A Preliminary Study of the Relationship between Sense of Coherence, Health and Social Support in International Students

by

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A PRELIMINARY STUDY OF THE RELATIONSHIP BETWEEN SENSE OF COHERENCE, HEALTH AND SOCIAL SUPPORT IN INTERNATIONAL STUDENTS

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Fulfillment means the realization of human potentials for existence as a biological and sociocultural being. It means bodily as well as mental health. It means adaptation to the environment as a biological organism constituting an irreducible whole of its hierarchical parts, and as a sociocultural role carrier collaboratively constituting the many multiperson systems in a given society. Fulfillment also means acting on the environment, both the internal one of the organism and the external one of the society, and making it compatible with the expression of one's potentials. It calls for a dynamic process of integration and adjustment, creating conditions for the actualization of all the potential there is in man.

Ervin Laszlo

The Systems View of the World:

The Natural Philosophy of the New Developments in the Sciences

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Geraldine Ruth Prouten

ABSTRACT

This study investigated the nature of health and the factors that contribute to it, specifically sense of coherence, change and social support. Eleven students, eight males and three females, from African countries were enrolled in the study. The participants were aged 24 to 33 years. All were studying outside their home country for the first time and attending the University of Manitoba.

Quantitative data were collected from the 11 students on two occasions spaced five months apart. The quantitative data measured: a single-item self-rating of health, a General Health Rating Index (GHRI), the Sense of Coherence Questionnaire (SOC), and demographic data.

In addition, qualitative data were collected on a sub-sample of four students, two males and two females. Using an ethnoscience method of data collection, the four students were asked to describe health and their change experiences including that of social support.

Quantitative data on both health rating instruments demonstrated small mean decreases over the five months. Sense of coherence scores demonstrated a mean increase over the same time period, while measures of social support, numbers and satisfaction, remained constant. Numbers of social support persons were low overall. The quantitative data indicate that sense of coherence is positively related to health and social support satisfaction, while negatively related to

numbers of support persons. Grade point averages on the first set of examinations ranged from C+ to A.

Qualitative data provided descriptions of the domain of health, the domain of change including social support, and ways to cope with these variables. This data revealed that social isolation was an important concern. Persistance led to the development of small social networks. Health was revealed to be measured initially by its absence with physical and mental health being the major components. Informants reported a repertoire of behaviors known to promote health.

The data implies that definitions of health are culturally based, that limited numbers of social support persons can provide satisfaction, that sense of coherence will remain relatively stable despite significant change and that integration into a new cultural milieu entails understanding and acceptance of different norms while maintaining one's own sense of worth. Practical implications arising from the data suggest the need for the formation of informal social groups to support students, presenting orientation in an ongoing process, and including knowledge of academic level, experience abroad, time frame for completion of studies and awareness of the cultural change process in recommendations for academic programs.

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CHAPTER ONE

Introduction

This investigation was undertaken in order to better understand the nature of health and the factors that contribute to it, as well as to facilitate health promotion and policy development for international students from African countries newly arrived in their host country. This was accomplished through: (a) two measurements of health status; (b) a measurement of personality orientation; (c) a measurement of social support; and (d) verbal exploration of the meaning of health, change and social support resources.

Research Problem and Context

Health viewed as a positive concept is a new development in the study of individuals and communities. As a resource for daily living, health assists all students to meet their needs, to realize their goals and aspirations, and to cope with the numerous physical, socio-cultural and spiritual changes in environments faced moment to moment and day to day (Epp, 1986). According to Nutbeam (1986), health requires not only a secure foundation in income, shelter and food, but also "information and lifeskills, a supportive environment, providing opportunities for making healthy choices among goods, services and facilities, and conditions in the economic, physical, social and cultural environments which enhance health" (p. 114). While

equity of these resources creates health in a society, the individual's social health is a function of the person's interactions with other people, social mores, and social relationships. According to McDowell and Newell (1987), this conceptualization of social health of the individual includes elements of personality, social skills, and social norms. The measurement process must therefore address well-being, adjustment and social functioning. With cultural change, international students have to adjust to and interact with a new environment composed of individuals and groups with different mores and expectations. How the student effects this adjustment will likely influence health.

Two major issues were apparent in examining the literature related to health and international students. Firstly, few studies of international students offered any definition of health although many spoke of the problems which arise for these students and/or the disease symptoms which they exhibit during their time abroad. Thus, health, while frequently mentioned in studies of international students, was primarily focussed on the absence of same.

Zwingmann and Gunn (1983) concluded from their review of health of students, that health, particularly mental health, was more at risk for international students. Haour-Knipe (1989) stated that less clinical literature than that provided by Zwingmann and Gunn underlines numerous other problems encountered by these migrants . Yet there was no evidence to date that the health of international

students was inferior to that of local students on arrival. It was hypothesized that the health of international students should be superior to that of local students in that these students from abroad are well motivated toward their goals and come from influential families with access to resources (de Vries & Richer, 1988; Zwingmann & Gunn, 1983). Commenting on the effect of change for migrants Haour-Knipe (1989) stated "what counts is not so much separation *per se* but rather the circumstances surrounding it and how it is managed," (p. 201). Assisting international students to cope successfully while in their host country was hypothesized to be helpful in maintaining and enhancing their well-being. As these students from abroad were the potential leaders of tomorrow within their home countries, their experience in their host country would likely influence not only their personal lives but also their international attititudes.

Secondly, health as a positive concept has only been conceptualized within recent years, and as yet, no theory or standards for its measurement have been firmly established. In its constitution, the World Health Organization (WHO) declared health to be " a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1947, p. 29). Operationalization of the definition has been developing slowly over the past 30 years with work on indicator development still in progress. There is a growing concensus that the development of

measures of the positive aspects of health or well-being would be useful to monitor the extent to which human potential is realized (Hunt, 1988).

While there was no one recognized theory of health, concepts presented by von Bertalanffy in General Systems Theory (Laszlo,1972) and by Antonovsky (1979, 1987) in his Salutogenic Model of Health supported a holistic view of health.

The General Systems Theory is an ecological approach to understanding relationships. Humans are " a hierarchy of natural systems and health... a consequence of a predictable but immensely diverse set of forces"(Blum, 1981 p. 11). Disruptions within one system spread to adjoining systems. Therefore, it is assumed that the health of individuals may be readily affected by physical and psycho-social environmental stressors.

Antonovsky (1979, 1987) proposed that a well-developed sense of coherence (SOC) will assist the individual in coping with stressors and therefore be salutogenic or health creating (See Model, Appendix A). The well-developed SOC is a product of early childhood rearing patterns, social role complexes, idio-syncratic factors and chance which provide major generalized resistance resources (GRR). The lack of these resources is expressed by Antonovsky (1987) as resource deficits (RD). Resources provide the individual with meaningful and coherent experiences which in turn support and strengthen the SOC.

The concept of SOC and its linkage to GRR-RD and health/well-being was the focus of this study. Where there had been valued resources (GRR's), balance in load structure of stressors and participation in socially valued decisions, the student's SOC would likely be high. Where the resource base had been poor (RD), the stressor load unbalanced, and lack of participation in decision making, the student's SOC would likely be low. Inclusive in GRR-RD's was the notion of stressors for which the resources are required. Where SOC is high, the transformation of stressor tension into stress would likely be prevented and health would be reinforced. Conversely, where SOC is low, stressor tension would likely be transformed into stress with a dis/ease outcome.

As stressors are managed within a cultural context, culture and group membership have a major impact on the development of SOC which takes place primarily during childhood, adolescence and the early adult years. According to Antonovsky, it is during adulthood that the differences in SOC among individuals become apparent. Faced with stressors and lack of resources, the individuals with a strong SOC will seek out situations that counterbalance the stressors. Flexibility will be apparent. Health will be maintained or enhanced.
However, moving into a new culture/country initiates changes which "provide a different long-range set of life experiences characterized by different levels of consistency, load balance and participation in socially valued decision making." (Antonovsky, 1987, p. 123). A stable

SOC developed within one set of boundaries may be threatened in a new environment where the GRR-RD base is significantly changed. Antonovsky stated that the SOC influences health. This he believes takes place by way of the SOC influence on the central nervous system and thereby on the immune system. This linkage has been supported by Borysenko (1984).

As well, Antonovsky, building on associations found by other researchers, suggested that self-reported health and an index of subjective well-being are linked. Therefore, if health and well-being are linked and SOC and health are linked, then SOC and well-being are related. (Antonovsky, 1987)

Justification for the Study

International students come to Canada holding to their own views of reality. Sudden-entry into a new reality necessitates adjustments. As day to day life occurrences are less predictable, manageable, and/or meaningful, sense of coherence and health may be threatened.

An initial review of literature related to adjustment and health for international students has indicated that those from African countries were among the least informed and/or prepared for the changes encountered in studying abroad and therefore, they are the most likely to experience resource deficits (RD). As well, the literature indicates:

(1) that the problems are group specific and therefore specific groups should be targetted (Boer, 1981; CBIE, 1988; Dunnett, 1981; McBlane, 1984; Miller& Harwell, 1983; O'Palka, Mitchell & Martin, 1983; Perkins, Perkins, Guglielmino & Reiff, 1977; Shaw, 1985);

(2) that depression can be a problem for approximately 20% of international students (Boer, 1981);

(3) that international students have difficulty making friends (Boer, 1981);

(4) that international students reported dissatisfaction with housing, and that numbers moved during their first year in the host country (Boer, 1981; McBlane, 1984);

(5) that socialization was a concern for African and Asian students (Dunnett, 1981);

(6) that well-being was related to loneliness (Pruitt, 1981);

(7) that co-nationals were a major help source (Miller & Harwell, (1983);

(8) that first year international students with host national peer supports perform significantly better academically than control groups of international students (Westwood & Barker, 1988);

(9) that financial concerns were reported by over half of responding international students in Canada (CBIE, 1983);

(10) that few of their friends were people they could talk to if they needed help (Prouten & Mirwaldt, 1990);

(11) that studies differ on the performance of health enhancing behaviors by international students (McClaran & Sarris, 1985; Prouten & Mirwaldt, 1990); and

(12) that personality orientation and resources may be linked to health status (Allen & Cole,1987; Boer,1981; Dunnett, 1981; Pruitt,1981; Prouten & Mirwaldt, 1990).

Based on these findings, social support stood out as an important factor for large numbers of students, and its relevancy to their well-being needed to be ascertained in order to address health promotion. Several researchers' conclusions supported Antonovsky's hypothesis that personality orientation along with resources may be linked to health status, and therefore the author proposed a preliminary investigation into these linkages.

Studying the linkage between social support resources, sense of coherence and health for these students served two purposes. Firstly, increased understanding of the linkages between sense of coherence, social support resources and health will add to a growing body of knowledge of health-producing human cognition, behavior and environments. Secondly, improved understanding of these linkages will be available to assist persons planning for the arrival of such international students to assist them to maintain or improve their health status while pursuing their intellectual goals.

Research Questions for Investigation

In order to study the health of international students and psycho-social resources which support it, the following relationships were examined:

1) the global sense of coherence (SOC) for international students will remain relatively constant on entry to the University of Manitoba and five months after entry;
2) health as measured by: (a) the General Health Rating Index (GHRI), and (b) a single-item self-rating of health will remain relatively constant on entry to the University of Manitoba and five months after entry;
3) there will be a positive relationship between the two measures of health (a) the GHRI and (b) a single-item self-rating of health;
4) the level of SOC will be positively related to a measure of social support;
5) measures of health will be positively related to a measure of social support; and
6) the level of SOC will be positively related to the measures of health.

Limitations of the Study

1. Assumptions

Several basic assumptions were made in the conduct of this preliminary study. It was assumed, based on extensive literature searches, that health is not an isolated phenomenon, but is a resource influenced by a multitude of factors. Due to the complex nature of health, the study required an interdisciplinary approach including the disciplines of health science, education, and social science. Holding to the assumption of multiple influences on health, cultural change was assumed to be an important underlying phenomenon which may predispose to health changes.

An underlying assumption to all the testing, both quantitative and qualitative, was that students responded in an honest manner. Verification of such honesty was accomplished through (a) the use of the qualitative data in addition to the quantitative data, and (b) confirmation of qualitative data through rephrasing of questions during the course of the interviews. As well, a repeat application of the quantitative instruments in a post test five months following the initial test provided confidence in the reliability of the responses.

2. Methodology

Contained within this preliminary study was a degree of uncertainty as gold standards for measurement were not readily available. Sense of coherence, measures of health and social support instruments had been variously validated. An attempt was made to

choose measures with some reported validation and yet with applicability to this new field of investigation, and which could be used with an international population with culturally different rhetoric. To enable the researcher to explore conceptual meaning, a condition of participation was fluency in English.

3. Nature of the Evidence

As the data from any one instrument developed primarily for western populations will be biased when used cross-culturally, qualitative data were collected on a subset of the initial sample. The quantitative data presented an etic view of health, sense of coherence and social support for the subgroup of international students. However, gathering the personal meanings of these concepts required hearing the student or emic view which was best understood through ethnoscience research, examining thoughts, feelings, attitudes and motives revealing domains and semantic relationships among symbols. Ethnoscience research is best accomplished when the researcher is fluent in the native tongue of the informant. As this was not so, the researcher attempted to ground the informants in their traditional cultural context as much as possible to assist in their identification of terms and to reveal the complexity of meaning while expressing themselves in English.

This study contained the possibility of bias within the sampling method, the data collection, and the analysis and interpretation. As a complete list of the elements of the study was not available, the

selection of participants followed a non-probability sampling procedure. This precluded producing reliable confidence levels from the quantitative data as they may contain elements of bias. Those subjects identified who did not participate were all graduate students, five not meeting the criteria and four not responding to the invitation. Those who did participate reflected a diversity of ethnic groups within a commonality of traditional systems. The majority of these students were studying at the graduate level. Therefore, their age, prior academic success and sense of purpose may have biased the results, that is, may not be representative of all African students studying at the University of Manitoba. Instead, the findings may better describe graduate students from African countries studying at this university.

Whereas probability sampling is most appropriate to control bias and to generalize to a larger universe in a quantitative study, it is not appropriate to understand a social or cultural system as intended through ethnoscientific study. Each person belonging to a common system reflects the common culture and where a sample universe is homogeneous, probability and non-probability sampling will produce the same results (Honigmann, 1982). The sample size requires representativeness, assurity of quality of information as well as a quantity of information which the researcher is able to absorb. Therefore, a limited judgement sample was deemed valid. Emic or native expressions of behavior are least biased when the researcher knows little about a domain and therefore probes for depth of

meaning. The researcher of this study had some limited previous knowledge of the change experience of international students and listened from the perspective of a researcher, a woman, and a nurse. In order to assure meaningful and valid data, the researcher chose a triangulation of methods , objective and introspective, including data collection during several phases. The qualitative data provided external validity to the quantitative findings.

4. Interpretation and Applicability of Evidence

In light of the infancy of this field of research with limited studies available to date, and the non-probability sampling method used, interpretation and application of the findings was of necessity cautious. The data raised several implications for further investigation. This in turn may add to the theory-building related to health and the influence of resources.

5. Definition of Terminology

To clarify the terminology used in this study, the following definitions are provided:

Componential Analysis: the search for attributes that indicate differences among words (symbols) in a domain or basic unit in an informant's cultural knowledge. (Spradley, 1979)

Culture: a social heritage acquired and used to interpret experience and to generate social behavior. (Dunnett, 1981; Fabrega, 1979; Levine & Sorenson, 1984; Spradley, 1979);

variations in the acquired social heritage can be found among members of a group and between groups (Spradley, 1979).

