

One of the many methods used to estimate health values is measuring health worry or concern. Indicators of concern or worry include questions such as, do you watch what you eat carefully, or how important do you think exercising is to your health? Another method used to measure health values is surveying subjects as to how often they viewed or listened to health programs

(Borsky & Segen, 1959). However, these kinds of measures have no consistency in the nature of the questions asked from study to study making it difficult to compare results and establish reliability and validity.

Other methods for measuring health values are projective tests which are scored on health content (Gochman, 1972, 1975). Interpretations vary according to the skill of the scorer. According to Lindzey (1961) the use of projective techniques to non Euro-American cultures is difficult because they are full of methodological flaws. Detecting subtle linguistic cues, questionable validity of scoring procedures, and data which are difficult to quantify are some of the problems identified by Lindzey.

Another method used to estimate health values is ranking tasks. The ranking technique with modified versions of the set of terminal values on the Value Survey (Rokeach, 1968) is the most widely used method for measuring the value of health (Lau & Hartman, 1986). Subjects are asked to rank ten to 18 terminal values which include health. According to Rotter (1975) expectancies alone should predict behavior only in situations where the values of the possible outcomes are high. Based on Rotter's premise, Kaplan and Cowles (1978) used a shortened version of the terminal portion of the Value Survey (Rokeach, 1968) with health added as a value. The authors found that

subjects who endorsed a high value for health smoked significantly less than low health value participants.

Kaplan and Cowles (1978) suggested attention to the role of values may increase the effectiveness of behavioral programs by emphasizing techniques such as sensitivity training procedures. They felt sensitivity training can increase the individual's awareness and appreciation for signs of better health that can be used to increase health values. Dunn (1980) studied the value on health, health locus of control, and self-care knowledge among 148 subjects majoring in health education. As expected 133 of them placed a high value on health. Abella and Heslin (1984) studied the health values of 71 male volunteers in an introductory psychology class and found health was ranked second highest among ten values from the Value Survey (Rokeach, 1968). Other studies (Rogers, 1982; Westbrook, 1980; Flora, 1982) using a modified version of the Value Survey (Rokeach, 1968) have found subjects placed a high value on health.

Fabrega & Roberts (1972) used another ranking technique to measure the value of health. They measured health value or salience by asking subjects how they would spend a hypothetical donation of \$500. Results of their study showed a correlation between subjects who stated they had salient health concerns and subjects who had more frequent medical contacts. Furthermore,

they found a statistically significant relationship between age, gender, and utilization of the health-care system. Although most of the ranking studies indicate participants hold a relatively high value for health, these studies have been primarily done among individuals in the health field or with an associated health problem and predominantly among women who have been shown to be positively skewed toward a high value for health and a high use of the medical system. Also, subjects were primarily American.

Munson and McIntyre (1979) criticized the ranking technique as being cumbersome, requiring complex instructions, and three times the amount of time to complete the survey as compared to rating tasks. Ng (1982) further claimed the rating technique required simple instructions and allowed the respondent to rate each value construct on a continuum without regard to other values. The rating technique allows respondents to assign the same importance to all values which often results in little score variation. However, proponents of the ranking task noted that ranking forces respondents to make finer value discriminations thereby yielding more score variability.

Ware & Young (1976) employed both rating and ranking tasks among five sample groups. Their findings were consistent with the research supporting the importance of health as a value. However, other values such as happiness, family security, and freedom were consistently high in all five groups

studied. They further noted that these values also were ranked high in importance in other value surveys which did not include health as a value (Rokeach, 1973; Feather, 1975). Ware & Young (1976) also found substantial differences in test-retest reliability coefficients for value ranking among the university group which were moderate to high but much lower among the general population groups. University students on the whole ranked health much lower and had substantially different value orientations than populations outside the university (Ware & Young, 1976). As a result of their research, Ware and Young (1976) concluded that the conceptualization of health should be treated differently as defined by value ratings measuring absolute value, and health as defined by value rankings measuring its relative importance when tradeoffs are involved. Significant relationships between high health value scores, age (older), and gender (women) confirmed findings of earlier studies by others (Fabrega & Roberts, 1972; Mechanic, 1972).

While the studies cited above have contributed significantly to understanding of health as a value, the value of health among different populations is not fully understood. Current findings do not give strong support to the generalization that all persons have a high health value. Except for Gochman's projective tests and the Value Survey (Rokeach, 1968) the reliability and validity of other methods for measuring health value have not

been established (Ware & Young, 1976). Studies have been done primarily with the general population, with individuals associated with the health field, and with those who have health problems. The concept of health value has mainly been explored with the health locus of control framework and has not been measured with preferences for health care interactively.

Preferences for Health Care

Growing consumerism and spiraling health care costs have encouraged patients to become more active and informed participants in the health care process. These factors along with studies which show that medical outcomes can be determined by patients' knowledge and understanding of their condition and participation in their health care have resulted in the establishment of many self-help programs. The literature suggests that the effects of increasing participation and providing more information can be conceptualized as increasing an individual's perceived control thereby resulting in subjects believing that they can affect outcomes (Averill, 1973; Vickery & Fries, 1976; Langer & Rodin, 1976). Although it is generally assumed more information and participation is desirable, questions remain as to how much self-care and responsibility are optimal. Studies indicate some individuals may benefit more

than others from being informed or involved in their care, and there are differences in the receptiveness to information and self-care (McIntosh, 1974; Springarn, 1978).

Johnson (1973) believed inaccurate expectations about sensations resulting from noxious stimuli produced negative affective responses. Results of his study showed significantly lower ratings of distress by the group that was prepared for the sensory experience as compared to the group that was merely informed about the procedure. Straub and Kellett (1972) and Bonovich (1990) also reported results consistent with Johnson's findings.

Koperski (1989) provided health information and education using video recordings in a waiting room area. She found 87 percent of the patients responded positively to the programs. There were no significant differences in age or gender between those who chose and those who chose not to view the programs. However, she did find that unemployed patients and those who were in a lower social class were significantly less likely to watch the video recordings. Koperski suggested the need for more research regarding social classes to different forms of health information and education. In studying women deciding between two options for breast cancer, Ward, Heindrich, and Wolberg (1989) found that participation in the decision-making process was

important to them and they rated "people" sources of information more important than written or visual material.

Andrew (1970) used information giving as a method of stress reduction for patients recovering from surgery. She hypothesized that patients who sought and used information and used their intellectualizing defenses would show greater improvement than patients who did not use intellectualizing defenses. Results of her study showed information and learning were not important. There were no significant correlations between the exposure to information, the learning of information, the use of medications, and days for recovery.

Johnson and Leventhal (1974) studied the effects of information and participation on patients' reactions during an endoscopic examination. Results of their study showed participation was significant only when combined with information. Accurate information alone and in combination with participation reduced only selected indicators of emotional reaction.

Mills and Krantz (1979) also investigated the effects of information and participation on the reactions of stress among blood donors. They found both information and participation alone were more effective in reducing stress. Participation was more potent than providing subjects with relevant information. Combining treatments added little to the reduction of stress.

Andrew (1970) and Shipley, Butt, Horwitz, and Farbry (1978) have found individuals who deny or repress anxiety provoking stimuli respond more poorly than those who have been given information about the stressful stimuli.

Other studies involving help seeking behaviors across race and gender suggest that utilization patterns of health facilities may be affected by the client's expectations and preferences. Morten and Atkinson (1983) and Harrison (1975) found Black clients preferred Black counselors. Studies also show men used counseling services less than women (Horwitz, 1977; Kirk, 1973). Gurin, Veroff, and Feld, (1960) found men customarily preferred a self-help position or the help of a friend rather than seeking counseling services.

The above studies suggest that individuals fare best when given treatments that are congruent with the patient's expectations and preferred coping styles. While giving information and allowing patients to participate in their health care has contributed to positive medical outcomes, their influence is controversial with dichotomous views cited in the literature. Information seeking and participation in health care have been studied in relation to personality types, information sources, structuring of information, and varying degrees of participation. However, no study regarding the preferences for information and participation has been done in relation to cultural or personal values.

Summary of the Review of Literature

This chapter reviewed the literature relating to the concepts and instruments used to measure personal values, the influence of culture on values and consumer behavior, instruments and procedures used to measure the concept of health value, and preferences for self-treatment and information for health care.

The literature suggests that culture and values are important dimensions in influencing consumer socialization and the decision-making process. However, the effects of culture are not fully understood. The complexity in understanding the effects of culture in part stems from the operational definitions of culture.

The literature also suggests that health as a value plays a complex and controversial role in models of health behavior. Furthermore, there is a dearth of information regarding population differences in valuing health.

There is also empirical data which suggest there are differences in the receptiveness, the amount of information, and the active involvement in health care among individuals. These differences may in part be related to personal and cultural values. Although patients' expectations, information, and

participation play a role in reducing aversive reactions to health care procedures, the complexities of the information and participation relationship is not fully understood. Since studies show little gain in the effectiveness of combining treatments and in light of the economic and medical benefits of self-care, further investigations regarding the effects of and preferences for information and participation in health care would be beneficial.

The Value Survey (Rokeach, 1968) has been the most widely cited and recognized contemporary work on values analysis. It serves as an all purpose instrument for research on human values. Despite the numerous cross-cultural studies using the Value Survey (Rokeach, 1968), only a few studies have related personal values to consumer behavior. More specifically a study of values as it relates to Chinese students and consumer health behavior has not been undertaken.

CHAPTER III

METHODOLOGY

Introduction

The methods and procedures for this study are presented in four parts. The first section covers the population and sample description; the second section includes a description of the data gathering instruments and the process used to establish Chinese language equivalency; the third section describes the data collection procedures; and the fourth section presents the statistical analysis.

Population and Sample Description

The subjects utilized in this study were graduate students from the People's Republic of China and Taiwan attending Oregon State University during the 1986-87 academic school year. Names of the subjects were provided by the Office of International Education at Oregon State University. Seventy-one subjects responded out of a total of 122 subjects (58.2 percent)

from Taiwan, and 90 subjects responded out of a total of 127 subjects (70.9 percent) from the People's Republic of China. An overall 64.7 percent response rate was achieved. In addition, twenty-one subjects (ten from Taiwan, and eleven from the People's Republic of China) failed to complete the Value Survey by not finishing the rankings or by not adequately filling out the Background Information Questionnaire. These subjects were not included in the study. Thus the total number of subjects in the study totaled 161. Specific questions on a Background Information Questionnaire provided demographic characteristics of the sample. These characteristics are presented in Appendix A.

Males represented 77.8 percent of the sample from the People's Republic of China and 71.8 percent of the sample from Taiwan or 75.2 percent for the total sample ($X^2 = .47$, $df = 1$, $p = .49$).

The two groups of students did not significantly differ in their length of stay in the United States. The mean stay in the United States was 23.43 months for students from the People's Republic of China and 29.33 months for the students from Taiwan ($t = -1.64$, $df = 102.56$, $p = .10$).

There was a significant difference in education level between the students from the People's Republic of China and Taiwan. The majority of students (61.1 percent) from the People's Republic of China were in doctoral

programs while the majority of students (56.3 percent) from Taiwan were in master's degree programs ($X^2=4.18$, $df=1$, $p=.04$).