Domain: a basic unit in an informant's cultural knowledge that includes other categories which "share at least one feature of meaning". (Spradley, 1979, p. 100)

Emic: native categories of behavior. (Spradley, 1979)

Ethnography: description of a culture from the native point of view, that is, "*learning from people*". (Spradley, 1979. p. 3)

Ethnoscience: a method of describing a culture from the native point of view. (Morse, 1983)

Etic: categories created by the investigator of a culture to make cross-cultural comparisons. (Spradley, 1979)

Generalized Resistance Resources (GRR): phenomena that provide one with sets of life experiences characterized by consistency, participation in shaping outcome," (Antonovsky,1979, p. 187) and an underload-overload balance which provide an individual with experiences of comprehensibility, meaningfulness and manageability. (Antonovsky, 1987)

Health: a basic and dynamic resource for daily living characterized by " a state of complete physical, mental and social well-being" (World Health Organization, 1947, p. 29) influenced by circumstances, beliefs, culture, and social, economic and physical environments.
(Minister of National Health and Welfare, 1988)

Health Promotion: "the process of enabling people to increase control over, and to improve their health" (WHO, Health and Welfare Canada, Canadian Public Health Association, (CPHA), 1986, p. 1) through healthy public policy, supportive environments, community action, development of skills, and a reorientation of health services.
(WHO, Health and Welfare Canada, CPHA, 1986)

Informant: a source of information: teacher for the ethnographer about activities and events that make up a lifestyle.
(Spradley, 1979, pp. 27 - 28)

International Student: a student studying at a recognized institute of higher education in a country other than where he/she normally resides. (Zwingmann & Gunn, 1983)

Salutogenesis: the origins of health (Antonovsky, 1987)

Sense of Coherence (SOC): "a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimulus deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement." (Antonovsky, 1987, p. 19)

Social Network: "a set of relationships among individuals". (Israel,1985, p. 66) These relations "may provide access to . . . social support" (Nutbeam, 1986, p. 125)

Social Support: " the existance or availability of people on whom one can rely, people who let us know that they care about, value, and love us", (Sarason, G. , Levine, Basham, & Sarason, R., 1983, p. 127) and aid in resistance of stress - induced illness and disability (Gottlieb, 1985). It is composed of two basic concepts: (a) adequate numbers of available others to turn to when required and (b) degree of satisfaction with that support. (Sarason, Levine Basham, & Sarason, 1983) Support refers to four classes of behavior: emotional support, appraisal support, informational support and instrumental support. (Israel, 1985)

Stressor: "a characteristic that introduces entropy into the system... a life experience characterized by inconsistency, under- or overload, and exclusion from participation in decision making" (Antonovsky, 1987, p. 28)

Symbols: " any object or event that refers to something "including the symbol, a referent, and the " relationship between the symbol and the referent". (Spradley, 1979, p. 95).

Taxonomic Analysis: " a search for the internal structure of domains and leads to identifying contrast sets" (Spradley, 1979, p. 94).

Theme Analysis: "a search for the relationship among domains and how they are linked to the culture as a whole" (Spradley, 1979, p. 94).

Well-being: a subjective measurement of health indicating two levels of abstraction: (1) a global referent of happiness, life satisfaction, morale and/or negative affect, as well as (2) feelings about one's functioning (Antonovsky, 1987). In health promotion, the focus of well-being includes social integration and social support and a sense of coherence for belonging (Nutbeam, 1986, p. 126).

CHAPTER TWO

Historical Background

This chapter presents a review of literature focussing present-day conceptions of health and health promotion through an overview of attitudes from the past. The objective of the review is to show how conceptions of health define health promotion. Understanding this relationship is fundamental to the establishment of indicators for health and indicators for health promotion. Clarification of this conceptual base is necessary to the study of health of international students, the indicators which mark their health, and the indicators which support or promote their health. The study of health must account for the uniqueness of individuals and communities within a context (Hunt,1988) as well as the process of change which the conceptualization of health has influenced. Laszlo (1972) said "science now looks at a number of different and interacting things and notes their behavior *as a whole* under diverse influences." (p. 6).

Conceptions of Health and Health Promotion

Human existence was once a matter of survival related to food supply and safety. Later people came together in groups and communities which led to problems of hygiene and disease and to a more complex management of health. Evidence of conceptions of health and that which influences it has been recognized since ancient times. Early writings recognized external forces as important to health with the words written in the Book of Proverbs: "Pleasant words are

like a honeycomb, sweetness to the soul, and health to the body." (Revised Standard Version, 1952,16:24). In addition, ancient Greeks, Egyptians, Hebrews, Romans and East Indians recognized the importance of adequate water supplies and built water systems for their people (Healthy Toronto 2000 Subcommittee, 1987). Climate was seen as an influence on health in the Middle Ages (Moos,1979). By the mid-19th century, social conditions were recognized as important influences on health. Virchow, a German pathologist, contended that improvement of social conditions would prolong human life more successfully than medicine (Hancock & Duhl, 1986). During these years, urban planning became an important aspect of the public health movement (Hancock & Duhl, 1986). In 1875 Sir Benjamin Ward-Richardson's description of the utopian city included concepts of mental health, environmental health and health-related behaviors (Hancock & Duhl, 1986). Up to this time health was conceptualized as influenced by the environment in which people lived, and in turn this conceptualization directed public health programming.

With discoveries by Pasteur and Koch (Dean, 1988; Hancock & Duhl,1986; Stanier, Ingraham, Wheelis & Painter, 1986) in the late 19th century, the era of the bio-medical model of health was ushered in. This single cause-single effect model of microorganism and disease influenced the direction of health programming; mortality statistics became major indicators of health (Noack,1988).The bio-medical

model of health remained the dominant force in the measurement and planning of health care until recent years when, once again, recognition of factors beyond microorganisms began to influence health care planning. Now an ecological paradigm is continuing to evolve, accounting for environmental factors which influence health (Matarazzo, 1984; Moos, 1979).

The 20th century has witnessed several important developments in the dynamic state of health conceptualization and health promotion. The bio-medical model of health led to sophisticated and stringent scientific study of microorganisms and disease. With this knowledge, eradication of some diseases such as smallpox, rubella, and polio has become a possibility through the widespread use of vaccines (Matarazzo, 1984). With the control of many infectious diseases, studies of morbidity demonstrated other major influences on health and helped to shape an evolving definition of health.

In its constitution, WHO declared health to be " a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." (World Health Organization, 1947, p. 29). With this perception, health took on positive parameters indicating that life has a quality beyond length of life or absence of disease. A continuum of possible health states were seen to exist including not only bio-physical well-being but also mental and social well-being, that is, a state of global health (Goldberg & Dab, 1987). As acceptance of the

multi-dimensional aspects of health grew, health research and planning became interdisciplinary in nature (Dean, 1988).

Specification of the three dimensions of health identified by WHO provided direction for health research and health promotion (Goldberg & Dab, 1987). Operationalization of the three dimensions became a challenge to researchers. In 1957, the United States National Committee on Vital and Health Statistics attempted to identify the indicators for each dimension (Dean, 1988), but health care and planning continued with a disease focus. Then in 1974, Health and Welfare Canada under the Minister of Health and Welfare, Marc Lalonde, published a visionary document entitled *A New Perspective on the Health of Canadians* in which the principal elements of the health field were specified as human biology, environment, lifestyle and health care organization. This was a landmark event according to DeLeon and Vandenbos(1984), for disease prevention and health promotion were given a form. Despite the specification of the elements, full implementation of strategies and policies within each area was not realized. In 1978, the International Conference on Primary Health Care issued the Declaration of Alma-Ata(World Health Organization and the United Nations Children's Fund, 1978) which reaffirmed the earlier WHO definition of health and which urged "action by all governments, all health and development workers, and the world community to protect and promote the health of all the people of the world" (p. 2). Emphasis was placed on the need for those

in authority to collaborate with many sectors including the individuals and groups who are the recipients of care. Within the Declaration of Alma-Ata was not only the definition of health with its three dimensions, but also clarification for responsibility for its fulfillment.

Two significant documents were published in 1986: *Achieving Health for All*(EPP, 1986) and the *Ottawa Charter for Health Promotion*(WHO, Health and Welfare Canada, CPHA, 1986). Both documents defined health in its broadest terms as a resource for daily living with multiple influences. *Achieving Health for All*(1986) acknowledged "the role of individuals and communities in defining what health means to them" (p. 3) and the influence of circumstances, beliefs, culture and social, economic and physical environments on health. This focus gave greater recognition to social determinants of health broadening the scope of environment (Minister of National Health and Welfare , 1988). In the *Ottawa Charter*, health promotion was described as "the process of enabling people to increase control over, and to improve their health" (p. 1). *Achieving Health for All* (1986) provided a framework for health promotion, that is, the means to achieve the end state of health (Dean, 1988). This conceptual clarity separating health from health promotion, is required in the process of indicator development.

The challenge in promoting health is to involve the lay population within the context of their daily lives where their health relates to the influence of socio-ecological environmental factors. Identification of

their perceptions of health and well-being, their actions taken to protect their health, and their assessment of priorities and resources is basic to targetting health promotion action. The focus is one of change: identification of barriers to change and processes that initiate and maintain change for the relevant population.

Over time, health has been recognized as a vital resource in the lives of individuals and communities. Formal definition of health has been illusive until recent years when implied meaning has given way to more precise terminology. With this clarification, health is being understood in broad terms and health promotion is becoming more focussed (Dean, 1988). However, indicators and theories for health and health promotion remain in developmental stages.

Indicators of Health and Health Promotion

Indicators of health and health promotion are critical markers , for they influence research, promotion, policy development and resources (Goldberg & Dab, 1987; McQueen & Noack, 1988; Mootz, 1988). McQueen and Noack,(1988) state that indicators are measures which summarize "information relevant to a particular phenomenon." (p. 13) and in health promotion these "indicators reflect a general systems approach in terms of input, throughput and output" (p. 14). With changing definitions of health, indicators are beginning to shift from that of absence of disease to well-being. While indicators such as mortality and morbidity were most useful in preindustrial society, new indicators reflecting modern day health concepts inclusive of

lifestyle, environment, social support systems and health care systems are required (McDowell & Newell, 1987; McQueen & Noack, 1988; Spuhler, 1988). McDowell and Newell (1987) state that "health measurements influence (and are influenced by) the way we define and think about health" (p. 14). To be useful, these indicators must be valid. This concern over validity of health and health promotion indicators has raised controversy over the use of subjective measures versus objective measures.

While objective measures are readily observable and quantifiable, subjective measures are self-reports which may be biased (Hunt, 1988). Yet, subjective measures provide information that is not observable, that describes personal views of quality of life factors, that is holistic, that may reveal positive aspects of health, that is more likely to reflect actual behavior, that is non-invasive (Goldberg & Dab, 1987; Hunt, 1988; McDowell & Newell, 1987) and that permit finer discriminations among people" (Ware, Brook, Davies & Lohr, 1981). With advances in psychometrics, survey sampling and data analysis, subjective indicators of health now add to objective data (McDowell & Newell, 1987). However, there is as yet no "gold standard" for measures of health status or health promotion (Spitzer, 1987). There is recognition that no one measurement provides a complete picture of health status or health promotion, but that multiple indicators are necessary (Goldberg & Dab, 1987; Mootz, 1988; Noack, 1988). Some measures of overall health as outcome measures have been developed

(Read, Quinn & Hoefer, 1987; Ware Jr., 1987) although the dimensions measured have varied.

Measures of health promotion will need to provide indicators of interaction and change as health promotion is a means to health. Measurement of health promotion is a dynamic process focussing on whole populations with the populations actively participating in all stages (Haro, 1987). As participants at the Berne workshop suggested, indicators of health promotion need to be context-specific (Dean,1988; Kar & Berkanovic, 1987; Spuhler, 1988). Today, dynamic models of health promotion are preliminary in nature and "difficult to conceptualize" (Haro, 1987, p. 65), and the indicators are not yet established (McDowell & Newell, 1987).

Correlation of some variables with health have been established , and these may serve as indicators of health for health promotion. Norman reviewed demographic, social, and psychological factors as correlates of health behavior for Health and Welfare Canada (Norman, Health Promotion Studies Series No. 2). He stated that socio-economic status (SES) is related to health with lower SES groups having higher rates of mortality, morbidity and disability and higher SES groups demonstrating more healthy behaviors. Among the variables of income, education and occupation, education was found to be the most closely associated with health. This association was reported also by Segovia, Bartlett, and Edwards (1989). Health behavior has been shown to interact between literacy and health.

Norman reported some gender differences in healthy behaviors, women being more likely to engage in protective behavior, and are less likely to take physical risks. He reported that speculations on these gender differences point to differing social norms and health values for men and women.

Studies of age differences related to healthy behaviors were found to be inconsistent; the most reliable findings showing an increased use of medical service with increasing age (Norman, Health Promotion Studies Series No. 2).

While numerous social influences may affect health behaviors such as physical environments or cultural conventions, social support and network variables have been prominant in a review of research (Norman, Health Promotion Studies Series No. 2). Norman pointed out that normative and modelling influences of parents on offspring have not been disentangled. He found some evidence presented by Pratt on examination of family dynamics and health behavior, that egalitarian types of couple interactions were positively related to health behaviors for women only, and that level of family energization was positively correlated to health behavior. Norman also reported that Loveland-Cherry found family cohesiveness was positively related to healthy behaviors. As international students come to Canada with these influences already well-established, social networks and peer influences would likely become a more appropriate potential correlate of healthy activity in their new setting.

Two important correlations related to adult networks and health behaviors were reported by Norman (Health Promotion Studies Series No. 2). Firstly, a number of studies reported that there are positive relationships between the likelihood of members of a social network engaging in a health behavior and a particular individual engaging in that same behavior. Secondly, some investigators reported the larger the network the greater the likelihood of high scores on indices of health behaviors.

Broadhead et al (1983) summarized their review of epidemiologic evidence for a relationship between social support and health as follows:

- poor social support precedes adverse health outcomes;
- the relationship between social support and health is similar across age, race, sex, ethnic and health status groups but the effect is greater for women;
- there is an increase in symptomatology and mortality with incremental increase in numbers of social contacts;
- relationship between symptomatology and perceived qualitative measures of social support is unclear;
- there is some evidence for neuroendocrine changes which explain the effects of social support;
- there is coherence between ethology, psychosocial theory and biologic evidence to explain the effect between social support and disease;

- health outcomes affect environmental and individual characteristics which interact to produce a social support system; and
- individual and environmental characteristics change with role changes and life events.

Sarason, Levine, Brasham and Sarason (1983) found in their research that social support is related to positive life changes, "more related in a negative direction to psychological discomfort among women than men" (p. 127) and an enabler for persistance at a task under frustrating circumstances.

When Hill (1987) examined the effect of socioemotional and material support on well-being as a function of affiliative need, he found that high affiliative need individuals are influenced by relationship aspects of support while low affiliative need individuals are influenced by instrumental aspects. Therefore, social support components require consideration along with differences in personality in targetting health promotion strategies.

Likewise, Gottlieb (1985) stated in his review of social networks and social support that there is an interplay between personal characteristics and situations in adjusting to life changes. While he reports disagreement over definition of social support and social networks in his review and therefore difficulty in comparing results of studies, he reports that each measure of social support yielded a positive association with mental health and adjustment. As some

social contacts may in fact be stress producing, simple counts of numbers of contacts is not sufficient to account for health behavior, according to Gottlieb. His own research led to identification and classification of informal helping behaviors through interviews to determine quality of assistance. He was able to discern an overlap between professional and lay help and to identify categories of help unique to lay persons, pointing out that within the social ecology of an individual, professionals only play a small part.

Israel (1985) reviewed definitions of social support and identified four classes of support: emotional, appraisal, informational and instrumental. As well, she identified three types of linkages within social networks: structured (size and density), interactional (frequency and reciprocity), and functional (affection, instrumental, development of new contacts, maintainance of social identity). She found a significant relationship to well-being among intensity, reciprocity and affection variables. Also she noted associations between size, density, instrumental support and cognitive support and well being. Israel recommended action research on linkages to gain understanding of social networks, social support and health using qualitative and quantitative processes.

What seems initially to be simple constructs, social support and social network, have been shown on closer examination to contain many facets which may interact to influence health. Closely connected with these concepts is the influence of social norms. Fishbein(1980)

theorizes on the influence of social norms in the Theory of Reasoned Action. He states that individuals rationally use information to make decisions to perform a particular behavior.

A person's intention is the immediate determinant of a specific behavior. This intention involves personal evaluation of performing the behavior, that is, attitudes to the behavior, and social pressures to perform or not perform the behavior, that is, subjective norms. Beliefs relative to attitudes and subjective norms are important influences in their formation. Intentionality is formed through weighting of attitudes and subjective norms. According to Fishbein, external variables such as personality characteristics, status, social role, intelligence, kinship, and socialization may influence beliefs. Norman's review of research on this theory led him to conclude that the constructs within the Theory of Reasoned Action are able " to predict a greater amount of variance in health behavior and intention" (Health Promotion Studies Series No. 2, p. 70) than any other correlates he examined. He specified it as a "useful tool for research on cognitive determinants of health behavior"(Health Promotion Studies Series No. 2, p. 70).

The more prominant model on health behavior is Becker's Health Belief Model (Janz & Becker, 1984) which states that the likelihood of health behavior is a function of the perceived threat to health and the efficacy of a behavior to cope with the threat. Evaluation of personal susceptibility to a health problem and anticipated severity of the

disease are used to determine the health threat. Beliefs of the benefits of action and barriers to action are critical to the health behavior performance. Both internal and external cues may act as triggers to actual behavior performance. In Norman's extensive review of research related to this model, he concluded that it "provides a weak basis for predicting or influencing health behavior"(Health Promotion Studies Series No. 2, p. 62). Janz and Becker (1984) reported that perceived barriers were the most salient factors in the design (p. 1). The model may be useful for behaviors which require conscious consideration but is not useful to address habits which are for the most part independent of conscious processes, according to Norman. He states that (1) research needs to address factors which determine health behavior, (2) health promotion studies should include the influence of non-health belief factors such as cost/benefits, appearances, social images, and comfort/discomfort variables on the performance of health behaviors.

One factor which intuitively may be linked to social support and social norms, and which may of itself influence health is religiosity. Using a census study, Comstock and Partridge (1972) investigated one component of religiosity, church attendance, and its relationship to health. In their review of literature on the subject, they found that frequency of church attendance varied by denomination, sex, social class, age, and residence. Church attendance was found to be: (a) an implicit cultural pattern which directs behavior and belief,

(b) correlated with reduced anxiety, (c) positively associated with positive affect for blacks and not for whites, (d) not related to use of contraceptives, (e) associated with hypertension among members of the Zulu society, and (f) associated with risk of myocardial infarct among Israelis. From their own investigation, Comstock and Partridge (1972) concluded that " the relationship of church attendance to health is non-specific rather than causal." (p. 670)

Another important interceding variable between knowledge and behavior in Social Learning Theory (Parcel & Baranowski, 1981) is perceived self-efficacy or "people's judgements of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391) even in situations with unpredictable elements. Perceived self-efficacy has been shown to affect behavior, thought patterns, and emotions. Self-efficacy information is acquired through actual performance attainment, social persuasion, physiological arousal, and comparative vicarious experiences, and processed accounting for cues associated with the specific source.

Bandura states that self-efficacy can be enhanced through the process of goal setting, modeling, guided practice, role playing, peer models, and self-regulation (Schunk & Carbonari, 1984). Self-efficacy for healthy behaviors is necessary to a good health status.

Health practices are receiving increased attention as factors which influence health status. In 1972 Belloc and Breslow reported that

"good health habits are positively related to physical health status" and that "the relationship of these habits was shown to be cumulative" (p. 420), that is, those persons with more of the desireable habits were in better health. These health habits included sleeping seven to eight hours, usually eating breakfast, not eating between meals, participating in regular exercise, never smoking cigarettes, moderate consumption of alcohol, maintaining a desireable weight for height. A follow-up study by Breslow and Enstrom (Matarazzo, 1984) confirmed the earlier findings and demonstrated that those persons practicing all seven health behaviors had a reduced mortality rate compared with those who practiced three or less of the health behaviors.

Segovia, Bartlett, and Edwards (1989) report an association between self-assessed health status and five of the aforementioned health habits- smoking, sleep, exercise, weight control and drinking. In their study of adults in metropolitan St. John's, Newfoundland, they found no association between breakfast and health status, unlike Belloc and Breslow (1972). Segovia, et al (1989) suggest further testing of different definitions of particular health practices such as drinking and exercising which may provide measures based on current knowledge of health behaviors and their relationship to health.

Studies of the effects of stress and its relationship to disease have been on-going over the past several decades. Borysenko (1984) in her review of the effects of stress on the immune system, found that while

a majority of studies report stresses predisposing to disease, some report "an enhancement of outcome measures as a function of stress" (p. 250). Borysenko states that the degree of control available to the subject affects the disease outcome, and that behavioral factors influence the competence of the immune system and the resulting positive or negative outcome. Many other variables related to specific situations may influence the outcomes as well, including personality traits such as inhibited power motive syndrome which combines a high need for power with controlled expression of the motives (Borysenko,1984).

Personality orientation as a determinant of health has been conceptualized by Anotonovsky (1979, 1987) and Kobasa (1979, 1982a, 1982b). Both Antonovsky and Kobasa state that stressful life events may not precipitate disease as personality factors may intercede and a positive outcome may ensue.

Kobasa (1982b) stated that hardiness comprises a personality style of commitment, control and challenge which can "turn stressful life events into possibilities or opportunities for personal growth and benefit" (p. 6). Studying executives, lawyers, and gynecology outpatients, Kobasa reported that hardiness characterized those persons with high stress and low illness (1982b).

Both Antonovsky and Kobasa acknowledge that resistance resources, psychological, sociocultural and physiological, mitigate the

effects of stress . These resources may comprise undisclosed numbers of determinants of health which possibly interact with each other.

Antonovsky (1979, 1987) theorizes that resources can facilitate against disease supporting the individual's or group's sense of coherence (SOC). Resources may therefore be associated with health by way of one's SOC. Antonovsky (1987) suggests the major psychosocial resistance resources are material, knowledge/ intelligence, ego identity, coping strategy, social supports/ties, commitment, cultural stability, magic, religion/philosophy/art, and a preventive health orientation. These compliment genetic and constitutional resistance resources (p. 184) which together support the sense of coherence. Antonovsky hypothesizes that SOC is linked to health and well-being. He is one of a growing number of health researchers recognizing the complexity of intervening variables between stressors and health.

The possible determinants of health and healthy behaviors which may be targetted in health promotion strategies and used as indicators for health and health promotion will likely be numerous. At present, correlations with health and healthy behaviors will have to serve as guides until causal relationships have been established. From the literature reviewed, education, gender, social support, social networks, intentions, perceived barriers, perceived self-efficacy, religiosity, health behaviors, personality factors, and resources all have shown an association with health or healthy behavior.

Theories Related to Health and Health Promotion

While health professionals, social scientists and politicians have demonstrated belief in the connection between health and health care planning since ancient times, no theory of health or health promotion has been firmly established. Lack of a central theory can be associated with the difficulties in establishing models and indicators by which to test a theory (Mc Queen & Noack, 1988). Two related theories or models provide support for a holistic theory of health and health promotion, : General Systems Theory by von Bertalanffy and associates (Laszlo, 1972) and Salutogenesis by Antonovsky, (1987).

General Systems Theory is a flexible scientific method which views "systems as integrated wholes of their subsidiary components" (Laszlo, 1972, p. 14) and not merely a sum of parts (Schwartz, 1979). Individuals and communities are open living systems (Laszlo, 1972; Stewart, 1985) which are "self-maintaining and self-creating" (Blum, 1981) through energy flowing between levels of the greater system. Likewise, disruptions at one system level or subsystem level spreads out to cause disequalibrium in adjoining levels. In this manner, poor health of individuals, communities and nations may occur as the energy flows or disruptions between levels mingle. The ecologic or holistic view of health needs to account for events at all levels of the ecosystem (Blum, 1981; Stewart, 1985).

The *Framework for Health Promotion* (EPP, 1986) is a model which has attempted to integrate multiple levels of the larger system, that being the nation or community. Within that system, health care is a subsystem, yet the health field can also be considered as a system in its own right with its component parts. The Health Field Concept specified four subsystems: Human Biology, Environment, Lifestyle, and Health Care Organization. (Lalonde, 1974) In turn, each of these subsystems has its own parts. While ecologic models of health are being proposed to address the perceived influences on it, a clearly stated theory of health is lacking.

The second conceptualization supporting the notion for an holistic theory of health is that of Antonovsky's salutogenesis orientation to health (1979, 1987). The salutogenesis orientation to health is holistic in that it specifies that health is a multidimensional process forming a continuum, focusses on the whole person and encourages exploration of all factors that "facilitate active adaptation of the organism to the environment" (Antonovsky, 1987, p. 13). Antonovsky (1987) specifies that the fundamental assumption underlying salutogenesis is one of heterostasis, aging and increasing entropy. He states that entropic forces within human systems are mediated by one's sense of coherence (SOC) and hence disease is not inevitable. Antonovsky theorizes that it is not a stressor itself which may lead to disease in an individual or group but the coping response which ensues. Hence, he

developed the concept of the sense of coherence to explain health status. Antonovsky (1987) defines the SOC as follows:

> The sense of coherence is a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimulus deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement (p. 19).

The SOC orchestrates the forces which influence health. The three components of SOC: comprehensibility, manageability, and meaningfulness are intertwined and supported by generalized resistance resources (GRR), that is "any characteristic of the person, the group, or the environment that can facilitate effective tension management" (Antonovsky, 1987, p. 99) or introduce negentropy. Three kinds of GRR's are identified: adaptability on multiple levels, meaningfulness to others, and commitment between the individual and the whole community (Antonovsky, 1987, p. 100). Antonovsky (1987) views meaningfulness as a critical component of a strong SOC as well as four spheres of a person's life - "one's inner feelings, one's immediate interpersonal relations, one's major activity and existential issues" (p. 23). The strong SOC is contained within the person's

flexible boundaries. While Antonovsky does not claim that SOC is the sole determinant of health, he hypothesizes that there is a link between SOC, coping and health, and to this end developed a measure of SOC that reflects the four spheres and "the life situation of all adults cross-culturally" (p. 24). In addition, he presents the salutogenesis model linking SOC, GRR, and health, (See Appendix A), noting the importance of health to be a resource also influencing SOC. By extension, Antonovsky (1987) reasons that SOC likely correlates with well-being if SOC influences health status and that status in turn influences global estimates of well-being. This perspective is coherent with current definitions of health as a resource with multiple factors influencing it and with General Systems Theory as the interaction of parts within a whole.

Current developments within the fields of health and health promotion support a theoretical perspective of multiple causation of health and interaction of health with other parts of a larger system. Development of theories of health and health promotion are beginning to evolve and the concept of an holistic theory is given credence by General Systems Theory and the salutogenesis orientation. Development of an holistic theory of health would facilitate the ongoing development of indicators and focus health promotion.

Health, Health Promotion and International Students

Having presented a broad overview of health and health promotion, a focussed review of these conceptions in relation to international students is now appropriate. The consensus presented in an overwhelming majority of studies and essays reviewed is that health is a problem for international students, or that international students have numerous problems without any statement of how this impacts upon their health. Conspicuously absent are definitions of health.

Health as a resource for daily living is an important component in the experience of students studying in a new cultural milieu. Within the context of a general systems approach to understanding health, the impact of socio-cultural change will likely impinge on related parts of the whole (Blum, 1981), creating change within the psychological and physiological systems of the individual.

Cultural change can result in profound changes within the whole system as culture shapes the construction of reality for individuals and groups. Culture is dynamic, a complete social heritage, learned and demonstrated in behaviors emanating from symbolic properties (Dunnett, 1981; Fabrega, 1981; Levine & Sorenson, 1984). Culture is embedded in the essence of individuals and groups. International students use their specific cultural constructs as guides for problem solving and adjusting to their new environments. Both Hinkle (1974)

and Gottlieb (1985) suggest that sufficient changes in life patterns brought on by culturally inappropriate constructs for daily living may lead to decreasing immunity influencing the course of ill-health. However, a disease outcome is not inevitable, for the effects of change may be ameliorated by the physical and psychological characteristics of the individual and the social and physical environments (Antonovsky, 1987; EPP, 1986; Jemmott III, 1985; Kobasa, 1979).

The process of adaptation is crucial for international students' success in reaching their goals. Dunnett (1981) describes this process as "learning to know and use the means to solve problems or attain goals within a social system . . . (including) ability to cope with daily life tasks, emotional adjustment, interaction with Americans and academic achievement" (p. 84). Adjustment according to Pruitt (1981), is that aspect of adaptation which reflects being comfortable in the new environment without abandoning one's own cultural identity, while assimilation signifies adopting the new culture.

The adjustment process of the international student in a new environment means being confronted by one's own behavior which, though compatible in the home culture, often becomes incongruent in the new culture (Gullahorn & Gullahorn, 1963) as the symbolic communications between actors breaks down creating "culture shock" (Coelho, 1981, p. 20). Culture shock is experienced as loss in many areas of living - social status, meaningful kinship relations and

sensory overload with physiological fatigue (Coelho, 1981). The culture shock process has been graphed as a double U-curve (Coelho, 1981; Kohls, 1984). The graph represents the changes in levels of satisfaction experienced from the time of arrival into a host country until returning home. The trough of the U-curve represents descent into depression (Coelho,1981; Kohls, 1984). Dubois' four stages of adjustment outline the U-curve of attitude adjustment (Dunnett, 1981). These are the spectator phase, the adaptive phase, the coming- to - terms phase and the predeparture phase. While this adaptation process is widely accepted, Becker, in his study of Indians, Israelis and Europeans found that adapting attitudes of students from developing countries do not follow the U-curve. Instead, their attitudes are "characterized by hostility to the United States and a corresponding idealization of the home country in both the initial and final stages of the sojourn. The middle stage would be characterized by a detachment from the home country . . ." (Dunnett, 1981, p. 89). Therefore, the U-curve hypothesis, while useful, cannot be applied indiscriminately (Dunnett, 1981; Pruitt, 1981) to understand the process of adjustment.

As studies addressing the issues of international students have been conducted over several decades, the author has chosen to review studies from 1977 to the present which focus the understanding derived from past studies and offer direction to further research.

In 1977, Perkins, Perkins, Guglielmino and Reiff published the results of their study comparing the adjustment problems of three international groups, Chinese, Indians, and others attending the University of Georgia 1974-75. The representative sample of international students were requested to respond to a questionnaire on demographic variables, social interactions and personal adjustment problems. The researchers found that the Chinese rated English proficiency, educational preparation, racial discrimination, unfriendliness and homesickness as more of a problem than other ethnic groups. No significant differences were determined related to financial problems. The researchers conclude that as problems are group specific, help should be targetted appropriately and knowledge of the differences would facilitate planning of orientation and social activities.