Mean age of students from both the People's Republic of China and Taiwan was 29.47 years ($t=-.03$, $df=155$, $p=.97$).

Approximately 57.2 percent of the sample were married while 42.8 percent of the sample were single. The subjects did not differ by country ($X^2=1.78$, $df=1$, $p=.18$). The majority of the married students (73.9 percent) had spouses living in the United States, and they did not differ by country ($X^2=.19$, $df=1$, $p=.66$).

There was a significant difference between the two groups of students on the sources of financial support ($X^2=21.69$, $df=4$, $p=.00$). Students from the People's Republic of China were more likely to be employed as teaching or research assistants (25.8 percent and 40.4 percent, respectively) while students from Taiwan were more likely to be supported by their families (40.3 percent).

There was no significant difference in the type of housing the subjects from the two countries resided in ($X^2=2.78$, $df=1$, $p=.10$). The majority of the sample lived in non-university housing and tended to have roommates.

The subjects did not differ by country in the use of a community physician or hospital ($X^2=.53$, $df=1$, $p=.47$) and dentist in the community ($X^2=1.22$, $df=1$, $p=.26$). Only 20.6 percent of the total sample used a

community doctor or hospital, and 19.4 percent of the total sample used a dentist since their arrival in the U.S. Students from the two countries did differ significantly in their use of the university health center ($X^2=11.17$, $df=1$, $p=.00$). Students from the People's Republic of China (57.3 percent) used the university's health center more than students from Taiwan (29.6 percent).

There was no significant difference between the two groups of students who passed the TOEFL exam ($X^2=.00$, $df=1$, $p=1.0$). Eighty-six (96 percent) of the students from the People's Republic of China and sixty-eight (96 percent) of the students from Taiwan took the TOEFL exam and had passed.

No significant differences between the two countries were noted regarding orientation prior to their arrival in the U.S. ($X^2=.00$, $df=1$, $p=1.00$) and after their arrival in the U.S. ($X^2=2.65$, $df=1$, $p=.10$).

Instrumentation

The instruments consisted of three types: terminal values, preferences for self-treatment and information in health care, and demographic variables. The set of terminal values on the Rokeach Value Survey (Rokeach, 1968) was used to measure terminal values which included health value. Krantz's Health Opinion Survey (Krantz, 1978) was used to measure preferences for behavioral

involvement and information in health care. The English versions of the instruments and background information sheet are provided in Appendix C. The subjects however responded to a Chinese translation of the items. The Chinese versions of the instruments are shown in Appendix D.

Rokeach Value Survey

Rokeach conceptualized values as two sets of separate but functionally interconnected systems. He differentiated terminal values which are preferable end states of existence from instrumental values which are preferable modes of conduct. To measure these two types of values, Rokeach developed the Value Survey (1968). The survey provides a method for measuring the importance of values as guiding principles of action, thought, and judgement (conscious and unconscious) in a person's life. The instrument requires respondents to rank order 18 alphabetically listed terminal and 18 instrumental values along a dimension of relative importance of each of these values to themselves. Rokeach selected the 18 terminal values from a larger list obtained from a review of the literature, 30 graduate students in a Psychology class, and interviews of a representative sample of adults in Lansing, Michigan. Rokeach selected 18 instrumental values from Anderson's (1968) list of 555 personality

trait words. The 18 instrumental values resulted from retaining a value or trait word that represented a group of synonyms judged to be maximally different judged to be meaningful values in all cultures and those that one could readily admit without being immodest or boastful. For the purpose of this study only terminal values were measured. Rokeach felt terminal values are fewer and more central of the individual's beliefs.

There are several forms of the Value Survey. Form D is the most widely used and presents each value printed with a defining phrase on a removable gummed label so subjects can easily arrange a value hierarchy. Form E of the Value Survey presents the identical 36 values with the same brief definitions in a more conventional manner. The respondent ranks the values by writing in the values in blank spaces numbered 1 to 18. Form E of the Value Survey was employed in this study for its convenience. As part of the Value Survey the subjects were encouraged to write in any values they would have liked included but were not listed among the 18 terminal values. Three blank spaces were left for this purpose. The subjects were also asked to indicate where in the rankings they would place the value or values they would have liked included.

Median test-retest reliabilities of terminal values on Form D is 0.76 after a two to four month interval and 0.69 after a 14 to 16 month interval (Rokeach, 1973; Robinson & Shaver, 1973). Rokeach (1973) reported test-retest

reliabilities with Form E are 0.74 for terminal values for college students after a three week interval. Feather (1971) in Australia reported reliability coefficients in the 0.70s for terminal values over a five week interval among college students. Rankin and Grube (1980) have compared ranking and rating procedures for Rokeach's Value Survey and found no appreciable difference in terms of test-retest reliabilities.

The construct validity of several values were demonstrated by Rokeach (1973). He found 12 of the 18 terminal values and 8 of the 18 instrumental values discriminated between American men and women. The instrumental value of "being clean" and the terminal value of "a comfortable life" distinguished the poor from rich, and the low-educated from the high-educated. The low-educated and the poor both ranked "being clean" and "a comfortable life" higher than the rich or high-educated. Rokeach and Parker (1970) also demonstrated concurrent validity of some values as social indicators of poverty and race relations in the United States. "Equality" experienced the greatest difference between Black and White Americans. Individuals sympathetic to the civil rights movement ranked freedom and equality high while those who were unsympathetic ranked freedom high but equality second to the last. Rokeach (1973) also found a relationship between the ranking of salvation and forgiving. These two values predicted church attendance. In evaluating the construct

validity of Rokeach's Value Survey, Thompson, Levitov, and Miederhoff (1982) concluded that ipsative procedures are appropriate when value choice is the researcher's purpose.

Krantz Health Opinion Survey

The Krantz Health Opinion Survey (Krantz, 1978) was developed from 40 statements written to encompass preferences for an active and informed versus inactive trusting role in the health care process. The 40 items were adapted from a questionnaire developed by Linn and Lewis (1979) to measure physician attitudes toward self-care. Face valid items tapped five categories: (a) beliefs in the efficacy and benefits of self-care; (b) frequency of information seeking and questioning of physicians and nurses; (c) beliefs regarding the benefits and disadvantages of making one's own medical decisions; (d) attitudes towards using a physician versus ones self as the health care provider; and (e) frequency of self-diagnosis. An item analysis was done after 200 undergraduates took the 40 item survey. Based on the item analysis 26 items remained.

The second version was then administered to 159 undergraduates. Factor analysis was used to obtain two subscales: (a) the Behavioral

Involvement Scale which consisted of 9 items related to self-treatment and active behavioral involvement; and (b) the Information Scale defined by 7 items measuring the desire to ask questions and be informed about medical decisions. The final version consists of 16 items rated in a binary, agree-disagree format. The survey yields scores for the Behavioral Involvement Subscale, Information Subscale, and a total score measuring composite attitudes toward treatment approaches. High scores represent favorable attitudes toward self treatment and behavioral involvement or informed treatment.

The total Health Opinion Survey Scale has a Kruder-Richardson reliability of 0.77. Kranz, Baum, and Wideman (1981) have reported the reliability of the Behavioral Involvement Scale to be 0.74 and 0.76 for the Information Scale. Two subsequent studies with college students by the same authors resulted in test-retest reliabilities over 0.74 for the total scale and 0.71 and 0.59 for the Behavioral and Information Scales, respectively, after a seven-week period. Predictive validity of the instrument has been demonstrated by administering the instrument to criterion groups (56 resident hall students, 12 students enrolled in an elective self-help course, and 81 students reporting to the student health facility for routine medical care). As expected, the students enrolled in the self-help course scored higher than resident hall students on the

Behavioral and Information Scales and total score of the Health Opinion Survey. The clinic users scored lower than the resident hall students on the Behavioral Scale but did not differ on the Information Scale or total score. Discriminant validity was demonstrated among the resident hall students and clinic users. Clinic users did not seem to prefer self-care, and their Behavioral Scale scores were much lower than individuals who had favorable attitudes (resident hall students) toward self-involvement. Construct validity was also established in another study where a nurse observed 62 subjects' attempts at self diagnosing and the number of questions asked by the subjects. It was found that high scores on the Information Scale were associated with greater inquisitiveness; however, the Behavioral Scale was not related to questions asked. The total scores on the Krantz Health Opinion Survey were related to inquisitiveness. A significant positive relationship was shown between high Behavioral scores and high total scores and self-diagnosis.

Establishment of Chinese Language Equivalence

The terminal values portion of Rokeach's Value Survey, Krantz Health Opinion Survey, and Background Information Questionnaire were translated into Mandarin Chinese by the method of back translation in order to reduce

any discrepancy between the original instrument and the Chinese version.

Brislin (1970) recommends the back translation method (translating language A to B then from B to A) as the best method for dealing with issues of appropriateness and equivalency. Jung Ying Lu, a Mandarin-English bilingual and a professor of Chinese and linguistics at the University of Hawaii, translated the instruments and Background Information Questionnaire into Chinese. A blind back translation by another linguistic expert reproduced in the equivalence of value terms and explanatory words for the survey tools and Background Information Questionnaire in English. The instrument was then field tested with a group of 15 Chinese students from Taiwan and the People's Republic of China attending the University of Hawaii. After completing the survey tools, the meaning of each of the items was discussed to ensure accurate choice of words and phrasing.

Data Collection Procedures

An instrument packet (Appendix D) with a cover letter (Appendix F) and a pre-addressed stamped return envelope was sent by mail to 249 subjects. In addition to ranking the terminal values of Rokeach's Value Survey and completing the Krantz Health Opinion Survey, respondents were asked to

provide demographic information which was requested on a Background Information Sheet. All data requested contained no names. Code numbers were used to facilitate follow-up mailings to subjects who did not return the questionnaires. After 14 days, subjects who had not returned their questionnaire were sent a follow-up reminder (Appendix H). A second reminder was sent (Appendix J) if questionnaires were not returned within two weeks after the first reminder letter was sent.

Statistical Analysis

The levels of significance used in this study were .05 for the chi-square test, Mann-Whitney U-test, regression analysis, and t -test.

The chi-square test and the t -test were used to determine population differences on demographic data. According to Roscoe (1975) the chi-square statistic provides a generalized procedure for testing hypotheses about the distributions of nominal data. The t -test for two-independent samples was used to determine whether the means for the length of stay and the ages for the two groups of students differed significantly.

Frequency distributions of the value rankings for each group were obtained for the 18 terminal values. Because of the ordinal nature of the data

and the frequency distributions were similar for the two countries the median was considered the most appropriate measure of central tendency. For the same reasons the nonparametric Mann-Whitney U-test for two-independent samples was selected to determine whether there was a significant difference in the ranking of terminal values between students of the two countries. The Mann-Whitney U-test is a powerful nonparametric alternative which may be used in place of the parametric t -test when ordinal measures or data are used. According to Siegal (1956) when the Mann-Whitney U-test is applied to data properly analyzed by the t -test its power efficiency approaches close to 95 percent even for moderate-sized samples.

Quantitative variables take on values on a well defined scale. However, many variables of interest in business and social sciences are not quantitative but are qualitative. Variables that are intrinsically non-numerical such as nominal and ordinal variables are referred to as categorical or qualitative variables. According to Gunst & Mason (1980) and Neter, Wasserman, & Kutner (1989) qualitative variables can be used in multiple regression models.