Boer (1981) investigated the relationship between adaptation, satisfaction with living and the mental health of international students in the United States. Through interviews, questionnaires and file studies, he provided conclusions related to networks, housing, education, social status, mental health and orientation needs.

On examination of his data related to networks, Boer concluded that "the international student derives emotional support from a small group of people that remains constant over time" (p. 39) and that most of these students found it "more difficult to make friends in the United States than back home" (p. 39). Examining housing concerns, Boer

reported that 36% of students expressed dissatisfaction with housing and 68% had moved during the first year of study due to problems with roommates or the environment. Reporting on student academic satisfaction, 58% reported changes or delays in their program due to insufficient information, poor advising, and disappointment with quality of instruction. While most students (54%) reported no change in social status on coming to the United States, those who did report a change (26%) were older, professionals, and/or at higher levels of education.

While Boer did not provide correlation data with mental health, he did investigate the use of psychiatric services and tested for depressive symptoms. International students were underrepresented in psychiatric services over a seven year period at an adjusted rate for utilization of one percent per thousand foreign students per year versus eight percent for American students. Among these students women were overrepresented " at 35 % versus 24 % of the total population" (P. 44). Students from English-speaking and western countries (England and Canada) made the most visits. Using Zung's Self-rating Depression Scale (SDS) Boer found that 20% of international students studied scored above the morbidity point for depression for a normal population. Females were overrepresented in this group as were students from Japan and Latin America.

Reporting on orientation sources and needs, Boer commented that prior to departure from home, students reported that friends were the

most frequently consulted source for information about study abroad. The students reported lack of information related to food, social relations, cost of living, climate, and educational status. International students, commenting on orientation post-arrival, gave priority to social relations, academic concerns and differing life styles.

Boer concluded that more investigation is required to examine student positions at home, expectations for life in the new country, and fluid orientation programs in the adaptation process. While he presented no correlation data, he concluded that the mental health of international students remains not "too shaken" (p. 53) and hypothesized that this may be due to personality factors established in childhood.

Dunnett (1981) also looked at international student adaptation and the role of English language training and orientation (ELTO) in order to recommend improvements to the adaptation process and to eliminate problems which interfere with goal attainment. Using an experimental and a control group, he administered two questionnaires six months apart and reported that ELTO assisted in adaptation generally. While African and Asian students were the least adapted especially in the areas of socialization, they made the greatest change among all the ethnic groups represented. This change was attributed to ELTO. Dunnett stated that ELTO students expressed "feelings of personal well-being and having accomplished their goals" (p. 101). Well-being was measured by seven items within an emotional index.

Generally, ELTO students held more positive views of their experience both academically and personally, and were more optimistic about their futures than students in the control group. Dunnett stated that adaptation was positively associated with a feeling of goal accomplishment.

Pruitt (1981) studied adjustment, assimilation and attitudes of African students at nine colleges and universities across the United States through a self-administered anonymous questionnaire. The students represented 50 ethnic groups with 12% being women. Pruitt looked at adjustment in coping with one's environment, maintaining physical health and maintaining psychological well-being. Questions of health focussed on disease symptomatology. He found that all three aspects of adjustment were highly intercorrelated: with psychological and physical well-being closely related to freedom from homesickness and loneliness; with problems of dating, climate, food, communication with Americans, homesickness and loneliness highly interrelated; and with housing problems, discrimination and financial problems interrelated. Prior knowledge of the United States supported better adjustment. Extensive contact with other African students did not support adjustment while "church attendance and continuing religious belief were predictive of adjustment"
(Pruitt, p. 122). As differences in adjustment were found by length of stay, the U-curve hypothesis was not supported. Pruitt concluded that knowledge of host country prior to arrival, host country roommates on

arrival, peer support by host country students, support for maintaining religious affiliation, and maximizing contact between international students and the host society would facilitate adjustment.

Pedersen (1981) focussed on personal problem solving resources used by University of Minnesota international students. On examination of the data related to one question of a thirty-two item questionnaire, "Where do you go when you have a personal problem and are not able to solve it yourself?" (p. 161). Pedersen made the following conclusions: (1) the majority of choices for help sources ranked countrymen first, faculty advisors second,and International Student Advisor Office (ISAO)third; and (2) perceived cross-cultural understanding and participation in orientation programs increased use of faculty advisors or ISAO. Pedersen recommended more emphasis on orientation programs that teach utilization of the range of counselling facilities and peer counselor training programs as important help sources for international students.

Miller and Harwell (1983), studied international students enrolled at the University of Toledo assessing their health care needs by means of a questionnaire. The researchers reported that nearly all the respondents were first year students and that 85% were male. The vast majority of respondents reported not using a medical doctor or dentist. Asian students were more frequent users than students from Latin America or the Middle East. Sources of information for

appropriate help were friends or the telephone book yellow pages. If medication was believed to be necessary, the respondents would go to a drug store, not realizing the need for a prescription for many medications. Assessing health problems, fatigue, homesickness, headaches and colds were the most frequent complaints for all groups. Asiatic students frequently identified dental problems as well. The researchers recommended a comprehensive orientation program to health care services for all international students.

Based on reports of international students being malnourished primarily due to inability to cope with food preparation, O'Palka, Mitchell and Martin (1983) initiated a pilot project to introduce recently arrived international students to the American food supply. Five sessions covered sanitation, identification, preparation and sampling of foods, operation and maintainance of equipment, meal planning and table service, shopping and use of coupons, and a field trip to the supermarket. Evaluation of the sessions at a two month follow-up indicated that most students were preparing their own food, believed they were eating better, were more confident shoppers, used sanitation techniques learned, and had shared their knowledge with other new students. The dietitians recommended printed information sheets as an adjunct to the instruction, and continuance of workshops with food preparation activities and food product identification highlighted. While ethnic differences were evident, the African students were the least informed about basic cooking techniques and

the American food supply. The dietitians stated that limited budget, lack of skills and nutritional information created a need for assistance for these students.

Mc Blane (personal communication, June 4, 1984) as Director of International House, The University of British Columbia, stated on his review of Zwingmann and Gunn's document on students studying abroad that "lack of money" and "unsatisfactory accommodation" are the two most significant factors which lead to stress and psycho-social ill health. Mc Blane also reported a great need for culturally specific orientations as each cultural group has preferred ways to acquire and process information.

McClaran and Sarris (1985) surveyed international students at the University of Michigan regarding their perceptions of health and illness, information seeking and health service utilization behavior, perception of stress, and satisfaction with university health services. Information was gathered by interview using an open-ended questionnaire as well as anecdotal comments by students, faculty and staff. The students represented thirty-two different countries with 31% from Indian/Asian countries and 28% from African countries. Thirty-three percent of the students were female. A majority of students reported being healthy and exercising and eating properly to maintain their health. One-third of students reported that "pressure" interfered with their studies or health, and that talking with friends was the most frequent method of coping with the pressure. The

researchers found international students to be less frequent users of the campus health service and recommended expanded orientation for some as well as health education on specific topics along with written materials as adjuncts.

As female circumcision is widespread in some parts of the world, and many female international students come from these areas, Shaw (1985) chose to study the need perceptions of female clients with circumcision and perceptions of client needs by care givers . Through an informal audience, a majority of the women interviewed agreed that health care providers should be (1) informed of the practice, and resulting increased sensitivity to pain, (2) cognizant of related anxiety and (3) acknowledge client needs to see a female health care provider along with the need for permission from the closest male relative prior to medical care.

Concerns of providers were gathered by surveys from 48 college health services across the United States. While contacts per year with female clients with circumcision were low, inadequate recording prevented accurate statistics . Providers expressed concern in relating to these women due to language differences and or cultural values and beliefs differences. The providers stressed the need for female care givers for these women and inclusion of the husband in the whole process, as well as networking informally with international wives' groups to reach out to the women with no comfortable health care service.

In 1986, Ebbin and Blankenship reported on their longitudinal study of international versus domestic students attending the University of Southern California's Student Health Center (SHC). They examined diagnoses over three years noting particularly those diagnoses associated with stress. Their findings include more frequent use of the SHC by international students than domestic students, an increase in 50 disease entities compared to domestic students, and a greater proportion of diagnoses that may be stress related among the intenational students. Ebbin and Blankenship recommended a number of measures to assist the international student to overcome barriers to the western health care system: special orientations, written materials in several languages, student advocates, peer helpers, integration of mental health and physical health services, special programming in health promoting behaviors, use of interpreters, and negotiation of diagnosis and treatment according to student belief.

Like Pedersen (1981), Leong and Sedlacek (1985) examined help sources used by international students for both educational-vocational and emotional-social problems, comparing these to United States students. Their results showed consistant patterns of preference for help sources for both educational/vocational and emotional/social concerns. International students preferred formal help such as given by a faculty advisor, counsellor or physician while domestic students preferred informal help from parents and friends. Leong and Sedlacek state that orienting international students to the formal help

sources is an important step until students are able to develop informal networks. Informal networks need to be facilitated to overcome the social isolation new students experience. The researchers recommend special training for formal helpers of international students as well as development of peer support systems. For further research, they suggest examination of preferences during different points of stay in the United States and more process and outcome studies of attempts to seek help.

Allen and Cole (1987) examined the foreign student syndrome, a notion popularized by Gunn which expresses the idea that many of the physical disorders of international students are really psychological in origin related to uprooting or cultural change. Working from two hypotheses: (1) "that consulting patterns of foreign students in Australia would be no different to those of students of the same nationalities studying at home" and (2) neither the "frequency nor the pattern of consultations of foreign students would differ from those of Australian students" (p. 183) with controls for age, sex, and distance to health services, Allen and Cole found no evidence for a rise in consultation rates of Asian international students compared with compatriots or with Australian students controlling for stated variables. Differences in patterns of consultations were found for some health concerns. Allen and Cole concluded that "emigration improves health" and they "suggest that foreign student syndrome does not exist" (p. 185). They offer several explanations for their

conclusions including selection of the fittest students for overseas study, these students being more adaptable persons, physically more vigorous, wealthier, and of professional class background. This is concordant with the concept of resistance resources expressed by Antonovsky in his theory on salutogenesis.

More recently, a survey was undertaken by the Canadian Bureau of International Education and conducted by de Vries and Richer (1988) "to document the background and experiences of international students in Canada"(P. 1). Research strategies included a questionnaire survey, group interviews and use of secondary data from *Statistics Canada*. The University of Alberta Survey of International Students (1987) was cited as one among several background documents utilized. Five fundamental questions were pursued. Firstly, the survey data identified the numbers of international students studying in Canada. International students comprise 5% of the total full-time university enrollment in Canada, with the largest percentage from Hong Kong, those from the rest of Asia and Africa numbering second and third. International students from affluent nations are over-represented with 88% of the respondents describing their family as above average in wealth or among the wealthiest in their home country. Only 12% reported being below average relative to other families at home. Thirty-eight percent of respondents reported that one or both parents had a university degree and that 20% reported that a parent had studied abroad.

Specifically, less than 30% of international students in Canada are female with Africa, China, and the rest of Asia sending the fewest number of females. Female international students represent only 25% of international students in graduate programs.

Summarily, participation in higher education in Canada for international students is contingent on the students country, gender, and family background.

Secondly, respondents reported reasons to choose study abroad with limited opportunity to do so at home being the most frequent response. Quality of education and financial factors were other important considerations in choosing a Canadian university.

Thirdly, respondents were questioned as to experiences during their first week in Canada. While a majority reported being met on arrival in Canada, 32% were not met by anyone on arrival in Canada nor on arrival at the university. Less than half of the respondents reported that their university had an orientation week. Of those who knew of the orientation, 57% did not attend the program. Of students who attended orientation, only 38% found it useful. When students were questioned about factors which were problems to them, the most frequent concern was loneliness, especially among students from Hong Kong.

Financial concerns related to living expenses and university costs were reported by 51% of respondents with parents and relatives being the two most important sources of support. Among other problems,

speaking English and stress of academic work were noted. Knowledge of campus services was assessed with the health services being used by the largest proportion of respondents who had knowledge of it.

Fourthly, future plans of the students were assessed with a majority planning to return home after completion of studies and anticipating having to look for employment.

Lastly, students and student leaders were asked for recommendations for possible changes in policy toward international students at the university and government level. Students' concerns were related to work restrictions, differential tuition fees, loans or scholarships, visa and immigration procedures, integration of international students into the university community, social service concerns, and language policies. Differential fees were second to work issues among concerns expressed by student leaders discussing issues at the government level. At the university level, leaders expressed concerns related to inadequate reception or orientation, inadequate personnel or resources, need for "umbrella" international students organizations, need to educate Canadian students on international issues and cultures, and inadequate housing policy.

Resources at many levels are important to international students, as this research data indicate. Knowledge of the why's and how's of study abroad, finances, student services, social support and work opportunities are all key issues related to international student satisfaction with their foreign academic experiences.

In February 1988, the University of Manitoba University Health Service conducted an anonymous questionnaire survey of personal health practices and needs with a random sampling of the student population. Among those surveyed were two hundred international students (Prouten & Mirwaldt, 1990). The response rate was 61.5% with students from 28 countries returning their surveys. Geographic regional representation included 62% from Asian countries, 24% from European countries, 11% from African countries and 3% other.

A majority of international students rated themselves as healthy and without physical limitations, but important percentages of these students were not happy, were experiencing considerable stress, and at times lacked the essentials of daily living. Very small numbers of these students participated in risk behaviors such as smoking, illicit drug use or drinking and driving. While a majority of these international students reported drinking occasionally, an important percentage reported feeling obliged to drink socially.

While international students almost always reported brushing their teeth and wearing seat belts, important percentages reported not practicing other health enhancing behaviors such as exercising regularly, eating breakfast daily, or assessing risks of AIDS if they were sexually active. Among disease detection activities, a majority of female international students who were sexually active reported never having had a Pap smear for detection of cancer, despite having had a periodic health examination (PHE) when not ill. Large

percentages of females reported not knowing how to perform breast self-examinations and not having had such an examination by a health professional. Almost all males reported not knowing how to perform testicular self-examination and not having had one by a health professional. A majority of students reported having had a PHE within the past 5 years and a blood pressure check.

International students reported that only a few of their friends were close, that is, "people they could talk to if they needed help or had a problem" (Prouten & Mirwaldt, 1990, p. 73). Less than half of the international students believe they have a great deal of control over their future health, securing work upon graduation, or present life circumstances . The majority reported needing more information on selected health topics and thought a peer support system could assist them in meeting specific needs.

Westwood and Barker (1988) investigated the relationship of academic achievement, drop-out rates, and social adjustment among first year international students who participated in a peer-pairing program at the University of British Columbia and at the Australian International Development Assistance Bureau. Their findings showed higher levels of academic achievement and lower drop out rates among international students who were matched with a host national peer than among those international students in a control group. This held true over four years. International students indicated a preference for host national companions for language help, academic

problems and sightseeing. Westwood and Barker (1988) indicated that these links with host national students may be one way international students learn "the unwritten codes of the local culture" (p. 18).

Summary of Studies on International Students

On reviewing the studies related to international students, it has become evident that definitions and measures of health are lacking although numerous concerns, problems and resources have been identified along with important recommendations. Generally, studies related to health took the negative perspective of disease symptomatology except for that reported by McClaran and Sarris (1985) and Prouten and Mirwaldt (1990). These two studies reported important differences in health enhancing behaviors. As well, Dunnett(1981) included a measure of well-being among his other indicators of adaptation.

Studies by Boer (1981), Dunnett (1981), Pruitt (1981), Allen and Cole (1987) and Prouten and Mirwaldt (1990) suggest that personality orientation and resources may be important variables linked to health status or satisfaction with the new educational experience. Leong and Sedlacek's (1981) and Westwood and Barker's (1988) recommendations for more process and outcome studies of help-seeking behavior is similar in perspective to health promotion indicators of change facilitating health maintainance or improvement.

Several studies reported ethnic or gender differences in needs, (Boer, 1981; CBIE, 1988; Dunnett, 1981; Miller & Harwell, 1983; O'Palka, Mitchell & Martin, 1983; Perkins, Perkins, Guglielmino & Reiff, 1977; Shaw, 1985) which suggests a requirement for improved understanding of the health and the process of health promotion required for subgroups among the total population of international students.

The impact of cultural adjustment for international students as a potential influence of their health status requires the targetting of health promotion processes to the needs of specific ethnic and gender realities.

CHAPTER THREE

Methodology

This chapter presents the methods employed in testing the research questions outlined in Chapter I. The process of selection of the student sample is described along with the instruments used in data collection. Details of analysis precedures are presented.

Sample Selection

The subjects for this study were international students, specifically students from African countries, as the literature review indicated that such students were the least prepared for their experiences abroad. The researcher understood that the students from African countries were likely to be fluent speakers of English. This was a necessary factor to provide confidence that the data would be reliable and valid as the quantitative instruments were in English and the researcher was English speaking. The sample selected were enrolled at the University of Manitoba for the first term of the 1989-90 university year and were:

1) attending a university outside their home country for the first time;
2) registered for full time studies;
3) fluent speakers of the English language.

From a list of international students obtained from the International Centre for Students and the Faculty of Graduate Studies, potential subjects were invited by a letter of invitation and consent to

participate (See Appendix B). The letter stipulated that participation in the study was voluntary and that those who participated would be assured confidentiality. Eleven subjects were accepted into the study.

The selection did not involve a randomization process, but an ad hoc selection as students arrived at the university, met the criteria, and agreed to participate. Dates were set for initial and final collection of questionnaire data to which all volunteer subjects were asked to attend. Four students participated in three interviews each in addition to their participation in the surveys. The researcher selected the interviewees based on representation of country, gender, academic level and agreement to participate. All meeting dates were confirmed by telephone.

Four paper and pencil measurement instruments were utilized to collect data along with demographic and personal interview data. The questionnaires and the demographic data were combined into one battery of tests.

Questionnaires

Firstly, one single-item scale, a self-rating of health, was administered (See Appendix C, Section I). Respondents were asked to select one of five possible responses ranging from "poor" to "excellent". Self-reported health status has been used in national household surveys in Canada and the United States. Attempts to assess validity have found this item "to be highly correlated with the presence of

specific health problems, and ... to be a predictor of health care utilization and mortality" (deVries & Richer, 1988, p. 182).
Ware (1987) stated that self-ratings of health capture personal evaluations of health experience. Read, Quinn and Hoefer (1987) report that self-ratings closely relate to current happenings in the lives of people. Segovia, Bartlett and Edwards (1989) report self-rated health to be "a valid and reliable indicator which corresponds well with other measures of health" (p. 32).
Andrews and Mc Kennell (1980) found evidence when comparing measures of well-being, that five or more answer categories reflect more true variance.

Secondly, the General Health Rating Index developed for the Rand Corporation Health Insurance Experiment (Ware, 1984) was administered to participants (See Appendix C, Section II). It is a measure of general health "in one of five contexts: (1) past health, (2) current health, (3) future health, (4) health worry and concern, and (5) resistance to illness" (Read, Quinn & Hoefer, 1987, pp. 85-95). These categories define three constructs: time, resistance/susceptibility, and worry/concern. Ware (1984) refers to the measures as "ratings" which he specifies " reflect differences between patients in regard to their evaluation of information concerning their health" (p. 184). Testing for convergent construct validity, Read, Quinn and Hoefer (1987) reported moderately high correlations with other indicators of health status, with the highest

correlation between the GHRI Scale and a single four-point self-rating scale of overall health. In addition to convergent construct validity, Read, Quinn and Hoefer (1987) found significant evidence of divergent contruct validity and differential convergent validity in the GHRI. Ware (1984) reports that the validity of the GHRI has been extensively investigated. He reports that " the GHRI is a sensitive indicator of individual differences in disease status, limitations in physical and psychosomatic symptoms, and mental health" (p. 186-187). In addition, he states that there were significant correlations between the GHRI scores and measures of social contacts. The Index reliability, level of precision and ability to detect individual differences in health status concepts are among its major strengths according to Ware (1984).

The GHRI form is self-administered and easy to use with respondents indicating their opinion from a range of five possible responses "Definitely true" to "Definitely false". The time for completion of the index is 20 minutes (Read, Quinn & Hoefer, 1987). Scoring this index involves summing the numeric responses after reversing the numeric responses of 11 negatively phrased items. The score range falls between 22 and 110.

Thirdly, participating students were asked to complete Antonovsky's (1987) The Sense of Coherence Scale (SOC). It is a set of 29 questions to which respondents indicate agreement with one of seven possible answers by circling the appropriate number.

Responses one and seven indicate extreme answers (See Appendix C-Section III). Scoring of this questionnaire involves reversing thirteen specified items on the questionnaire and summing the numeric responses. The range of scores is 29 to 203.

The SOC Scale was tested for validity by Rumbaut and Colleagues in 1981, who compared their one scale measuring SOC with Anotonovsky's scale and reported " a reasonable degree of internal consistency" (Anotonovsky,1987, p. 83). In 1983, Rumbaut administered a second SOC scale along with two other instruments and Antonovsky's scale. The correlation between Rumbaut's and Antonovsky's scales was 0.639, indicating that they are measuring a similar construct presenting indication of concurrent validity (Antonovsky, 1987). Antonovsky states that the same data provide evidence of convergent, discriminant, and predictive validity. A report on a study by Dana and others in 1985 concluded that "Antonovsky's SOC Scale was consistently and significantly related to all positive health measures while being significantly and negatively related to all illness measures" (Antonovsky, 1987, p. 85). Cross-cultural validation is yet to be confirmed, but the scale is now being used in seven western countries and preliminary reports indicate that it is highly reliable and makes sense to respondents (Antonovsky, personal communication, March 9, 1989).

Fourthly, Sarason's Social Support Questionnaire (SSQ) was used "to quantify the availability of, and satisfaction with, social support"

(McDowell & Newell, 1987, p. 162). The SSQ is a self-administered scale with 27 items (See Appendix C, Section IV). Each question required a two-part answer asking for availability of and satisfaction with the support level. As the study was addressing circumstances of change, the questions in this section were prefixed by the caveat "These questions all refer to your situation *since coming to Canada*...." A number support score was derived by adding the number of support persons listed overall, with a possibility of nine persons on each item and determining the mean score for the 27 items. Likewise, a satisfaction score was determined by adding the level of satisfaction on a range of 1 to 6 (very satisfied to very dissatisfied) for each item and then determining the mean score for the 27 items.

McDowell and Newell (1987) report the internal reliability for the number scores was alpha coefficient 0.97 and for the satisfaction scores 0.94. As well, they report test-retest correlations of 0.90 for the number score and 0.83 for the satisfaction score. Sarason et al (1983) report that they found the SSQ to have "stability over a four-week period of time" (p. 130).

Reports of validity (McDowell & Newell, 1987) included factor analysis which accounted for 82% of number scores variation and 72% of satisfaction score variation. Criterion validity between the SSQ and a depression score showed significant negative correlations among psychology students. Among females, there was a negative correlation with hostility and lack of protection scales and the SSQ. The

satisfaction score and an optimism scale demonstrated a correlation of 0.57, while the number scale correlation was 0.34.

Positive events and the number scores on the SSQ showed a significant correlation. Higher SSQ scores reported more positive events. Importantly, McDowell and Newell (1987) reported that "those with more social support also felt more able to control the occurrences of life events"(p. 165). This evidence provides support for Antonovsky's conceptualization of salutogenesis. Conversely, McDowell and Newell (1987) reported that respondents with numerous negative life events and less support demonstrated more chronic illness than other groups. Significant agreement was reported between ratings of social competence and the number scale.

McDowell and Newell (1987) found this scale to be "one of the most adequate" that they reviewed, despite its newness and need for further testing of validity and reliability.

Lastly, demographic data were requested (1) to describe the population studied and (2) to determine if there was any evidence for possible relationships between the demographic variables and health, SOC and social support. (See Appendix C, Section V)

Interviews

A series of interviews employing an ethnoscience research method were used to explore conceptualization of health and change including social support resources for a subsample of four students.

Quoting Frake, Morse (1983) stated that ethnoscience is a method to discern "how people construe their world experience from the way they talk about it" (p. 8). It is based on symbolic interactionism, a theory which explains behavior in terms of meanings. Through eliciting and analyzing information on a specified topic, an investigator is able to comprehend and describe the concept from the informant's perception (Morse, 1983). Spradley, (1979) reported that it is a reliable and valid method to obtain knowedge from a cultural perception. It is based on the assumption that "knowledge of all cultures is valuable" (Spradley, 1979, p. 10) and "is a common property of human species" (p. 25). With acculturation comes shifts in the meaning of words (Basso, 1967). In order to understand cultural diversity, cultures must be described initially. This can then lead to "explanation of regulations and variations in human social behavior" (Spradley, 1979, p. 10) and to any needed changes suggested by the findings.

In the ethnographic interview, the investigator learns from the informant about activities, events, and their meanings that constitute a lifestyle through a process of repeated questioning and clarification. This process allows for a check on the reliability and validity of

responses. Ideally, this process would occur in the informant's native language.

As the ethnoscience method of investigation emphasizes depth of knowledge, small sample numbers are commonly used. Each of the four informants in this study was interviewed three times with transcription, sorting and analyzing taking place between meetings. Along with a record sheet, a tape recorder was used with consent of the informants. The tape recording was later used to validate information noted during the interview.

This study of health, change and social support followed four stages of ethnographic analysis: domain, taxonomic, componential, and theme analysis. (See Appendix D)

This ethnoscience method of research was undertaken because the investigator believed that student understandings of health, change and social support would add to the knowledges derived through quantitative analysis of SOC, health and social support.

Data Analysis

The information from the questionnaire survey was processed by hand for both the initial and follow-up testing. As the subjects were a non-probability sample, with only 11 students involved in the study, no tests of statistical significance were appropriate. Crude data with averages are presented along with graphs to give an overall description of the findings of this preliminary study.

The interview data were transcribed and analyzed using the ethnoscience research method. Domains and their components are presented in table format. Analysis of themes is stated.

Conclusion

In summary, this chapter has described the methods used to investigate the relationship of SOC, health and social support. The sample selection process was described along with the four instruments for data collection. A description of the interview method was included. Analysis procedures for both quantitative and qualitative research were presented.

CHAPTER FOUR

Overview

A presentation of quantitative data and findings are contained in this chapter. Firstly, the study population and its demographic characteristics are presented. Secondly, results of quantitative data are presented: results for the single-item health rating, the General Health Rating Index, the Sense of Coherence Scale, and the Social Support Questionnaire. Thirdly, a discussion of the instrument results organized around the research questions is presented.

Study Population

A non- randomized sample of students participated in this preliminary investigation into health, sense of coherence and support resources. It was anticipated from earlier enquiries that a limited number of students meeting the study criteria (See p. 58) would be available. All who did so and agreed to participate were included. (See Table1)

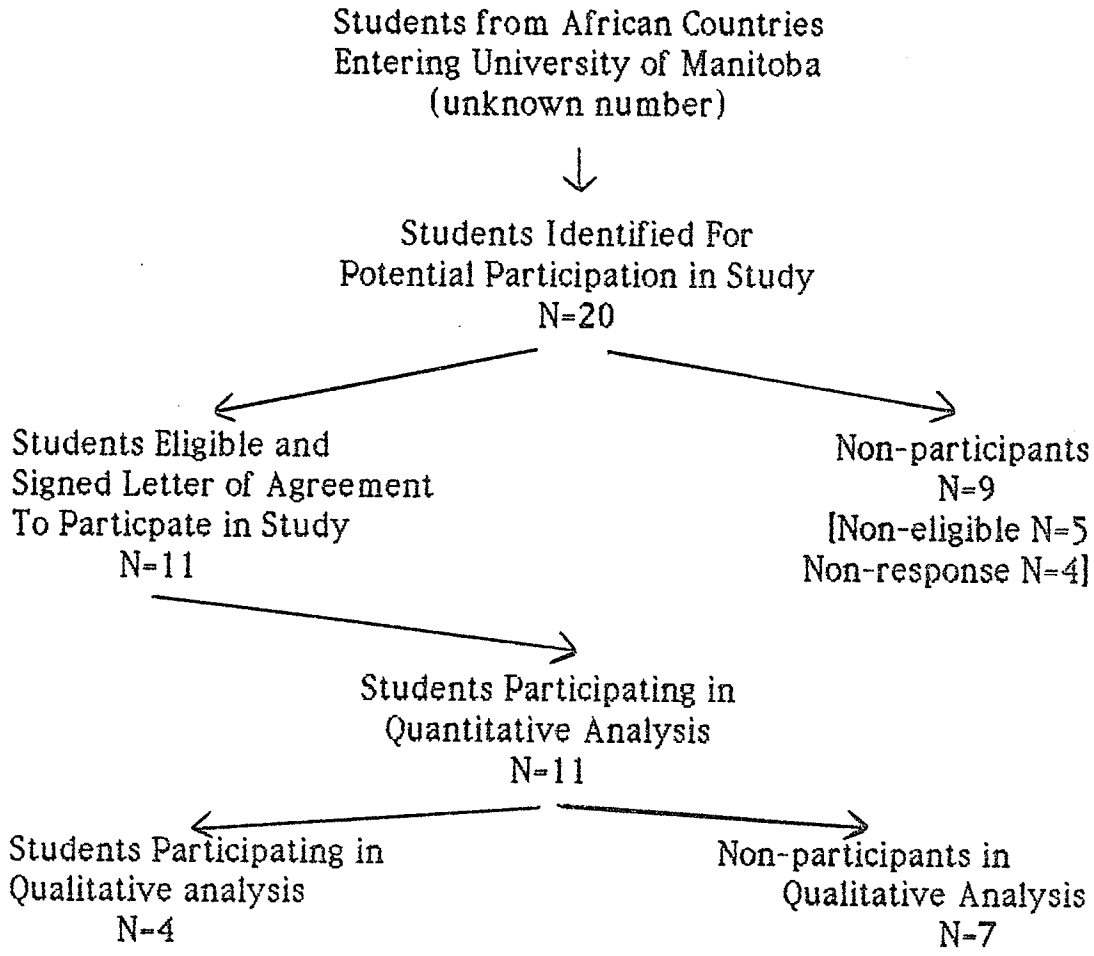
Lists of potential students for study were obtained from the International Centre for Students and the Faculty of Graduate Studies at the Universtiy of Manitoba. Twenty students were identified as arriving from African countries and entering the University of Manitoba. Initial verbal invitations to participate found 11 students meeting the study criteria and signing the written agreement to enter the study. The remaining nine students included those who did not

meet the criteria, could not be reached, or did not respond to the invitation. All were graduate students.

All participants completed the paper and pencil questionnaire October 13, 1989 and again March 2, 1990. Four participants were selected for in-depth interviews.

Table1

Participant Hierarchy



Demographic characteristics

Demographic characteristics assessed included gender, age, marital status, level of academic study, grade point, income, religion, and country of citizenship. They are presented in Table 2.