Multiple regression was the major statistical technique to analyze the relationship of health care preferences for behavioral involvement and information (dependent variables) and selected demographic data and terminal values (independent variables). Multiple regression is a statistical technique

used to analyze or predict the relationship between a dependent variable and a group of independent variables (Nie et al., 1975). According to Courtney (1988) the regression technique enables one to predict scores on one variable from measures on another variable.

To determine whether there was a significant difference in the health care preferences of the students from the People's Republic of China and Taiwan, the t -test for two independent samples was used. According to Roscoe (1975) the t -test examines existing differences between random samples for two different populations and assumes dependent variables are measured on an interval scale, are normally distributed in the two populations, and that the two populations have equal variances.

Data were coded and an ASCII file was created. Verification of the coding was achieved by rechecking the data coded. Version 3.0 of the Statistical Package for the Social Sciences/PC+ (Nie et al., 1975) on an IBM PS/2/Model 80 was used to analyze the data.

CHAPTER IV

ANALYSIS AND DISCUSSION OF RESULTS

Introduction

In this chapter, the results of the statistical analyses used in this study are presented. Tables accompanying analyses of the data will be presented according to each hypothesis.

The central purpose of this study was to compare the rankings of terminal values among Chinese students from the People's Republic of China and Taiwan and to determine whether a relationship existed between terminal values and selected demographic characteristics (independent variables) and health care preferences (dependent variable) among the two groups of Chinese students.

The analysis of the data for the study is presented in four sections. The first section compares the rank ordering of terminal values between the students of the two countries using the Mann-Whitney U-test. Medians were obtained for each value item of the 18 terminal values. The medians were calculated separately for students from the People's Republic of China and

Taiwan. The second section presents the results of the multiple regression analysis of terminal values and demographic characteristics to the health care preference for information. The third section presents the results of the multiple regression analysis of terminal values and demographic characteristics to the health care preference for behavioral involvement. The last section describes the results of the t -test on health care preferences of the students from the two countries.

The data resulting from this investigation are reported as results of hypotheses testing and a summary of the findings will be presented.

Findings

Findings for Hypothesis 1

Table 1 shows the medians of terminal values and composite rank orders for the Chinese students from the People's Republic of China and Taiwan.

H_{01} : There is no significant difference in ranking of terminal values for the students from the two countries.

The first hypothesis of this study asserted that there was no significant difference in the ranking of terminal values between the two groups. The

results of the comparisons of median ranking scores for each of the 18 terminal values are presented in Table 2. Since the number of subjects totaled 161 in this survey and the sample is larger than 20, the value of z was obtained. The results of the comparisons of median ranking scores for each of the items follows (z = Mann-Whitney U-test; p = probability):

- Comfortable Life (z = -3.46, p = .00*)
- Exciting Life (z = .54, p = .59)
- Sense of Accomplishment (z = -.10, p = .92)
- World at Peace (z = -.55, p = .58)
- World of Beauty (z = -2.63, p = .01*)
- Equality (z = -.06, p = .95)
- Family Security (z = -1.01, p = .31)
- Freedom (z = -.26, p = .79)
- Health (z = -1.35, p = .18)
- Inner Harmony (z = -.36, p = .72)
- Mature Love (z = -.18, p = .85)
- National Security (z = -1.10, p = .27)
- Pleasure (z = -1.19, p = .23)

TABLE 1. OVERALL MEDIANS AND COMPOSITE RANK ORDERS OF TERMINAL VALUES FOR STUDENTS FROM THE PEOPLE'S REPUBLIC OF CHINA AND TAIWAN

Terminal Value	PRC N=90		TAIWAN N=71		TOTAL N=161	
	Median	Rank	Median	Rank	Median	Rank
Comfortable Life	4.50	1.0	8.24	7.0	7.12	3.0
Exciting Life	7.50	4.5	7.70	6.0	7.55	5.0
Sense of Accomplishment	7.10	2.0	6.95	3.0	7.03	2.0
World at Peace	7.16	3.0	7.60	5.0	7.44	4.0
World of Beauty	7.50	4.5	8.84	9.0	8.20	7.0
Equality	10.33	14.0	8.94	10.0	9.64	10.0
Family Security	11.25	17.0	9.40	12.0	10.59	17.0
Freedom	9.75	11.0	10.49	15.0	10.18	15.0
Health	10.42	15.0	9.68	13.0	10.03	14.0
Inner Harmony	10.31	13.0	11.0	16.0	10.44	16.0
Mature Love	10.00	12.0	9.93	14.0	9.97	12.5
National Security	8.67	7.0	11.1	17.0	9.96	11.0
Pleasure	10.59	16.0	9.11	11.0	9.97	12.5
Salvation	8.00	6.0	7.5	4.0	7.71	6.0
Self Respect	9.56	10.0	8.6	8.0	9.46	9.0
Social Recognition	9.27	8.0	4.93	2.0	6.64	1.0
True Friendship	9.47	9.0	4.88	1.0	8.84	8.0
Wisdom	12.69	18.0	13.39	18.0	13.36	18.0

TABLE 2. MANN-WHITNEY U-TEST FOR TERMINAL VALUES FOR STUDENTS FROM THE PEOPLE'S REPUBLIC OF CHINA AND TAIWAN

Terminal Values	<u>PRC</u> N=90 Mean Rank	<u>TAIWAN</u> N=71 Mean Rank	U	Z	p
Comfortable Life	69.79	95.20	2186.5	-3.46	.00*
Exciting Life	79.23	83.24	3036.0	.54	.59
Sense of Accomplishment	80.67	81.42	3165.0	-.10	.92
World at Peace	78.72	82.79	2990.0	-.55	.58
World of Beauty	72.02	91.40	2387.0	-2.63	.01*
Equality	80.81	81.24	3178.0	-.06	.95
Family Security	83.80	76.37	2866.0	-1.01	.31
Freedom	80.14	82.09	3117.5	-.26	.79
Health	85.39	75.44	2800.0	-1.35	.18
Inner Harmony	81.16	78.53	3012.0	-.36	.72
Mature Love	81.59	80.25	3141.5	-.18	.85
National Security	77.41	85.55	2872.0	-1.10	.27
Pleasure	84.87	76.70	2847.0	1.19	.23
Salvation	79.76	82.58	3083.0	-.38	.70
Self Respect	80.18	82.04	3121.5	-.25	.88
Social Recognition	86.57	73.94	2694.0	1.71	.09
True Friendship	86.86	73.57	2667.5	-1.80	.07
Wisdom	80.09	82.15	3113.5	-.33	.74

* = significant at the .05 level

- Salvation ($z = -.38, p = .70$)
- Self-Respect ($z = -.25, p = .08$)
- Social Recognition ($z = 1.71, p = .09$)
- True Friendship ($z = -1.80, p = .07$)
- Wisdom ($z = -.33, p = .74$)

The computed p value was greater than the critical value of .05 for 16 terminal values. Thus, the null hypothesis was retained for 16 terminal values and rejected for the terminal values of a comfortable life and a world of beauty; it should be noted that these latter two findings may have been by chance alone. The specific values of a comfortable life and a world of beauty differentiated the students from People's Republic of China and Taiwan students at the .00 and .01 level of significance, respectively. A comfortable life was ranked first by students from the People's Republic of China with a median rank of 4.50 while the students from Taiwan ranked it seventh with a median rank of 8.24. Students from Taiwan ranked true friendship first with a median score of 4.88 and social recognition second with a median score of 4.93. Students from the People's Republic of China ranked true friendship ninth and social recognition eighth. The medians were 9.47 and 9.27, respectively. The median ranks of several value items were similar for the two groups. Both groups ranked a sense of accomplishment, an exciting life, and a world at

peace rather high. Both groups of Chinese students gave the lowest priority ranking to the terminal value of wisdom.

Discussion

There was a significant difference between the two groups of Chinese students on two terminal values. There were similarities among 16 terminal values between the two groups. This finding suggests there is homogeneity and stability of values between the two groups of students despite geographical differences.

It appears the students from the People's Republic of China are more desirous for the two terminal values of a comfortable life and a world of beauty than students from Taiwan. The students from the People's Republic of China ranked a comfortable life first and a world of beauty 4.5, while the students from Taiwan ranked a comfortable life seventh and a world of beauty ninth. The higher value for a world of beauty by students from the People's Republic of China is in accordance to Morris's (1956) finding that Chinese students from the People's Republic of China were oriented toward being close to nature. His data were collected in 1948, a year prior to the Communist take over in 1949. Singh, Huang, and Thompson (1962) also found that Chinese students had significantly higher scores on aesthetic values than American or Indian

students. The authors attributed the Chinese students' high interest in aesthetic values to China's long honored history in the arts, literature, and philosophy. In studying Chinese value orientations Lui (1966) found subjugation to nature was given a strong preference by youths in Hong Kong. The higher ranking of a world of beauty by students from the People's Republic of China is also in accordance to Appleton's (1970b) findings that Chinese who emigrated to Taiwan from the People's Republic of China since the end of World War II were more likely to express pride in the physical attributes of their country and in its contributions to the arts compared to Chinese whose ancestors emigrated to Taiwan prior to World War II. Tarwater (1966) has suggested a world of beauty implies a strong mutual supportive and nurturant quality which is almost therapeutic and a strong force in Chinese unity that provides a sense of survival as a people.

The higher value for a comfortable life by students from the People's Republic of China may indicate they are more materialistic than students from Taiwan. Perhaps the higher value for a comfortable life by students from the People's Republic of China is the outlook that advancement and social mobility opportunities open to them are politically restricted. Thus the emphasis on wealth as the main avenue of upward mobility represents a shift in previously held values. The shift of value priorities with economic success supplanting

academic success may also explain why students from both countries gave the value of wisdom the lowest ranking.

Although the rankings for true friendship were not significantly different, it received the highest ranking for students from Taiwan. Singh, Huang, & Thompson (1962) found similar results in their study and felt the high ranking of true friendship indicated a high value for social life and concern for people. This finding may also be the result of being abroad and lacking the supportive family relationships found at home. These students may be seeking supportive relationships and sympathetic environments while studying abroad.

Hsu (1981), Hofstede and Bond (1984), and Appleton (1970a) have documented dominant Chinese values such as group loyalty (particularly to the family), cohesion and unity as a group of people, emphasis on intellectual and scholastic activities, and conformity and collectivism versus individualism and self-orientation. Results of this study suggest a shift away toward collective or group values and a trend toward self-determination, autonomy and independence in their personal lives. High rankings for values such as social recognition, a comfortable life, an exciting life, and a sense of accomplishment versus family security may reflect the transitional nature of the American university experience for these Chinese students. One might assert that a pattern toward individualism has become an increasingly prominent aspect of

the value orientations of Chinese students. This may signify a shift in value orientations which may be situationally determined or the result of the industrialization process these two countries are undergoing. Also these findings in value orientations may reflect why these students are studying in the United States. They may have had these values prior to coming to the United States. Minor variations in the values of these two groups of students may be explained by political and social-economic structure differences of the two countries.

Perhaps another explanation for the differences found may be a theory of deficiency. Maslow (1954) has outlined a hierarchy of needs from the most basic and potent (physiological) to the least potent (self actualization). Manipulation and control of the immediate physical environment is prelude to the achievement of other kinds of goals and objectives. Values may be related to needs in that when satisfaction of particular needs are deficient or deprived then individuals will value those needs and seek out behaviors to satisfy those needs. According to Maslow, only when more basic needs are satisfied can one expect a higher value for those needs that are less potent or unfulfilled. Research related to deprivation theory suggests deprived activity such as play through social isolation or confinement will result in subjects engaging in more play when released than those who had not been deprived or confined

(Penksepp & Beatty, 1980; Smith & Hagan, 1980). Since students from the People's Republic of China are skewed toward a lower economic status than students from Taiwan, Maslow's hierarchy of needs and deprivation studies may provide some insight into why students from the People's Republic of China may be more concerned with a comfortable life rather than a world of beauty.

Health as a value was not ranked very high by the two groups of students. Students from the People's Republic of China ranked health fifteenth with a median of 10.42 while students from Taiwan ranked it thirteenth with a median of 9.68. The ranking of health in the lower half of the 18 terminal values by both groups of students may confirm Ware and Young (1979) and Kasl and Cobbs' (1966) results that health is not ranked very high among healthy subjects and in non-symptomatic states.

Findings for Hypothesis 2

The means and standard deviations for the Krantz Health Opinion Survey are presented in Appendix B. The zero-order correlations among the terminal values, demographic variables, and health opinion survey results are presented in Table 3.

H₀₂: There is no significant relationship between terminal values, demographic variables, and a health care preference for information.

The results of the multiple regression analysis are presented in Table 4. The multiple correlation coefficient was significant and positive ($R = .26$, $F = 5.30$, $df = 2, 147$, $p = .01$). Results of the multiple regression analysis indicated that the terminal value of an exciting life ($B = -.20$, $t = -2.51$, $p = .01$) and the demographic variable use of a community physician or hospital ($B = .18$, $t = 2.23$, $p = .03$) were contained in the equation. The terminal value of an exciting life was a positive predictor of a health care preference for information. The R-square value for the equation was .07. Since the probability of the computed F was greater than the .05 level of confidence the null hypothesis was rejected. It was concluded that the correlation between a health care preference for information and the combined predictor variables of an exciting life, and use of a community physician or hospital was different from zero. These two predictor variables accounted for only seven percent of the variance.

TABLE 3. ZERO ORDER CORRELATIONS OF VARIABLES

Variables	Inform. Subscale	Behav. Subscale	Total Hlth Score	Comfort. Life	Excit. Life	Sense of Accomplish.
Behavioral Subscale	-.195					
Total Health Score	.516*	.739*				
Comfortable Life	.038	.040	.009			
Exciting Life	-.168	-.039	-.149	-.145		
Sense of Accomplish.	.014	-.020	-.008	-.091	.051	
World at Peace	-.049	-.055	-.082	-.133	-.068	.134
World of Beauty	-.052	.222*	.158	-.102	.004	-.058
Equality	-.017	.069	.049	-.032	-.022	-.111
Family Security	-.040	-.040	-.063	-.018	-.014	-.030
Freedom	.071	.017	.063	.084	-.025	.002
Health	.006	-.094	-.079	.084	-.038	-.057
Inner Harmony	-.060	.003	-.038	-.064	-.127	-.154
Mature Love	-.007	.070	.056	-.097	-.052	-.156
National Security	-.084	.094	-.025	-.099	-.135	-.009
Pleasure	.079	.009	.062	-.187	-.179	-.079
Salvation	.021	.090	.093	-.105	-.172	-.019
Self Respect	.045	-.065	-.026	-.039	-.037	-.065
Social Recognition	.151	-.214*	-.084	-.004	-.060	-.136
True Friendship	.029	-.064	-.036	-.129	-.075	-.116
Wisdom	-.025	.026	.005	-.146	-.058	-.018
Sex	-.052	.018	-.021	.139	.118	-.046
Age	-.029	.118	.083	-.124	-.153	-.078
Marital Status	-.129	-.134	-.028	-.027	-.141	-.097
Length of Stay in U.S.	-.061	.048	-.000	-.047	-.069	.161
Academic Level	-.026	-.185	-.177	-.170	.056	.107
Pre-Arrival Orientation	-.022	.063	.070	.056	.076	.128
Post Arrival Orientation	.014	.104	.101	.093	.073	.046

TABLE 3 (con't)

Variables	Inform. Subscale	Behav. Subscale	Total Hlth Score	Comfort. Life	Excit. Life	Sense of Accomplish.
Financial Support	.033	-.228*	-.177	-.041	-.000	.065
Use of Comm. Hlth. Serv.	.188	-.112	.031	.025	.016	-.030
Use of Dentist	.119	-.059	.029	.074	.060	-.105
Passed TOEFL	-.083	-.083	-.129	.073	.050	.118
Use of Univ. Hlth. Ctr.	-.013	.135	.041	.061	.054	.134

Variables	World at Peace	World of Beauty	Equality	Family Security	Freedom	Health
World of Beauty	.124					
Equality	.085	.315*				
Family Security	.003	.055	.124			
Freedom	-.105	-.109	-.065	.192		
Health	-.008	-.292*	-.180	-.140	.002	
Inner Harmony	-.029	-.081	-.057	-.150	-.288*	.037
Mature Love	-.076	-.098	-.041	-.161	-.300*	.002
National Security	-.111	-.120	-.226*	-.224*	-.041	-.047
Pleasure	-.084	-.091	-.156	-.173	-.046	-.069
Salvation	-.093	-.108	-.142	-.037	-.176	-.078
Self Respect	-.259*	-.140	-.159	-.124	-.130	.024
Social Recognition	-.080	-.180	-.141	-.073	.050	-.072
True Friendship	-.071	-.070	-.124	-.134	.012	-.171
Wisdom	-.095	.023	.033	-.091	-.042	-.037
Sex	.137	-.116	-.025	.040	.089	.025
Age	-.030	-.023	.067	-.035	.002	-.058
Marital Status	-.192	-.123	.024	-.049	.061	.008
Length of Stay in U.S.	.170	.132	-.151	.023	.039	-.159
Academic Level	-.054	-.049	-.046	.110	-.032	-.131

TABLE 3 (con't)

Variables	World at Peace	World of Beauty	Equality	Family Security	Freedom	Health
Pre-Arrival Orientation	-.101	-.074	.014	.025	.008	.036
Post Arrival Orientation	.012	.099	.192	.029	-.004	.002
Financial Support	-.057	-.079	-.067	-.059	-.100	.041
Use of Comm. Hlth. Serv.	-.094	-.041	.018	.071	.054	.022
Use of Dentist	-.125	-.121	.006	.048	.004	.150
Passed TOEFL	.030	.064	.140	.044	.000	.067
Use of Univ. Hlth. Ctr.	.068	.112	.089	-.132	-.069	-.182

Variables	Inner Harmony	Mature Love	National Security	Pleasure	Salvation	Self Respect
Mature Love	.260**					
National Security	-.059	.130				
Pleasure	-.074	-.082	.152			
Salvation	-.096	-.116	.037	.159		
Self Respect	-.041	.005	-.101	-.118	.148	
Social Recognition	-.071	-.194	-.064	-.137	-.150	.161
True Friendship	-.022	-.068	.023	.083	-.059	-.197
Wisdom	-.088	-.088	-.106	-.024	.008	.119
Sex	.043	-.035	.059	-.069	-.040	-.052
Age	.022	.078	-.008	.058	.099	.094
Marital Status	.093	-.035	.016	.048	-.010	.105
Length of Stay in U.S.	-.023	-.041	.105	.029	.115	.074
Academic Level	.077	-.084	-.086	.145	.083	.036
Pre-Arrival Orientation	-.262*	-.056	-.032	-.005	.055	-.020
Post Arrival Orientation	-.140	.068	-.117	-.119	.009	-.134
Financial Support	.150	-.023	.032	.108	-.003	-.021
Use of Comm. Hlth Serv.	.038	.012	-.172	-.025	-.093	.035

TABLE 3 (con't)

Variables	Inner Harmony	Mature Love	National Security	Pleasure	Salvation	Self Respect
Use of Dentist	.048	.148	-.039	-.005	-.151	-.034
Passed TOEFL	.163	.105	-.035	-.155	-.172	-.074
Use of Univ. Hlth. Ctr.	.019	.024	.035	-.105	.039	.010

Variables	Social Recognition	True Friendship	Wisdom	Sex	Age	Marital Status
True Friendship	.174					
Wisdom	-.046	-.131				
Sex	.130	-.058	-.128			
Age	-.033	.035	.092	-.156		
Marital Status	.137	.163	-.008	.009	.391*	
Length of Stay in U.S.	-.037	-.163	-.059	-.078	.318*	.022
Academic Level	-.024	.059	.030	-.241*	.221*	.227*
Pre-Arrival Orientation	.047	-.011	.082	.038	.180	-.022
Post Arrival Orientation	-.098	-.068	.155	.007	-.167	-.077
Financial Support	.027	.053	.075	-.200	.029	.214*
Use of Comm. Hlth. Serv.	-.032	-.071	.226*	-.246*	-.119	-.034
Use of Dentist	.033	-.061	.064	-.101	-.213*	-.207*
Passed TOEFL	-.145	-.171	-.100	-.126	-.128	-.066
Use of Univ. Hlth. Ctr.	-.036	.038	-.093	.132	.075	-.134

TABLE 3 (con't)

Variables	Length of Stay in U.S.	Acad. Level	Pre-Arvl. Orient.	Post-Arvl. Orient.	Fincl. Supp.	Use of Comm. Hlth. Serv.
Academic Level	.336*					
Pre-Arrival Orientation	.015	-.113				
Post Arrival Orientation	-.195	-.256*	.288*			
Financial Support	.028	.393*	-.157	-.123		
Use of Comm. Hlth. Serv.	-.236*	.016	.001	.012	.100	
Use of Dentist	-.459*	-.175	-.060	.079	.085	.328*
Passed TOEFL	-.179	-.042	-.109	-.012	.097	.100
Use of Univ. Hlth. Ctr.	.171	-.044	.023	-.039	-.070	-.412*

Variables	Use of Dentist	Passed TOEFL
Passed TOEFL	.238*	
Use of University Hlth. Ctr.	-.217*	.063