Table 2
Demographic characteristics of participants used in quantitative and qualitative data base

	Quantitative Data	Qualitative Data
	Group N=11	Group N=4
Gender	Male = 8 Female = 3	Male = 2 Female = 2
Age Range	24-28 years = 6 29-33 years = 5	24-28 years = 2 29-33 years =2
Marital Status	Married/Common-law partner = 8 Single = 3	Married/ Common-law partner = 3 Single =1
Level of Academic Study	Bachelor's Degree = 2 Masters Degree = 9	Bachelor's Degree = 2 Master's Degree = 2
Grade in home country	A = 2 B+ = 1 B = 7 C+ = 1 C = 0	A = 0 B+ = 1(?) B = 2 (?) 3 C+ = 1 C = 0
Grade in Winnipeg (Dec./89)	A = 3 B+ = 1 B = 5 C+ = 2 C = 0	A = 1 B+ = 0 B = 1 C+ = 2 C = 0
Spiritual/religious affiliation in Winnipeg	Roman Catholic =3 Protestant =5 No affiliation =3	Protestant = 1 No affiliation =3

Note: Equating home grades with standards at the University of Manitoba is problematic.

Gender

Of the 11 participants in the quantitative study, three were female and eight were male. Equal representation of male and female perceptions was presented in the four interviewees selected.

Age Range

The participants fell into two age groups, six between 24 and 28 years of age and five between 29 and 33 years of age. Of the three women, one was between 24 and 28 years and two were between 29 and 33 years. Of the men, five were between 24 and 28 years and three were between 29 and 33 years.

Marital Status

Three of the 11 participants were single while eight were married or in common-law relationships. Of the three female students, one was single, while two of the eight men were single.

Level of Academic Study

Nine of the 11 participating students were studying at the Master's Degree Level while two were studying at the Bachelor's Level. All of the eight males participating were studying at the Master's Level while only one female was studying at this level. The remaining two females were studying at the Bachelor's Level.

Religious Affiliation

While in Winnipeg eight students reported some religious affiliation. Three students were associated with a Roman Catholic church while five were attached to a Protestant denomination. Of those interviewed, only one reported specific religious affiliation although a second indicated in conversation some church attendance.

Grade Average

Equating marks from one country's academic system to another becomes problematic. In October 1989, students were asked for their grade average on the last set of examinations in their home country. Initially, the range was among percentages. Nine of the 11 students reported marks between 70% and 79% while two reported marks between 60% and 69%. When asked to attach a letter grade to the marks, some variablity was evident. In one country, marks between 70% and 79% were perceived to be an "A" while in another country the same marks were perceived as a "B" or "B+".

In March 1990, students were asked for their grade point average for December 1989. Three reported a grade point of 4, one reported a grade point between 3.5 and 3.9, five reported a grade point between 3.0 and 3.4, while two reported a grade point between 2,5 and 2.9.

Comparing the grades reported in October 1989 and March 1990, two students appear to have improved their grades from home to December 1989, five students' grades remained comparable and four students' grades deteriorated.

Of those students interviewed, one student reported improved grades, two remained stable and one reported a decline.

Country of Citizenship

Four African countries were represented among the 11 participants.

Quantitative Data

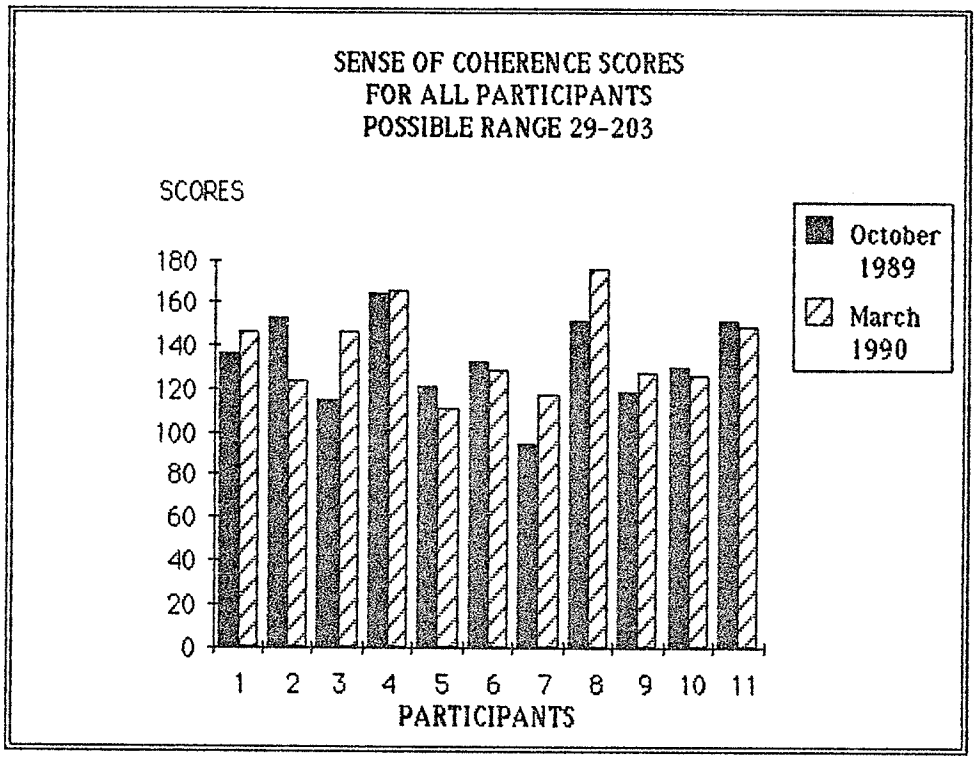
Quantitative data were collected on self-perceptions of three characteristics: sense of coherence, health, and social support.

Sense of coherence was assessed through Antonovsky's (1987) The Sense of Coherence Questionnaire (SOC), a paper and pencil test. The tests were completed within six weeks of entry to the University of Manitoba, October, 1989, and again five months later in March, 1990. With the completion of all items, the possible range of scores was 29 to 203. Each item had a possible score range of 1 to 7. A value located toward the high end of the continuum represented a strong SOC while a value located toward the low end of the continuum represented a weak SOC.

The two results for each student are shown in Figure 1. Five students showed some decrease in SOC over the five months, with the range of decrease being 3 to 27 points. Six students showed some increase with the range of increase being 1 to 32 points. One student demonstrated a drop of over 20 points, while three showed a rise of over 20 points. The scores overall showed a slight shift upward over the five months with the October 1989 mean at 133.36 and a standard

deviation of 20.334 and the March 1990 mean at 137.82 and a standard deviation of 20.188. Antonovsky (1979) stated that minor fluctuations in SOC can be expected around particular life experiences and this appeared evident in this study.

Figure 1



Note: Participant number refers to the same student in each of the figures relating to quantitative data.

Comparison of the data from this study with normative data from other studies using the SOC Questionnaire are given in Table 3 . While the results from the present study have similar low scores to other studies, the highest scores in the present study fall just below the range of high scores reported elsewhere. The Israeli national sample, New York State production workers and U.S. undergraduates were all considered to be diverse populations, while Israeli health workers and Edmonton health workers were considered to be homogeneous populations engaged in respected and fulfilling work. Antonovsky states that these well-motivated homogeneous groupings would be expected to score higher than more diverse populations. The international students tested in the present study demonstrated similar results in October 1989 to the U.S. undergraduates. However, the international student population was markedly smaller and likely more homogeneous than the U.S. undergraduate population. These international students were in an adjustment phase within their new environment trying to understand new cultural ways and to learn new systems of management. Antonovsky (1987) states that such conditions characterize the person with anxiety. He reports that anxiety scores have significant positive correlations with the SOC scale. While no test of anxiety was conducted with the international students, scores for SOC increased in March 1990 when considerable time had passed and adjustment anxiety should have eased. In fact the March 1990 mean for international students was higher than the

other diverse populations, and the range narrower reflecting a more homogeneous population. The comparison of results from studies demonstrates the strength of the SOC to distinguish among numbers of different populations and within homogeneous groups.

Table 3
Data from Studies Using the SOC Questionnaire

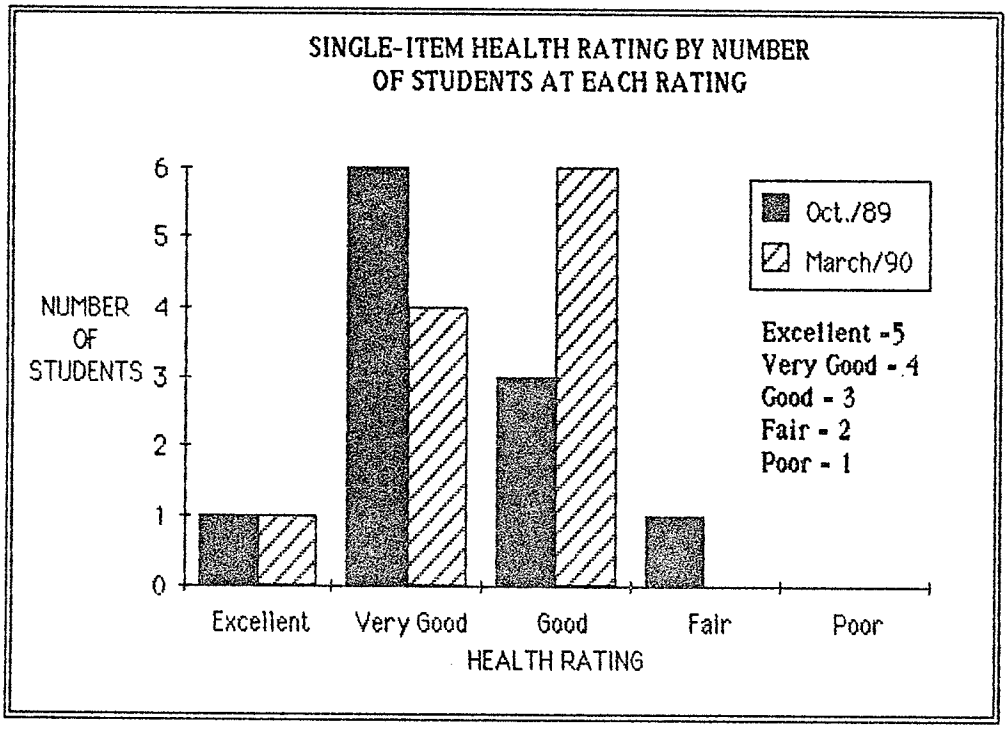
Population	N	Range	Mean	Standard Deviation
Israeli National Sample*	297	90-189	136.47	19.82
New York State Production Workers*	111	62-189	133.01	26.45
U.S. Under-graduates*	336	63-176	133.13	20.09
Israeli Health Workers*	33	116-190	151.42	17.50
Edmonton Health Workers*	108	101-192	148.63	17.15
International Students Attending U of M	11	A 95-164 B111-175	133.36 137.82	20.23 20.19

Note: A - Refers to time of administration October 1989
B - Refers to time of administration March 1990
* Antonovsky, 1987, pp. 80 - 81

Health was assessed through two self-report measures: A single-item rating scale and the General Health Rating Index. Both were administered October 1989 and March 1990.

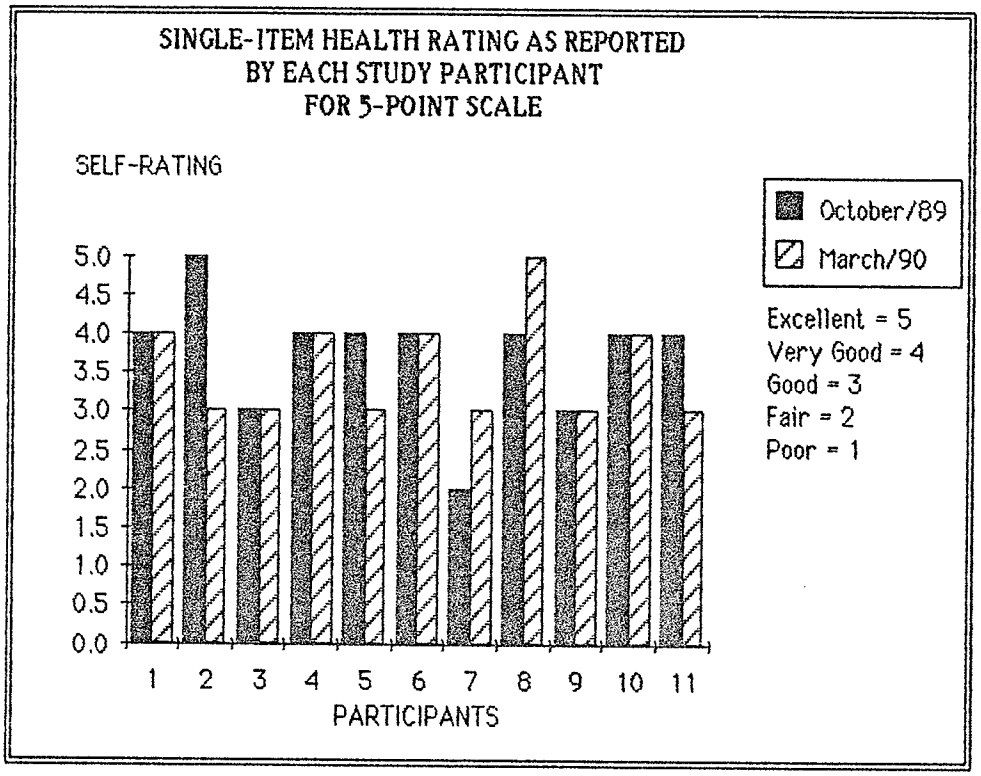
The single-item scale asked respondents to select one of five responses ranging from poor to excellent. In October 1989 the range of responses was from 2 to 5 while in March 1990 the range was 3 to 5 (See Figure 2). The mean health rating in October 1989 was 3.64 with a standard deviation of 0.809, while in March 1990 it was 3.56 with a standard deviation of 0.688, indicating a small decline in overall health, with increased consistency between participants. While six participants reported very good health in October 1989, only four participants reported this in March 1990. Three participants reported good health in in October 1989 while six reported good health in March 1990. One reported excellent health in October 1989 and one reported this in March 1990. One student reported fair health in October 1989, while none reported this in March 1990. The profile of health ratings (See Figure 2) shows a slight decline in health ratings from October 1989 to March 1990.

Figure 2



Of the female participants, two reported no change in health rating while one reported a decline from very good to good. Of the male participants, five reported no change in health rating from October 1989 to March 1990, while two reported increased rating and one reported a decreased rating. See Figure 3 for individual results compared for October 1989 and March 1990.