*p ≤ .05

TABLE 4. MULTIPLE REGRESSION OF HEALTH OPINION SURVEY'S SUBSCALE FOR INFORMATION

Multiple R	.26				
R Square	.07				
Adjusted R Square	.05				
Standard Error	1.63				
<hr/>					
Source of Variance	df	SS	MS	F	p
Regression	2	28.22	14.11	5.30	.01*
Residual	147	319.52	2.66		
<hr/>					
Variables in the Equation	B	SE _B	Beta	t	p
Exciting Life	-.07	.03	-.20	-2.51	.01*
Use of Community Hospital/Doctor	.74	.33	.18	2.23	.03*
Constant	8.48	.64		13.34	
<hr/>					
Variables not in the Equation	Beta	Partial r	Minimum Tolerance	t	p
Comfortable Life	.00	-.00	.96	-.02	.99
Sense of Accomplishment	.02	.02	.99	.29	.77
World at Peace	-.04	-.04	.99	-.51	.61
World of Beauty	-.03	-.03	1.00	-.36	.72
Equality	.01	.01	1.00	.16	.88
Family Security	-.04	-.04	1.00	-.54	.59
Freedom	.01	-.01	.99	-.15	.88
Health	-.00	-.01	.99	-.08	.93
Inner Harmony	-.07	-.08	.98	-.96	.34
Mature Love	-.05	-.05	1.00	-.62	.54
Nat. Security	-.09	-.09	.96	-1.12	.26
Pleasure	.07	.07	.97	.91	.37
Salvation	.00	.00	.93	-.04	.97
Self-Respect	-.02	-.02	.98	-.27	.78
Social Recognition	.14	.14	.98	1.74	.08
True Friendship	.06	.06	.99	.73	.47
Wisdom	-.05	-.05	.95	-.58	.56
Sex	.04	.04	.92	.48	.63
Age	.02	.02	.95	.20	.84
Marital Status	.11	.11	.97	1.33	.19
Years in U.S.	-.07	-.07	.94	-.87	.39
Academic Level	.00	.01	.99	.07	.95
Preorientation	.07	.07	.99	.89	.38
Post Orientation	.06	.06	.99	.70	.49
Use of Community Dentist	.08	.07	.91	.91	.37
Use of University Health Center	.01	.01	.83	.12	.90

*p < .05

$$\hat{Y} = -.20V_2 + .18D_{15}$$

\hat{Y} = Information Subscale Score

V_2 = An exciting life

D_{15} = Use of a community physician or hospital

Discussion

The terminal value of an exciting life was significant and had a positive relationship to a health care preference for information. The lower the ranking score (a lower ranking indicates having a higher value) for an exciting life, the higher the preference for information. It seems the more a person values an active and stimulating life, the more likely they will seek information to promote their health. Individuals who value an exciting life may feel they need more information to support their activities and good health. The correlation between the use of a community physician or hospital and a health care preference for information seems to indicate subjects are more likely to have a lower preference for information if they used community health services. An explanation for this finding is that those who use community health services may have a high trust for health care personnel so they do not feel they need much information. Krantz (1981) also found that students who had a lower attitude toward self-care were more likely to utilize clinic facilities more readily.

Findings for Hypothesis 3

H₀₃: There is no significant relationship between terminal values, demographic variables, and health care preferences for behavioral involvement.

The results of the multiple regression analysis are presented in Table 5. The multiple correlation coefficient was significant and positive ($R = .33$, $F = 8.95$, $df = 2, 147$, $p = .00$). Results of the multiple regression analysis indicated that the terminal values of social recognition ($B = -.24$, $t = -3.06$, $p = .00$), and a world of beauty ($B = .18$, $t = 2.29$, $p = .02$) were contained in the equation. Social recognition was a positive predictor of a health care preference for active participation and behavioral involvement. Subjects who had a high value (lower ranking) for social recognition had a greater preference for behavioral involvement and active participation in their health care. There was a negative relationship between valuing a world of beauty and a preference for behavioral involvement. A low value (higher ranking) for a world of beauty resulted in a lower preference for active participation and behavioral involvement in health care. No demographic variables were contained in the equation. The R-square value for the equation was .11. Since the probability

TABLE 5. MULTIPLE REGRESSION OF HEALTH OPINION SURVEY'S SUBSCALE FOR BEHAVIORAL INVOLVEMENT

Multiple R	.33				
R Square	.11				
Adjusted R Square	.09				
Standard Error	1.99				
<hr/>					
Source of Variance	df	SS	MS	F	p
Regression	2	71.21	35.60	8.95	.00*
Residual	147	584.79	3.98		
<hr/>					
Variables in the Equation	B	SE _B	Beta	t	p
Social Recognition	-.10	.03	-.24	-3.06	.00*
World of Beauty	.08	.04	.18	2.29	.02*
Constant	15.04	.47		32.06	.00
<hr/>					
Variables not in the Equation	Beta	Partial r	Minimum Tolerance	t	p
Comfortable Life	.06	.06	.94	.76	.45
Exciting Life	-.06	-.07	.95	-.81	.42
Sense of Accomplishment	-.10	-.10	.94	-1.24	.21
World at Peace	-.09	-.09	.96	1.14	.26
Equality	.00	.01	.88	.10	.92
Family Security	-.06	-.06	.96	-.76	.44
Freedom	.03	.03	.94	.37	.71
Health	.09	-.09	.89	-1.12	.27
Inner Harmony	.02	.02	.96	.26	.80
Mature Love	.11	.12	.94	1.46	.15
National Security	.04	.04	.95	.45	.63
Pleasure	.00	.01	.94	.08	.94
Salvation	.14	.15	.94	1.77	.08
Self Respect	.05	.05	.95	.57	.57
True Friendship	-.02	-.02	.92	-.28	.78
Wisdom	.00	.00	.96	.02	.98
Sex	.02	.02	.95	.23	.82
Age	.12	.13	.96	1.61	.11
Marital Status	-.00	-.07	.95	-.86	.39
Years in U.S.	.04	.04	.96	.54	.59
Academic Level	-.15	-.16	.96	-1.97	.05
Preorientation	.09	.10	.96	1.22	.22
Post Orientation	.08	.08	.96	1.01	.31
Use of Community					
Hospital/Doctor	-.05	-.06	.96	-.69	.49
Use of Community Dentist	.00	-.00	.96	-.06	.96
Use of University Health Center	.09	.09	.95	1.13	.26

*p < .05

of F was greater than the .05 level of confidence, the null hypothesis was rejected. It was concluded that the correlation between a preference for behavioral involvement and the combined predictor variables of social recognition and a world of beauty was different from zero. However these two predictor variables accounted for only eleven percent of the variance.

$$\hat{Y} = .18V_5 - .24V_{16}$$

\hat{Y} = Behavioral Involvement Subscale Score

V_5 = A World of Beauty

V_{16} = Social Recognition

Discussion

Social forces seem to play an important role in the subjects' preference for active behavioral involvement. The positive relationship between social recognition and preference for behavioral involvement indicates subjects who have a high value for social desirability and acceptability are more likely to favor a high level of self-care. Since it is more socially desirable to take responsibility for one's own health, this finding is not surprising. Subjects who had a low value (higher ranking) for a world of beauty also had a lower preference for active behavioral involvement in their health care. An explanation for this finding is that people who have a high value for a world of

beauty often see themselves in harmony with nature and therefore may be more reluctant to change what they feel is natural and more accepting of life events.

Findings for Hypothesis 4

H₀₄: There is a significant difference in the health care preferences of students from the People's Republic of China and Taiwan.

Results of the t-test for the Information Subscale of the Krantz Health Opinion Survey is shown in Table 6. Students from the People's Republic of China showed a greater preference for information than the students from Taiwan ($t = 4.34$, $df = 159$, $p = .00$). Results of the t-test for the Behavioral Involvement Subscale of the Krantz Health Opinion Survey is shown in Table 7. Students from Taiwan showed a greater preference for behavioral involvement compared to the students from the People's Republic of China ($t = -6.74$, $df = 159$, $p = .00$). Based on these findings the null hypotheses were rejected.

TABLE 6. t -TEST FOR KRANTZ HEALTH OPINION SURVEY SUBSCALE FOR INFORMATION BY COUNTRY

Country	N	Mean	SD
People's Republic of China	90	9.67	1.77
Taiwan	71	8.56	1.35
	$t = 4.34$	$df = 159$	$p = .00^*$
* $p \leq .05$			

TABLE 7. t -TEST FOR KRANTZ HEALTH OPINION SURVEY SUBSCALE FOR BEHAVIORAL INVOLVEMENT

Country	N	Mean	SD
People's Republic of China	90	14.08	1.92
Taiwan	71	16.11	1.89
	$t = -6.74$	$df = 159$	$p = .00^*$
* $p \leq .05$			

Discussion

The differences in health care preferences between the two groups of students may be the result of the different health care delivery systems and social policies that exist in their countries. When the Communist Party of China took over in 1949, health services were transformed to show greater concern for the health and safety of the working people (James, 1989; Feeg, 1980). Consequently numerous health care units in the work place, mobile health teams, and free medical services were instituted. Health education was promoted through mass media. Official policies and regulations promoted free obligatory care. Traditional Chinese medicine was integrated with Western medicine to further encourage the use of medical facilities. Citizens in the People's Republic of China were made to feel obliged to seek medical care for the good of the country. In contrast, the health care system of Taiwan has adopted American health care policies so that their health care system is similar to the American health care system. Like the American health care system, the medical system in Taiwan is a free-market enterprise. The high costs of medical care are met through fees which are directly charged to patients or met through voluntary health insurance programs. Basically, the American government's responsibility for financing health services is based on moral concern for individuals who are indigent or have other special problems.

The government's role is seen as a regulator of standards rather than administrator of care. Both in Taiwan and the United States, health care is usually a test of financial means. Because health services and accessibility are not guaranteed in Taiwan, "tzu li keng-shen" which translates into "regeneration through one's own efforts" (self-reliance) is observed. It might be concluded then that the more self-reliant the individual, the higher the level of self-care, and therefore one would be less likely to use medical care facilities for minor illnesses.

Summary of the Statistical Findings

The purpose of this study was to determine if there was a relationship between terminal values, demographic variables, and health care preferences among Chinese graduate students from the People's Republic of China and Taiwan. Multiple regression was used to determine statistical significance of these relationships:

- terminal values, demographic variables, and a health care preference for information
- terminal values, demographic variables, and a health care preference for behavioral involvement.

The results of the hypotheses testing are reported in Tables 4 and 5. Tested at the .05 level of significance and with p values less than .05, hypotheses 2 and 3 were rejected. The terminal value of an exciting life was inversely related to a health preference for information. There was a significant relationship between the use of a community doctor or hospital for subjects who had a health care preference for information. The terminal value of social recognition was inversely related to a health care preference for behavioral involvement. A world of beauty was significantly related to a health care preference for behavioral involvement. Although significant relationships were found between three terminal values and one demographic variable and health care preferences, the relationships were weak.

In addition, a comparison of the rankings of terminal values by the two groups of students was made using the Mann-Whitney U-test. Hypothesis 1 was rejected for the terminal values of a comfortable life and a world of beauty. Students from the People's Republic of China had a greater value for a comfortable life and a world of beauty than the students from Taiwan.

The t-test was conducted to determine if differences in health care preferences existed between the two groups of students. Results are reported in Tables 6 and 7. There were significant differences in the health care preferences of the two groups of students. Students from Taiwan favored

behavioral involvement in their health care while students from the People's Republic of China preferred information.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The number of international students from the People's Republic of China and Taiwan attending American colleges and universities has been increasing over the last decade. Despite the recent influx of these specific groups of international students, there has been limited research done on their value orientations and preferences for health care. Analyzing the terminal values and the health care preferences of Chinese students from the People's Republic of China and Taiwan is an attempt to contribute to a body of research that is limited in this area.

This investigation was designed to determine if the ranking of terminal values for students from Taiwan and the People's Republic of China attending Oregon State University differed. A total of 161 subjects responded: 71 students from Taiwan and 90 students from the People's Republic of China. This study also investigated the extent to which terminal values and selected demographic characteristics predicted health care preferences for information

and behavioral involvement. In addition, this study examined whether the health care preferences of the students from Taiwan and the People's Republic of China differed. Data for the research were derived from Rokeach's Value Survey, the Krantz Health Opinion Survey, and a Background Information Sheet. The major objectives, procedures and findings of the study are summarized in this section.