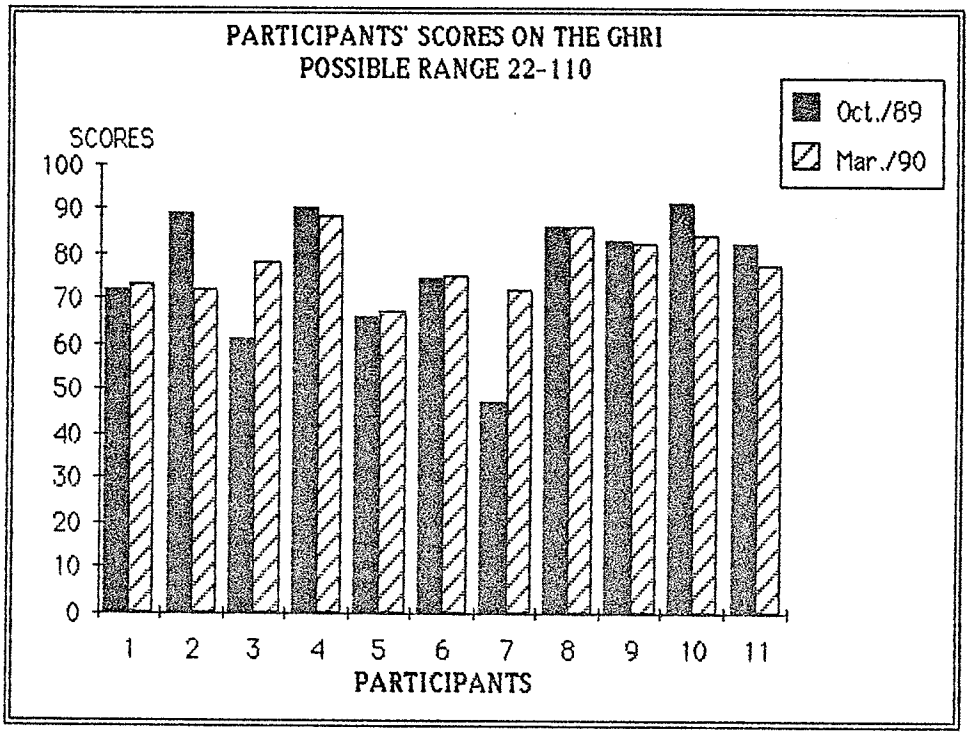
Figure 3



The second measurement instrument of health used was the General Health Rating Index (GHRI). Participants responded to thirty-two statements by choosing one of five possible responses ranging from definitely true to definitely false. For individual results see Figure 4. The possible range on the index was 22 to 110. Participant scores in October 1989 ranged from 47 to 91, while in March 1990 the scores bunched more with the range being 67 to 88 (See Figure 4). The overall mean of the GHRI in October 1989 was 78.27 and the standard deviation was 13.013, while in March 1990 the mean was

77.27 with a standard deviation of 6.198. These results indicate a slight lessening of overall health, with increase in congruency of ratings. One student reported a drop greater than 10 points and one student reported an increase greater than 20 points.

Figure 4



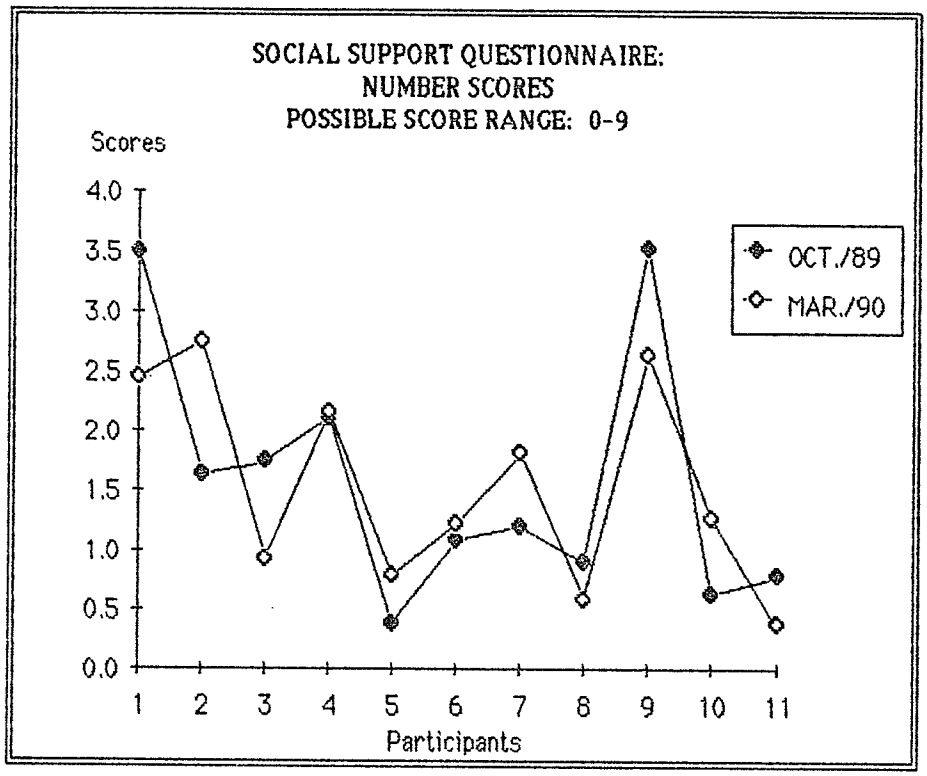
Both instruments for health measurement showed small declines in self-reports of health status overall. For the one student with a drop greater than 10 points on the GHRI, the single-item health rating dropped from 5 to 3. For the student showing an increase greater than twenty points on the GHRI, the single-item self-rating increased

from 2 to 3. Consistency of status was maintained among individual reports in all but one instance in which the single-item rating reported increased, while the GHRI score decreased. (See Table 4 for summary of results)

Social support was measured through the use of Sarason's Social Support Questionnaire (SSQ) The SSQ measured the number of support persons, relationship of support person to the student, and level of satisfaction with the support persons available. The possible range of scores for support persons was 0 to 9 inclusive, while the possible satisfaction scores were between 1 to 6 inclusive. The questionnaire was administered October 1989 and March 1990.

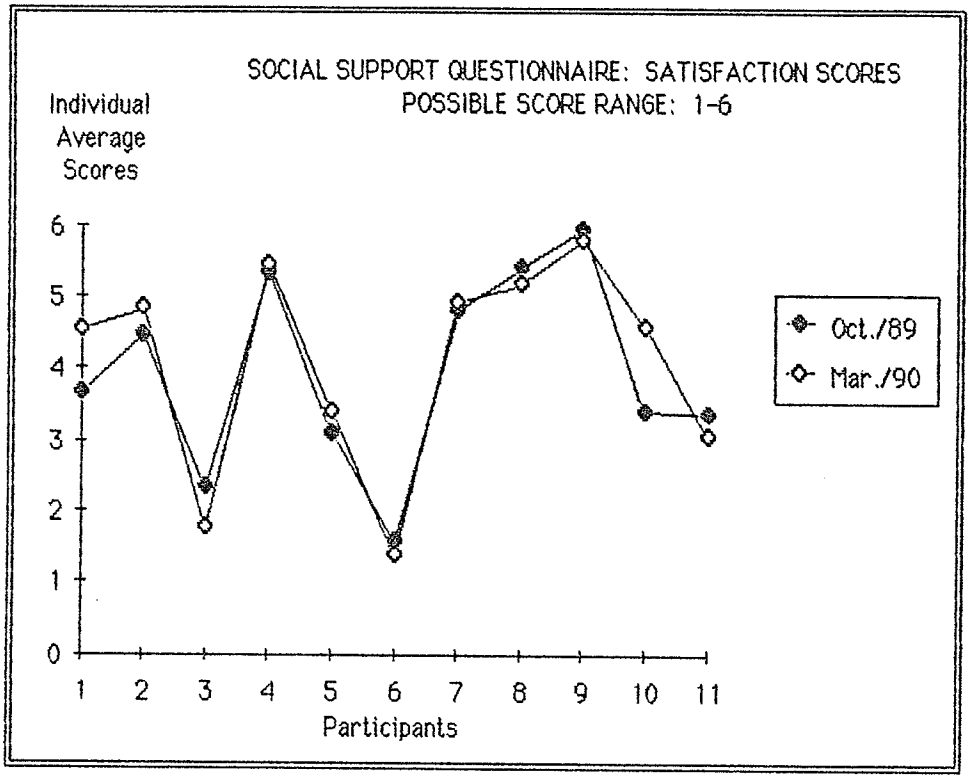
The mean number of support persons reported in October 1989 was 1.58 while in March 1990 the mean was 1.52. From October 1989 to March 1990, six students reported some increase in numbers of persons they could approach to seek help, while five reported a decrease in support persons. (See Figure 5.)

Figure 5



On examination of the relationship of support persons to the students, friends and family were predominant with 50 and 41 respectively in October, 1989 and 52 and 29 in March, 1990. Others mentioned by a minority of the participants included neighbors, host person, professor/advisor, and/or administrative officials. It should be noted that the question specified support persons *since coming to Canada*. Despite the large number of family persons recorded, only one participant was known to have family in Winnipeg. Participants reported verbally that calling home was a frequent activity.

Figure 6



The satisfaction level of support persons was high both in October 1989 and March 1990 with a consistent mean of 4.09. Inspection of satisfaction scores in October, 1989 and March, 1990 revealed that six students demonstrated some increase while five demonstrated small decreases (See Figure 6). Of the six demonstrating an increase in satisfaction, five reported an increase in numbers of support persons. Of the five reporting a decrease in satisfaction, four reported a decrease in numbers of support persons. Although the overall

numbers and satisfaction scores do not appear to be positively related,the direction of score change appears to be parallel.

Table 4

Summary of Data from Health Ratings, Sense of Coherence and Social Support Measures

	Mean		S.D.	
	Oct./89	Mar./90	Oct./89	Mar./90
Single-item health rating	3.64	3.55	0.809	0.688
GHRI	78.27	77.27	13.07	6.20
SOC	133.36	137.82	20.23	20.19
SSQ-numbers	1.58	1.52	1.10	1.48
-satisfaction	4.09	4.09	1.37	1.48

Discussion of Quantitative Data of Health, Sense of Coherence and Social Support Measures

The discussion of the quantitative data is organized around the research questions investigated (See Tables 4 and 5 for summary of results). As the sample was not randomized, the results cannot be generalized to all students from African countries. Rather, the results can serve to generate questions for further investigation and may

provide useful insights to guide program development for orientation and adjustment of students from these countries in the future.

Table 5
Summary of Data
from Health Ratings, Sense of Coherence, Social Support and Grades by Participant

Partici-pant	Single-item health rating 5 - excellent 1 - poor		GHRI Range: 22-110		SOC Range: 29 - 203		SSQ N - number S - satisfaction (1-6) N	S	(Means) (0-9) N	S	Grade at Dec. 1989
	Oct.	Mar.	Oct.	Mar.	Oct.	Mar.	Oct.	Oct.	Mar.	Mar.	
1	4	4	72	74	136	146	3.48	3.67	2.44	4.55	A
*2	5	3	89	72	151	124	1.63	4.48	2.74	4.85	A
3	3	3	81	78	115	147	1.74	2.33	0.93	1.78	A
4	4	4	90	88	164	165	2.11	5.33	2.15	5.44	B
5	3	3	66	67	121	111	0.37	3.11	0.78	3.41	B
6	4	4	74	75	133	129	1.07	1.59	1.22	1.37	B
*7	2	3	47	72	95	117	1.19	4.81	1.81	4.93	C+
8	4	5	86	81	151	175	0.89	5.41	0.59	5.19	B
*9	3	3	83	82	119	127	3.52	5.96	2.63	5.81	C+
*10	4	4	91	84	130	126	0.63	3.41	1.26	4.59	B
11	4	3	82	77	152	149	0.78	3.37	0.37	3.07	B+
Mean	3.64	3.55	78.27	77.27	133.36	137.12	1.58	4.09	1.52	4.09	
S.D.	0.809	0.688	13.05	6.12	20.23	20.19	1.10	1.37	0.09	1.48	

Note: * Denotes informants participating in qualitative study.

Research Question One

The first question stated that global sense of coherence (SOC) for international students will remain relatively constant on entry to the Universtiy of Manitoba and five months after entry. Data from the research demonstrated stable results overall with the results from four individuals demonstrating a change of over 20 points, three increasing and one decreasing. While the SOC scale was not intended to be used to study component interrelations in its present construction format (Antonovsky, 1987), examination of the component parts of those results indicating over a 20 point change showed manageability to be a changing factor in all areas. Of the three students with increases of over 20 points, all had increased scores in the areas of manageability with different results in the areas of comprehensibility and meaningfulness. Two of these students had what Antonovsky referred to as rare profiles, that is, they were low on comprehensibility intitially, yet high in manageability. Both these students had increases in meaningfulness scores. The one student with a decrease of over 20 points demonstated large changes in manageability and meaningfulness while comprehensibility remained stable.

Antonovsky stressed two factors which are important to these results: (1) manageability seems contingent on comprehensibilty, and (2) meaningfulness is central to the motivation to seek out resources. While each profile was unique, it seemed possible that meaningfulness

was critical for these students, for where meaningfulness improved, so did the manageability and the SOC. Where meaningfulness declined, likewise did the manageability and the SOC. Noteworthy is Antonovsky's suggestion that flexible boundaries to one's life space may play an important role in maintaining a strong SOC. The SOC Scale, however, did not measure this variable which seems relevant to the cultural change situation of these international students. The interviews exploring management of change offered some insights into flexible coping with change. (See Change, Chapter 5).

The stability of the overall results for tests of SOC from October 1989 to March 1990 may indicate that these international students do indeed have a pervasive enduring feeling of confidence that the demands being made of them are challenges worthy of investment and that with time, manageability comes under more control.

Research Question Two

The second question stated that health as measured by (a) the General Health Rating Index (GHRI) and (b) the single-item self-rating of health will remain relatively constant on entry to the University of Manitoba and and five months after entry. The data demonstrated small changes in ratings.

The self-rating item revealed similar means in October 1989 and March 1990, testing 3.64 and 3.56 respectively. Examination of the profile of the results indicated a tendency downward in rating of health with more students rating themselves as "good" versus "very

good" and "excellent" in March compared with October. The single-item health ratings have been found to be more stable over time than Current Health ratings as found in the GHRI (Davis & Ware, Jr., 1981). This is believed to be due to the coarseness of the response scale. Small health changes were reflected more in Current Health scores of the GHRI. However, the single-item health rating substantially reflects both physical and mental health with more emphasis on physical health. Ongoing observation of the health status of these students would be desireable in order to note any trends in declining health.

The GHRI scores changed slightly from October 1989 to March 1990 with a decline in mean of 1. The GHRI reflected General Health inclusive of Current Health, Prior Health, Health Outlook, Resistance to Illness, Health Worry/Concern, and Sickness Orientation. Of the six subcategories, Current Health is considered to be the best measure of physical and mental health with roughly equal weighting (Davies & Ware, Jr., 1981).

Two students demonstrated changes in their GHRI of over 10 points. For the student whose Index score increased over 20 points, increases were noted in all subcategories except Sick Orientation, with the largest change in Prior Health. Current Health rating increased while Sickness Orientation decreased. The single-item self-rating of health increased, supporting the upward movement of the Index score. For the student whose GHRI dropped over 10 points, minor fluctuations were evident in Prior Health, Health Outlook and

Resistance and Health Worry, while Sick Orientation doubled and Current Health rating decreased remarkably. Based on this information one may hypothesize that this student had an actual change in physical or mental health currently in progress. The single-item self-rating of health decreased, confirming the downward movement of the Index score.

The changes in health ratings were small overall, but noteworthy was the evidence of declining health rating overall and the important changes of Current Health ratings for two students. As Current Health ratings, the GHRI and the single-item rating are useful predictors of the use of medical services, awareness of shifts and trends could signal health service professionals to implement health support strategies.

Research Question Three

The third question stated that there will be a positive relationship between the two measures of health (a) the GHRI and (b) the self-rating item. The data demonstrated remarkably stable and parallel results between the two measures.

Davies and Ware, Jr., (1981) reported that the Current Health scale in the GHRI and their single-item rating of health reflected respondents' present state of health. Both the GHRI and its component part, Current Health, reflect the core general health construct. Both these measures paralleled the coarser single-item rating. All these indicators reflected physical and mental health with the GHRI

providing a finer measure of these two aspects of health. As the results were parallel in all instances but one, depending on the purpose for measurement, one measure could be used alone with some degree of confidence.

The one student with divergent results increased from a "very good" to "excellent" score on the single-item rating, while decreasing 5 points on the GHRI. However, his GHRI score remained above the mean in both October 1989 and March 1990 and the Current Health score dropped by only 1 point. As the single-item rating is a coarser measurement, the difference in scores between it and the GHRI would require further investigation if anything noteworthy was to be found.