Objective # 1: Review the existing research related to values, health as a value, values and consumer behavior, and preferences for health care.

Empirical methods for measuring values basically started with an inventory approach with theoretical frameworks which have been tested through factor analysis. Four major theories which have led to the empirical methods for measuring values were reviewed. The first theory was Spranger's (1928) six levels of self which led to the development of Vernon and Allport's instrument called the Study of Values (Vernon & Allport, 1931). The second theory was Morris' seven value patterns based on religious and philosophical systems. Morris' model was later expanded to include 13 patterns of living which resulted in the Ways to Live Document (Morris, 1956). Kluckhohn and Strodtbeck (1961) theorized that values are solutions to five common human problems that are differentially preferred. They designed the Variations in Value Orientation scales to measure values. The fourth major theory of values is based on Rokeach's terminal and instrumental value systems. Rokeach

developed the Value Survey (Rokeach, 1968) which measures the rank ordering of 18 terminal and 18 instrumental values. Based on its recency and its simplicity to administer, it is a widely used instrument for measuring cross-cultural values. There was support in the literature for utilizing Rokeach's theoretical model for measuring cross-cultural values.

There is little information in the literature about the value placed on health. It has been generally assumed that health is too important a value to measure and that its value is high. However, recent research suggests that older adults and women are more likely to place a higher value on health than younger subjects or men. Research related to health as a value has primarily been done with the general American population, individuals who were associated with the health field, and those who have had health problems. The literature related to the value place on health among populations different from those cited above is limited. This study sought to examine the valuation of health among Chinese students from Taiwan and the People's Republic of China attending Oregon State University.

The influence of culture and values on consumer behavior is articulated by a vast amount of literature. However, the exact role of culture and values to consumer behavior is not clear. No literature was found exploring the interrelationship among culture, values, and health care preferences.

The literature presents controversial and dichotomous views related to peoples' receptiveness to information and the amount of behavioral participation they desire in their health care. The complexities of the information and participation relationship in health care are not fully understood. At best studies seem to suggest that individuals fare best when given care that is congruent with their expectations and coping styles. This study further investigates the health care preferences for information and behavioral involvement.

Objective #2: To measure and compare the terminal value orientations for a sample of students from the People's Republic of China and Taiwan attending Oregon State University.

To measure the terminal value orientations of students from the two countries, Rokeach's Terminal Value Survey, (Rokeach, 1968) was used. The instrument was translated into Mandarin using the back translation method to establish Chinese language equivalency and appropriateness. A total of 161 subjects responded out of 249 for a response rate of 64.7 percent. Frequency distributions of the value rankings were obtained for each of the 18 terminal values. Frequency distributions were done separately for the two groups and for the two groups combined. Median scores were obtained for each value item and calculated separately for the two groups combined. The Mann-Whitney U-test of statistical significance was used to test the hypothesis:

H_{01} : There is no significant difference in the ranking of terminal values by the students from the People's Republic of China and Taiwan.

A confidence level of .05 was used. Results of the hypothesis testing revealed there was no significant differences between the two groups of students for 16 of the 18 terminal values. Significant differences were found for the terminal values of a comfortable life ($z = 3.46, p < .00$) and a world of beauty ($z = -2.63, p < .01$). Students from the People's Republic of China were more desirous for the values of a comfortable life and a world of beauty. Based on the results the null hypothesis was rejected for the terminal values of a comfortable life and a world of beauty.

Objective #3: To determine if there is a relationship between terminal values, demographic characteristics, and health care preferences for information and behavioral involvement.

To measure demographic characteristics subjects were asked to complete a Background Information Sheet. The Krantz Health Opinion Survey was used to measure health care preferences for information and behavioral involvement. These instruments were also translated into Mandarin using the back translation method. Multiple regression was used to test the study's two major hypotheses:

H_{02} : There is no significant relationship between terminal values, demographic variables, and a health care preference for information.

H₀₃: There is no significant relationship between terminal values, demographic variables, and a health care preference for behavioral involvement.

The results of the hypothesis testing revealed a significant relationship existed among the terminal value of an exciting life, the demographic variable use of a community doctor or hospital, and a preference for information (R = .26, F = 5.30, df = 2, 147, p = .01). Since the probability of F was greater than the .05 level of confidence, the null hypothesis was rejected for Hypothesis 2. Although a significant relationship was found, the predictor variables of an exciting life and use of a community doctor or hospital accounted for only seven percent of variance for predicting a health care preference for information. The regression analysis for Hypothesis 3 revealed a significant and positive correlation coefficient (R = .33, F = 8.95, df = 2, 147, p = .00). Again, since the probability of the computed F was greater than the .05 level of confidence the null hypothesis was rejected for Hypothesis 3. Results indicate that the terminal values of social recognition (B = -.24, t = -3.06, p = .00) and a world of beauty (B = .18, t = 2.29, p = .02) were contained in the equation. Social recognition was a positive predictor of a health care preference for behavioral involvement while a world of beauty was inversely related to a health preference for behavioral involvement. These two

variables accounted for 11 percent of the variance for predicting a health care preference for behavioral involvement.

Objective # 4: To determine if differences in preferences for health care exist between students from the People's Republic of China and Taiwan.

The t -test was used to determine if any differences in health care preferences existed between the students from the People's Republic of China and Taiwan. A confidence level of .05 was used.

H_{04} : There is no significant difference in the health care preferences of students from the People's Republic of China and Taiwan.

Results of the t -test showed students from the People's Republic of China had a greater health care preference for information than the students from Taiwan ($t = 4.34$, $df = 159$, $p = .00$) while students from Taiwan showed a greater health care preference for behavioral involvement compared to the students from the People's Republic of China ($t = -6.74$, $df = 159$, $p = .00$). Based on these findings, the null hypotheses were rejected.

Conclusions

Because of the lack of empirical research examining the relationship between culture, values, and health care preferences, it was not possible to

compare these findings with other research findings. This was the first preliminary research done exploring the relationship between values and health care preferences. The findings do not appear to have a strong support for the hypothesis that values and demographic variables influence health care preferences.

As a result of the analysis of data and summary of findings the following conclusions were drawn:

1. Taiwanese and People's Republic of China students shared many similar values; however, they differ on the values of a comfortable life and a world of beauty. Students from the People's Republic of China care more about a comfortable life and a world of beauty.
2. Students who value an exciting life and their willingness to use a community doctor or hospital influence their desire for information, although weakly.
3. The values social recognition and a world of beauty relate, although somewhat weakly, to a desire for active participation in self-care.

4. Students from the People's Republic of China and Taiwan differ in their health care preferences for information and behavioral involvement. Students from Taiwan want greater control over their health care while students from the People's Republic of China prefer information.

5. Neither Taiwanese students nor students from the People's Republic of China value health very highly.

6. Neither Taiwanese students nor the students from the People's Republic of China use American health care. Although respected, it is either too expensive or they are treating themselves by other means.

While the present study cannot be considered an end in itself, it appears reasonable to conclude the relationships between culture, terminal values, and health care preferences can provide some insight and suggest a direction for future research. The study raises interesting questions regarding the use of self-reporting value surveys to predict health behaviors and for marketing health care programs. Results seem to indicate behavioral predictions based on demographic data, and terminal values is questionable. A more in-depth or comprehensive questionnaire which assesses a wider scope of values,

attitudes, and behaviors would be more useful and provide more reliable measures of the predispositions that affect health care preferences.

Recommendations

Based on the review of the literature, the need to increase the body of knowledge relevant to values and health care preferences is apparent. This is seen as vital to improving the health care of the individuals. In order to further expand this body of knowledge and continue to learn more about health care preferences and in order to improve health care of international students, the following research is recommended:

1. Replicate the present study using samples from other populations so the results can be compared to other groups beside Chinese university students from the People's Republic of China and Taiwan.
2. Replicate the present study on several college campuses in different geographical locations in order to determine if the findings are applicable to other cross sections of student populations.

3. Research should be conducted to determine if medical outcomes are favorable when preferences are matched to particular treatment approaches. It may also be productive to match patient preferences to health care providers with corresponding attitudes.

4. Replicate the present study in the People's Republic of China and Taiwan to determine if the findings can be reproduced.

5. Include measuring instrumental values in the study to see if there is a relationship between instrumental values and health care preferences for information and behavior involvement.

6. Constructs identified by the Krantz Health Opinion Survey component scales have been demonstrated for short term minor illness. It should be determined if the Krantz Health Opinion Survey is applicable to instances of chronic or serious illnesses.

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APPENDICES

APPENDIX A
DEMOGRAPHIC DATA

APPENDIX A

Demographic Characteristics of Sample by County

TABLE A1. AGE OF STUDENTS BY COUNTRY

Country	N	Mean	SD
People's Republic of China	87	29.46	5.36
Taiwan	70	29.49	4.48
Total	157	29.47	4.97
	$t = -.03$	$df = 155$	$p = .97$

TABLE A2. SEX OF STUDENTS BY COUNTRY

Sex	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Male	70	77.8%	51	71.8%	121	75.2%
Female	20	22.2%	20	28.2%	40	24.8%
Total	90	100%	71	100%	161	100%
			$chi\ square = .47$		$df = 1$	$p = .49$

TABLE A3. STUDENTS' ACADEMIC CLASSIFICATION BY COUNTRY

Classification	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Master's	35	38.9%	40	56.3%	75	46.6%
Doctorate	55	61.1%	31	43.7%	86	53.4%
Total	90	100%	71	100%	161	100%
			$chi\ square = 4.18$		$df = 1$	$p = .04^*$

Demographic Characteristics of Sample by County

TABLE A4. LENGTH OF STAY IN MONTHS IN THE UNITED STATES BY COUNTRY

Country	N	Mean	SD
People's Republic of China	90	23.43	15.17
Taiwan	70	29.33	26.87
Total	160	26.01	21.23
t = 1.64 df = 102.56 p = .10			

TABLE A5. MARITAL STATUS OF STUDENTS BY COUNTRY

Marital Status	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Single	33	37.5%	35	49.3%	68	42.8%
Married	55	62.5%	36	50.7%	91	57.2%
Total	88	100%	71	100%	159	100%
chi square = 1.78 df = 1 p = .18						

TABLE A6. SPOUSES LIVING IN THE UNITED STATES BY COUNTRY

Spouse	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Living in U.S.	40	71.4%	28	77.8%	68	73.9%
Not living in U.S.	16	28.6%	8	22.2%	24	26.1%
Total	56	100%	36	100%	92	100%
chi square = .19 df = 1 p = .66						

Demographic Characteristics of Sample by Country

TABLE A7. CHILDREN LIVING IN THE UNITED STATES BY COUNTRY

Children in U.S.	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Yes	9	10.0%	15	21.1%	24	14.9%
No	81	90%	56	78.9%	137	85.1%
Total	90	100%	71	100%	161	100%
		chi square = 3.05		df = 1	p = .08	

TABLE A8. SOURCE OF FINANCIAL SUPPORT BY COUNTRY

Source of Support	People's Republic of China		Taiwan		
	N	%	N	%	
Self	7	7.9%	9	13.4%	
Family	11	12.4%	27	40.3%	
Teach. Asst.	23	25.8%	11	16.4%	
Research Asst.	36	40.4%	18	26.9%	
Government	12	13.5%	2	3.0%	
Total	89	100%	67	100%	
		chi square = 21.69		df = 4	p = .00*

Demographic Characteristics of Sample by Country

TABLE A9. ORIENTATION PRIOR TO ARRIVING IN THE U.S. BY COUNTRY

Orientation Prior to U.S. Arrival	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Yes	75	84.3%	60	84.5%	135	84.4%
No	14	15.7%	11	15.5%	25	15.6%
Total	89	100%	71	100%	160	100%

chi square = .00 df = 1 p = 1.00

TABLE A10. ORIENTATION POST-ARRIVAL IN THE U. S. BY COUNTRY

Orientation Post Arrival in U.S.	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Yes	60	67.4%	38	58.5%	98	61.3%
No	29	32.6%	33	46.5%	62	38.8%
Total	89	100%	71	100%	160	100%

chi square = 2.65 df = 1 p = .10

Demographic Characteristics of Sample by Country

TABLE A11. USE OF A COMMUNITY PHYSICIAN OR HOSPITAL BY COUNTRY

Use of Community Physician or Hospital	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Yes	16	18%	17	23.90%	33	20.6%
No	73	82%	54	76.1%	127	79.4%
Total	89	100%	71	100%	160	100%

chi square = .53 df = 1 p = .47

TABLE A12. USE OF A COMMUNITY DENTIST BY COUNTRY

Use of Community Dentist	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Yes	14	15.7%	17	23.9%	31	19.4%
No	75	84.3%	54	76.1%	129	80.6%
Total	89	100%	71	100%	160	100%

chi square = 1.22 df = 1 p = .26

Demographic Characteristics of Sample by Country

TABLE A13. USE OF THE UNIVERSITY HEALTH CENTER BY COUNTRY

Use of University Health Center	People's Republic of China		Taiwan	
	N	%	N	%
Yes	51	57.3%	21	29.6%
No	38	42.7%	50	70.4%
Total	89	100%	71	100%
		chi square = 11.17	df = 1	p = .00*

TABLE A14. PERFORMANCE ON TOEFL EXAM BY COUNTRY

Passed TOEFL Exam	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
Yes	86	95.6%	68	95.8%	154	95.7%
No	4	4.4%	3	4.2%	7	4.3%
Total	90	100%	71	100%	161	100%
		chi square = .00	df = 1	p = 1.00		

Demographic Characteristics of Sample by Country

TABLE A15. TYPE OF HOUSING BY COUNTRY

Type of Housing	People's Republic of China		Taiwan		Total	
	N	%	N	%	N	%
University	3	3.3%	8	11.3%	11	6.8%
Non-University	87	96.7%	63	88.7%	150	93.2%
Total	90	100%	71	100%	161	100%

chi square = 2.78 df = 1 p = .09

*p = <.05

APPENDIX B

**MEANS AND STANDARD DEVIATIONS OF KRANTZ HEALTH OPINION
SURVEY BY COUNTRY**

APPENDIX B

TABLE B1. RESULTS OF KRANTZ HEALTH OPINION SURVEY BY COUNTRY

Health Preference	Country	N	Mean	SD
Subscale for Information	PRC	90	9.67	1.77
	ROC	71	8.56	1.35
	Total	161	9.18	1.69
Subscale for Behavioral Involvement	PRC	90	14.08	1.92
	ROC	71	16.11	1.89
	Total	161	14.98	2.15
Total Score	PRC	90	23.74	2.52
	ROC	71	24.68	2.38
	Total	161	24.16	2.49

APPENDIX C

**ENGLISH VERSION OF THE ROKEACH TERMINAL VALUES SURVEY,
KRANTZ HEALTH OPINION SURVEY, AND BACKGROUND
INFORMATION SHEET**

APPENDIX C

OREGON STATE UNIVERSITY
ADULT EDUCATION DEPARTMENT
VALUES AND HEALTH SURVEY

INSTRUCTIONS

Do not write your name on the questionnaire. This questionnaire is divided into three parts. Part I consists of questions which concern your personal values. Part II consists of questions which concern your preferences for health care. Part III asks for some background information. Thank you for taking time to complete this questionnaire.

PART I - ROKEACH'S TERMINAL VALUE SURVEY

INSTRUCTIONS:

On the next page are 18 values. Your task is to arrange them in order of their importance to YOU, as guiding principles in YOUR life.

Study the list carefully and pick out the one value which is most important to you. Write the name of the value most important to you in the slot marked "1" on left. Then pick out the value which is second most important to you. Write the name of this value in the slot marked "2". Continue the process until you have ranked all 18 values.

If there are additional values you wish to add to the list please note them on the next page. Work slowly and think carefully. If you change your mind, feel free to change your answers. The end result should truly show how you feel.

TERMINAL VALUES

1		A COMFORTABLE LIFE (a prosperous life)
2		AN EXCITING LIFE (a stimulating, active life)
3		A SENSE OF ACCOMPLISHMENT (lasting contribution)
4		A WORLD AT PEACE (free of war and conflict)
5		A WORLD OF BEAUTY (beauty of nature and the arts)
6		EQUALITY (brotherhood, equal opportunity for all)
7		FAMILY SECURITY (taking care of loved ones)
8		FREEDOM (independence, free choice)
9		HEALTH (physical and mental well-being)
10		INNER HARMONY (freedom from inner conflict)
11		MATURE LOVE (sexual and spiritual intimacy)
12		NATIONAL SECURITY (protection from attack)
13		PLEASURE (an enjoyable, leisurely life)
14		SALVATION (saved, eternal life)
15		SELF-RESPECT (self-esteem)
16		SOCIAL RECOGNITION (respect, admiration)
17		TRUE FRIENDSHIP (close companionship)
18		WISDOM (a mature understanding of life)

WHEN YOU HAVE FINISHED, GO TO THE NEXT PAGE

If you feel that you have values that are not found on the provided list, please feel free to note on this sheet what those values are and where you would place them in relation to other items.

Additional Values

Placed Between

Additional Values

Placed Between

Additional Values

Placed Between

PART II - KRANTZ HEALTH OPINION SURVEY

The following questions ask for your opinions about different kinds of health care. For each statement below, decide whether you agree or disagree and check the answer that best fits your opinion. Each person is different, so there are no "right" or "wrong" answers. Even if you find you don't completely agree or disagree with a statement, choose the one answer that comes closest to what you believe.

For each question, check only one answer that comes CLOSEST to what you believe.

Agree Disagree

- | | | |
|-------|-------|---|
| _____ | _____ | 1. I usually don't ask the doctor or nurse many questions about what they're doing during a medical exam. |
| _____ | _____ | 2. Except for serious illness, it's generally better to take care of your own health than to seek professional help. |
| _____ | _____ | 3. I'd rather have doctors and nurses make the decisions about what's best than for them to give a whole lot of choices. |
| _____ | _____ | 4. Instead of waiting for them to tell me, I usually ask the doctor or nurse immediately after an exam about my health. |
| _____ | _____ | 5. It is better to rely on the judgments of doctors (who are experts) than to rely on "common sense" in taking care of your own body. |
| _____ | _____ | 6. Clinics and hospitals are good places to go for help since it's best for medical experts to take responsibility for health care. |
| _____ | _____ | 7. Learning how to cure some of your illness without contacting a physician is a good idea. |
| _____ | _____ | 8. I usually ask the doctor or nurse lots of questions about the procedures during a medical exam. |
| _____ | _____ | 9. It's almost always better to seek professional help than to try to treat yourself. |
| _____ | _____ | 10. It is better to trust the doctor or nurse in charge of a medical procedure than to question what they are doing. |
| _____ | _____ | 11. Learning how to cure some of your illness without contacting a physician may create more harm than good. |
| _____ | _____ | 12. Recovery is usually quicker under the care of a doctor or nurse than when patients take care of themselves. |
| _____ | _____ | 13. If it cost the same, I'd rather have a doctor or nurse give me treatments than to do the same treatment myself. |

Agree Disagree

- _____ _____ 14. It is better to rely less on physicians and more on your own common sense when it comes to caring for your body.
- _____ _____ 15. I usually wait for the doctor or nurse to tell me about the results of a medical exam rather than asking them immediately.
- _____ _____ 16. I'd rather be given many choices about what's best for my health than to have the doctor make the decisions for me.

PART III - BACKGROUND INFORMATION

Please circle the number that best answers the question or fill in the information requested.

1. What country are you from? (circle one number)

1 PEOPLES REPUBLIC OF CHINA (MAINLAND CHINA)

2 REPUBLIC OF CHINA (TAIWAN)

3 OTHER: PLEASE SPECIFY _____

2. Are you (circle one number)

1 FEMALE

2 MALE

3. How old were you on your last birthday?

____ YEARS OLD

4. What is your marital status? (circle one number)

1 SINGLE, NEVER MARRIED

2 DIVORCED

3 WIDOWED

4 MARRIED

→4a. Is your spouse living with you here in the United States? (circle one number)

1 YES

2 NO

5. Do you have children living with you in the United States? (circle one number)

1 YES

2 NO

6. Which of the following describes your housing situation? (circle one number)

- 1 DORMITORY
- 2 OTHER UNIVERSITY HOUSING
- 3 OFF CAMPUS HOUSING (NON-UNIVERSITY)
- 4 HOST FAMILY

7. Do you share housing with other roommates or do you live alone? (circle one number)

- 1 I LIVE ALONE
- 2 YES, I HAVE ROOMMATES

→7a. How many roommates do you have?

_____ NUMBER OF ROOMMATES

7b. What country or countries are your roommates from? (please list)

8. Is your ethnic background Chinese? (circle one number)

- 1 NO
- 2 YES

9. What is your academic major?

_____ MAJOR

10. About how many months or years altogether have you been in the United States (including previous stays or visits, if any)?

_____ / _____

YEARS MONTHS

11. What is your academic classification? (circle one number)
- 1 UNDERGRADUATE
 - 2 GRADUATE IN A MASTER'S PROGRAM
 - 3 GRADUATE IN A DOCTORAL (PhD.) PROGRAM
 - 4 OTHER, PLEASE SPECIFY: _____
12. Prior to leaving your native country did you have an orientation program about American culture and about the American educational system? (circle one number)
- 1 YES
 - 2 NO
13. After arriving at your university here in the United States, did you have an orientation program about American culture and the American educational system? (circle one number)
- 1 YES
 - 2 NO
14. What is your major source of financial support for your education? (circle one number)
- 1 SELF-SUPPORT
 - 2 FAMILY OR RELATIVE
 - 3 GRADUATE TEACHING ASSISTANTSHIP
 - 4 RESEARCH ASSISTANTSHIP
 - 5 GOVERNMENT SCHOLARSHIP
 - 6 OTHER; PLEASE SPECIFY: _____
15. Have you used a medical doctor or hospital other than the university's health center since attending Oregon State University? (circle one number)
- 1 YES
 - 2 NO

16. Have you used a dentist in the community since arriving in the United States? (circle one number)

1 YES

2 NO

17. Have you taken and passed the TOEFL exam (score of 500 or better)? (circle one number)

1 NO, HAVE NOT TAKEN EXAM

2 TAKEN, BUT DID NOT PASS

3 YES, HAVE PASSED

→17a. Did you pass the TOEFL exam prior to coming to the United States or after you arrived in the United States? (circle one number)

1 PASSED TOEFL BEFORE COMING TO THE UNITED STATES

2 PASSED TOEFL AFTER COMING TO THE UNITED STATES

18. Since your enrollment at this university have you ever used the university's health center for medical care? (circle one number)

1 NO

2 YES

→18a. How many visits have you made to the university's health center since you enrolled at Oregon State University?

_____ NUMBER OF VISITS

APPENDIX D

**CHINESE VERSION OF THE ROKEACH TERMINAL VALUES SURVEY,
KRANTZ HEALTH OPINION SURVEY, AND BACKGROUND
INFORMATION SHEET**

APPENDIX D

奧立岡州立大學
成人教育系

指引：請您不要把名字寫在問卷上。

這問卷一共分成三部份

第一部份包含您個人的價值觀

第二部份有關您對健康保健的看法。

第三部份有關您個人資料。

謝謝您寶貴的時間和意見。

在下一頁中，列有十八種不同的價值觀。您所要做的是根據您的生活原則來重新調整它們次序。

請用心研究及選擇一個您認為最重要的，將它寫在第一格中，然後選擇下一個您認為次重要的，將它寫在第二格中。如此做下去，一直到最不重要的被寫在第十八格中。

如果您認為還有其它價值觀應該被加上，請將它們寫在下一頁中。請您慢慢並用心思考，如果您改變原來所做的選擇，可隨時改變原來所排定的次序。最後的結果應真正表示出您心裏所想的。

第一部份：

舒適的生活
 令人興奮的生活
 有成就感
 和平的世界
 美麗的世界
 平等
 家庭安全
 自由
 健康
 內心平衡
 成熟的愛
 國家安全
 愉快
 永生
 自尊
 為社會所接受
 真正友誼
 智慧

(富裕的生活)
 (高刺激, 活潑的生活)
 (持續的貢獻)
 (沒有戰爭及衝突)
 (大自然的美及藝術)
 (四海皆兄弟, 一律平等)
 (照顧所愛的人)
 (獨立, 自由選擇)
 (身心健全)
 (沒有內心衝突)
 (異性及精神上的親善感)
 (保衛, 防止外來的侵犯)
 (可享受的, 閒暇的生活)
 (得救, 有永生的)
 (自重, 自尊心)
 (尊重及仰慕)
 (親善的友情)
 (成熟, 合宜的生活)

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	

第一部份(續)

除了以上所列的價值觀外,您認為還有其它應加上的,請將它們加在下面的格子內,並將所插入之處前後兩個價值觀寫在格子上下之線上。

您額外的價值觀 →

前
後

您額外的價值觀 →

前
後

您額外的價值觀 →

前
後

健康意見調查

下列的問題是用來瞭解您對各種不同選擇的意見。請在每個問題後，以「✓」或「○」來表示您的意見。請在每個問題後，以「✓」或「○」來表示您的意見。請在每個問題後，以「✓」或「○」來表示您的意見。

請仔細回答每個問題，如果您覺得無法回答，請在「其他」處寫下您的意見。請在每個問題後，以「✓」或「○」來表示您的意見。請在每個問題後，以「✓」或「○」來表示您的意見。

贊成 不贊成

_____	_____	1.
_____	_____	2.
_____	_____	3.
_____	_____	4.
_____	_____	5.
_____	_____	6.
_____	_____	7.

1. 在除常須、我我而選擇健康立刻要好斷、診地事、而
 2. 醫醫是好專業讓最他我查後檢訊顧相不及因最好習去
 3. 療生嚴自業讓最他我查後檢訊顧相不及因最好習去
 4. 檢或重己上醫好們來後檢己醫自院關醫為由一醫
 5. 查護的照的生的給做，查的生的己是於療自是
 6. 時，士病顧切及保健一定通結果，的專的求健康己最
 7. 我發症自助護健一定通結果，的專的求健康己最

贊成 不贊成

- 8. 醫生或護士作檢查時，我通常問很多問題。

- 9. 尋求專業上的幫助總是比試著自己好。

- 10. 醫生或護士做醫護檢查時，我最好不要問他們在做些什麼。

- 11. 自己試着治療自己的病症而不去看醫生會造成很大的傷害。

- 12. 通常在醫生或護士照顧下的復原情形要比病人自己照顧自己復原情形來得快。

- 13. 如果兩者所花的費用相同，我寧願讓醫生或護士來治療，而不願自己的治療。

- 14. 照顧自己的身體最好是少仰賴醫生，而多靠自己的一般常識。

- 15. 我會等待醫生或護士來告訴我檢查的結果，而不立即查問。

- 16. 我健康，而醫生給我很多有關健康的建議，而醫生給我很多有關健康的建議，而醫生給我很多有關健康的建議。

第三部份 個人資料

請回答以下的問題，或在適當的答案上把數字圈起來：

1. 您來自那一個國家？

1. 中國人民共和國.

2. 中華民國.

3. 其它；請說明 _____

2. 您的性別：

1. 男

2. 女

3. 年齡：

出生日期：西元 _____ 年 _____ 月生

4. 婚姻狀況：

1. 未婚

2. 離婚

3. 寡婦 (鰥夫)

4. 已婚

→ 4 a. 您的配偶是否也在美國與您同住？

1. 是

2. 否

5. 您是否有子女與您同住：

1. 是 2. 否

6. 您的住所：

1. 學校宿舍
2. 學校公寓
3. 校外公寓
4. 一個招待學生的家庭

7. 您有室友嗎？或，您是否獨居：

1. 我獨居

2. 我有室友

→ 7a. 有多少人與您同住？

_____ 人

7b. 與您同住者的國籍請列於下：

8. 您是否中國人的後裔：

1. 是 2. 否

9. 您的專業科系為何？

10. 您來美國有多久了？(包括以前的停留或訪問)

共計 _____ 年 _____ 月

11. 在更改讀學位：

1. 學士
2. 碩士
3. 博士
4. 其它; 請說明: _____

12. 在您離開貴國前, 是否接觸過有關美國文化及教育方面的介紹:

1. 是
2. 否

13. 抵美後, 您是否接觸過有關美國文化及教育方面的介紹:

1. 是
2. 否

14. 在美留學主要的經濟來源為何:

1. 自己支持
2. 家人或親友支助
3. 助教獎學金
4. 研究生助理獎學金
5. 政府獎學金
6. 其它, 請說明: _____

15. 您入學校後是否曾患病接受過校外醫院或醫生的治療:

1. 是
2. 否

16. 您來美後是否曾接受過校牙科醫的醫療服務？

1. 是
2. 否

17. 您是否考過托福試並成績已達或超越500分？

1. 不, 我從沒有考托福試.

2. 我考了, 但沒有過

3. 我考了, 成績已達或超越500分.

→ 17a. 您的托福試是在來美國之前或來美國之後考過的？

1. 來美以前

2. 來美以後

18. 您入學後是否曾使用過學校的學生健康中心醫療服務？

1. 否

2. 是

→ 18 a. 入學後您使用過學生中心醫療服務多少次？

使用次數 _____

APPENDIX E

ENGLISH VERSION OF LETTER INTRODUCING THE STUDY

APPENDIX E

June 1, 1987

Dear Fellow Student,

I am writing to ask for your cooperation in a study about foreign Chinese students. This study is designed to learn more about Chinese students' values and views toward health. The information you provide will enable us to better understand the needs of foreign Chinese students and plan health services accordingly.

I would appreciate if you would complete the questionnaire and return it in the envelope provided as soon as possible. Each questionnaire is numbered to that reminders can be sent to those who have not completed their questionnaire. All responses will be kept confidential.

This research is part of a doctoral thesis project in the OSU-WOSC School of Education. If you have any questions about the study please phone me (754-7260).

Thank you for your time and cooperation.

Sincerely,

Bernadette Pang

APPENDIX F

CHINESE VERSION OF LETTER INTRODUCING THE STUDY

APPENDIX F

敬啟者：

我寫此信的目的是請您協助我對海外學生所做的研究工作。這個研究旨在多瞭解中國學生對健康保健上個人的看法。國際學生辦公室及學生健康中心都很支持這個研究，希望您們能夠合作。您寶貴的意見可以使我們更進一步的瞭解海外中國學生的需要，並因此而能提供適當的服務。

我們很感謝您的合作，請您於答完問卷後放入所附之回郵信封內，儘快寄回。每一份問卷都已編好號碼，所以我們可以寫信提醒那些尚未做完問卷的同學。所有寄回之問卷將給予保密。

這個研究是 OSU-WOSC 教育學院博士論文的一部分。如果您有任何問題，請與我連絡。
(電話：754-7260)

謝謝您的合作。

APPENDIX G

ENGLISH VERSION OF FIRST FOLLOWUP LETTER

APPENDIX G

June 14, 1987

Dear Fellow Student,

About two weeks ago, I wrote asking you to respond to questions about your values and views about health. As of today I have not yet received your completed questionnaire.

I am writing to you again because of the importance each questionnaire has to the success of this study. Your name was selected from a list of foreign Chinese students from the People's Republic of China and the Republic of China attending Oregon State University. In order for the results of this study to be truly representative of the People's Republic of China and the Republic of China, it is essential that each person in the study return the questionnaire.

If you have the original copy of the survey please complete and return the questionnaire. In the event that your questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated.

Sincerely,

Bernadette Pang

APPENDIX H

CHINESE VERSION OF FIRST FOLLOWUP LETTER

APPENDIX H

敬啟者：

大約在三個星期前，我寫了封信，請您幫我們回答一些有關保健的問卷調查。然而，至今我們仍未收到您答完的問卷。

現在我再次寫信給您，原因是每一份問卷對這個研究都是很重要的。您的名字是由奧立岡州立大學海外中國學生名單上選出來的（來自中華民國或中國人民共和國的學生），是最具代表性的，所以您的問卷在這個研究上是不可少的。

如果您仍有我原先寄給您的問卷，請將它答完並寄回，如果您的問卷遺失了，內附有另一份備用。

非常謝謝您的合作。

APPENDIX I

ENGLISH VERSION OF SECOND FOLLOWUP LETTER

APPENDIX I

June 28, 1987

Dear Fellow Student,

Recently, I mailed you a questionnaire requesting your participation about your values and opinions toward health. At present I have not received your response.

Your response is very important to this study. You are one of a small number of students chosen to represent students from the People's Republic of China and the Republic of China. I would appreciate you taking the time to complete the questionnaire and mail it in the previously enclosed self-addressed envelope.

Please mail your response within the next week. If you have any questions, please call me at 754-7260. Thank you very much.

Sincerely,

Bernadette Pang

APPENDIX J

CHINESE VERSION OF SECOND FOLLOWUP LETTER

APPENDIX J

敬啟者：

最近我寄給您一份有關協助個人對保健看法的問卷，迄今我尚未接到您的回音。

您的回信對這個研究是非常重要的，您是由中國大陸學生及中華民國學生中所選出的少數代表。如果您能抽空完成問卷，並用內附的回郵信封寄回，個人將萬分感謝。

請在下週內寄回您的問卷。如果您有任何問題，請與我連絡。(電話：754-7260)

非常謝謝您。