Research Question Four

Question Four stated that the level of Sense of Coherence (SOC) will be positively related to a measure of social support. The data revealed a mixed relationship between SOC and social support.

Social support was defined as "the existence or availability of people on whom one can rely" in terms of numbers and satisfaction with those available. Clearly, the numbers of support persons was negatively related to the SOC in most incidences within this study. While some researchers have suggested that mere numbers of others is sufficient to buffer stress, others have suggested that there must be a quality to social support in order to act as a buffer (Antonovsky, 1981). The satisfaction scores within this study would support the latter.

Inspection of individual social support scores revealed the following complexity of relationships:

-the student with the lowest SOC scores over time demonstrated decreasing social support number and satisfaction scores;

-one student with a decreased SOC score over time had an increasing social support number score and a decreasing satisfaction score;

-one student with an increased SOC score had a decreasing social support number score and an increasing satisfaction score.

Unraveling this complicated scenario clearly requires further investigation. It is not clear what is the mediating variable between (1) numbers of social support resources and satisfaction with these resources and (2) SOC scores and social support scores. Sarason (1983) pointed out that correlations between numbers of support persons and satisfaction with the level of support are low, indicating that social support is not a unitary concept. Results from this study support this conclusion.

According to Antonovsky (1981), social support is one resource important to manageability, a component of SOC. Manageability is based on comprehension of stressors and the meaningfulness of the situation. For students within this study, comprehension and meaningfulness were most stable while manageability demonstrated the most variability. One may hypothesize that student management

of the numerous changes is an ongoing process involving trial and error. This process requires awareness, knowledge, self-efficacy, skills, reinforcement and resources. The low numbers of social support persons may indicate that management in this area is still not highly developed within the new cultural content. Verbal reporting of frequent telephone calls home and the number of family support persons reported in the questionnaire would support this conclusion. The high satisfaction scores may reflect (1) an interrelationship with the relatively strong SOC demonstrated overall and (2) student ability to cope independently when required. Generally, these students have come from a cultural background with greater interdependence than that of western societies where individualism is extolled. Their satisfaction with the few support persons, while surprising, may point to flexible coping strategies involving use of other resources coupled with a strong ego identity. The drop in number of family support persons reported in March 1990 may indicate a level of adjustment to the new environment and development of alternate satisfying relationships in Winnipeg. While social support provides for life experiences which promote maintenance of a strong SOC, the lack of social support for the students within this study may indicate that their relatively strong, previously formed SOC is guiding them in appropriate coping strategies. Kobasa called this "transformational" coping (Antonovsky, 1981, p. 35).

Research Question Five

Question Five stated that measures of health will be positively related to a measure of social support. Similar to the relationship between SOC and social support, the relationship between health measures and social support as demonstrated by the scores within this study was variable. Overall, both measures of health, the GHRI and the single-item rating indicated slight downward movement yet maintaining at good or better health levels. Changes in the two measures were parallel. However, measures of social support revealed a slight decrease over time in the already low number of social support persons while satisfaction remained constant and moderately high over time. This evidence demonstrates a positive relationship between overall health and support satisfaction only. The relationship between overall health and support numbers appears negative.

Inspection of individual responses revealed that the one student with an increase of over 20 points in the GHRI score, also had an increase in the single-item rating of health, the number of support persons and satisfaction with support. The student with the drop in both indexes of health reported an increase in numbers of social support persons and an increase in satisfaction with support. Examination of these individual scores revealed no clear relationship.

Kobasa (1982) suggested that social support promotes health when others provide instrumental support, reinforcement of good health

practices, and recognition and closeness. It is not just the presence of persons but what they do that counts. Following this logic, any number of social support persons could provide required assistance. This hypothesis supports the overall results obtained in this study with the health ratings being good, the social support numbers low and the social support satisfaction high.

As Moos suggested, it is the perception of one's environmental resources which affect coping and health (Antonovsky, 1981). Still, it must be noted that assessment of social support (Sarason et al, 1983) has indicated that people high in social support experience more positive life events, view life more optimistically, and have increased performance over those with low social support, while those low in social support have "difficulty in persisting on a task that does not yield a ready solution" (p. 137). Therefore the implications of the low social support for the participants of this study may be far-reaching. Examination of ways to enhance supportive relationships for these students may serve to maximize their performance and their overall health status.

With social support numbers low, it can be deduced that other resources may be influencing the stable health status. These other resources may include personal characteristics, knowledge, income, religion, coping strategies, ego identity, health practices, magic and commitment. While all these were not quantified, income and religion were noted. All students reported a stable monthly income and 73%

reported religious affiliation in Winnipeg. Evidence of religious participation by the students may be another factor supportive of the stable SOC and health ratings demonstrated, for church attendance has been found by Comstock and Partridge (1972) to be correlated with reduced anxiety and positive affect. Along with the financial security and religious continuance, a strong ego identity and effective personal coping strategies are required to manage the numerous cultural and educational changes. Such evidence was apparent in the interview data.

Research Question Six

Question Six stated that the level of Sense of Coherence will be positively related to the measures of health. Both the single-item self-rating of health and the General Health Rating Index (GHRI) showed small declines in overall health status from October, 1989 to March, 1990. The overall scores from October, 1989 and March, 1990 for the Sense of Coherence Questionnaire (SOC) showed a small mean increase. The mean change in health status scores and in the SOC scores were both small and likely non-significant.

On examination of the relationship of health and SOC scores for individual students, nine had parallel results between health and SOC (See Table 5). One of these students had large decreases in health status and SOC scores while one had large increases in health status and SOC scores. One student of the 11 participating had stable health status scores while SOC scores had a large increase. Another student

had an increase in the single-item self-rating of health, a small decline in GHRI and a large increase in SOC scores. The overall pattern of results supports the Salutogenic Model of Health (See Appendix A) put forward by Antonovsky (1987) wherein health and SOC are positively related. For the two students with slight variations from the overall stable results, time may be a factor in that ratings of SOC have increased while health ratings remain stable or are beginning to shift upwards. As manageability has been a major factor for these two students according to the results, changes in health may follow with increasing negentrophy and mobilization of cognitive, emotional, neuroimmunological and material resources. The data do not explain which health-enhancing activities were used in coping nor how health influences sense of coherence. The strong evidence of stable or parallel movement in individual scores does support the positive relationship between sense of coherence and health.

CHAPTER FIVE

Qualitative Data

This chapter will present the findings from the ethnoscience interviews which bring understanding to the meaning of health, and to the scope of change including that of social support resources for a subgroup of African students. The interviews began in November 1989 and ended in February 1990. The data collection evolved through four stages: (1) identification of the domain, (2) identification of categories and subcategories, (3) analysis of attributes, and (4) the formulation of summative statements. Transcription and analysis were conducted between interview sessions. The findings presented are a composite of the data from the four informants, two males and two females.

The Domain of Health

Health has been variously understood by people to stand for physical disease states, social dis-ease, financial distress, physical disability and other negative conditions as well as more recently a resource for daily living. As studies of international students' health lack definition of the concept understanding of their emic view in order to create applicable etic categories is essential to the continuance of research in this area.

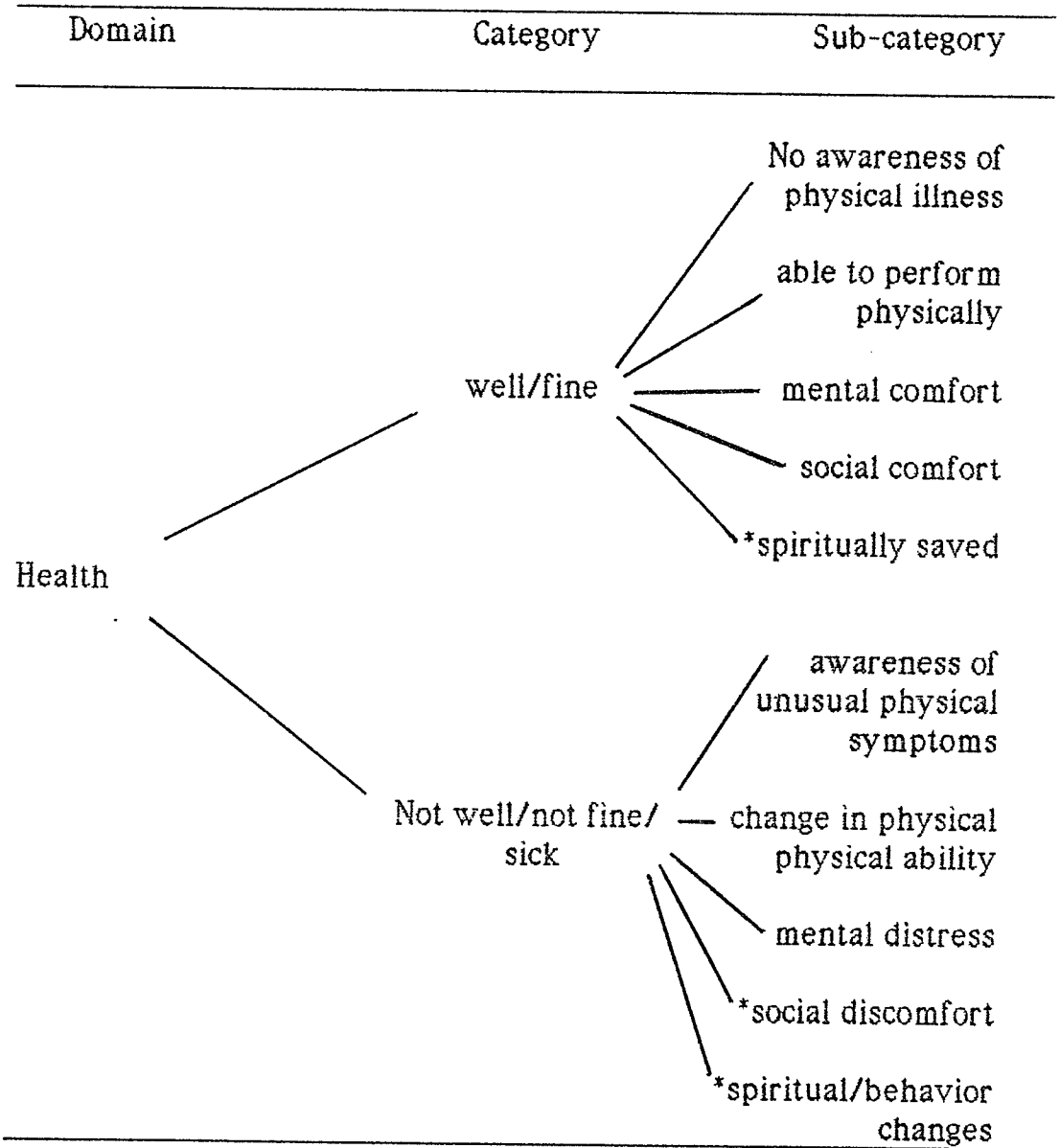
Initially, students were asked to identify references to health in their own language and to use these in sentences for the researcher. (See question guidelines in Appendix E.) This process served to

ground the informants in their own cultural context as well as to help them understand that the researcher wanted to understand the concepts from their point of view. Informants were encouraged to use the terms with reference to real life contexts through responding to culturally situated questions with friends and family and grand tour descriptive questions of typical days or weeks. Following transcription and analysis of the initial interview, tentative domains were established. Domain worksheets (See Appendix F) were constructed in preparation for question development for subsequent interview sessions.

The domain of health was expressed in a dichotomous manner *well/not well* or *fine/not fine*. Exploration of the domain through descriptive, cultural and contrast questions identified the subcategories of health. (See Figure 7)

Figure 7

Major Components Describing Health



Note: * Expressed by some informants only.

All four informants acknowledged the categories of *well/fine* and *not well/sick*. These categories could be further distinguished as physical health states, mental or psycho-social comfort levels and by some as spiritual conditions.

The students described health or being well as follows:

> Informant #1 You would say life or health. But I think there's no distinction between the two.
>
> . . . If it's life so that it has to do with the economy it's still the same word.
>
> Informant #2 I think when there's nothing wrong with you, you know that you are well.
>
> Informant #3 on general health: Sickness of the mind, feeling down, unhappy, and feeling happy relate to the triumvirate - the mind, the soul, and the physical part of the body.
>
> Informant #4 Healthy if I am not feeling any place which is hurting me

Frequent references throughout the interviews were made to knowing that one was healthy when there was no apparent illness. One informant contrasted the concept of sickness with being "super well". It was expressed as follows:

> If you're taking a course which you consider very difficult and you think you'll not make it to the exam and surprisingly you end up getting something like an "A", you feel somewhat

relieved of the burden or of the worries . . . you'd end up going for a social.

Informants distinguished between *not well* and *sick* where sickness referred to a specific illness.

Informant #1 When you say 'I'm not feeling well', it could be the same as having a general body weakness, but when you say you have diarrhea, you mean you have actually found out what your problem is.

. . . the aspect of life that includes other issues apart from health would not be fine - would not be well, so you would not be well if you have problems you have to think about.

. . . you're not sick, but because you have to think about the person who is sick, you might not be well.

Informant #2 . . . one's generally not well when you're not feeling alright, or something like that, but for example if I had malaria, then I think that's when I would use (meaning sick) - this is more specific when you know what you are suffering from.

Informant #3 I'm not feeling well - it's so general because you don't know whether they are bodily sick or just a mental sickness.

Informant #4 On not feeling well/sick: The difference according to me is like, maybe you are not feeling active, you

are feeling lazy or general malaise. This word (specific reference), you definitely know you are sick.

Sickness was understood generally to refer to a specific illness either physical or mental while "not well" referred to a general body weakness or malaise.

Further exploration of emic expressions revealed subcategories of health: physical, mental and spiritual.

Physical Health

In reference to physical aspects of health, informants reported as follows:

> Informant #1 . . . If you're upset and it causes sleep disturbances or eating disturbances, then it is related to health.
> Informant #2 if you used to go to the gym every Wednesday to do some exercises, and because you're . . . all of a sudden you feel you can't do it. I mean you know after exercises you feel extremely bad or that kind of thing, then I think you can use this to describe the change in your physical ability.
> Informant #4 I think it's the physical ability which makes me think I'm still healthy.

Mental Health

In reference to mental aspects of health, the informants reported as follows:

> Informant #1 as long as it (feeling lonely and mental state) interferes with sleep, then it has a bearing on health. . . . we left families and I always want to know how they are getting along. If you don't know . . . then I get worried and I tend to think more about (them). It creates mental stress . . . .
>
> Informant #2 if I have very little to worry about I think I would say I was mentally healthy.
>
> Informant #3 you cannot really say what the problem is. It may be stress . . . this relates to the psychology bit of it.
>
> Informant #4 My example might be I've not slept properly because I've been thinking - I'm worried . . . my mind is not at ease - it's not performing well because - in any case it's not healthy. . . . .
>
> . . . if you've done an exam and it doesn't come out well - I mean you feel so bad and then you just feel 'Now what will you tell your people?' You have to go back because you failed an exam . . . I was feeling very low spirited.
>
> . . . when you're healthy it's very easy to be happy . . . . Like somebody will look at you and say 'You don't look happy today', and then that's when you could explain you are not feeling well, but normally it's not a symptom of my disease - unhappiness.

Worry was a major contribution to mental distress through its impact on sleep and performance. Mental health was primarily described in the negative as was general health. Less frequently, happiness, readiness to smile, personal achievement and positive interaction with the environment also were commented on in relationship to health.

Spiritual Health

While references were made to spiritual health by two informants, when these were pursued for descriptions and exemplification, the informants expressed difficulty with knowing what to say. References to spiritual health were as follows:

> Informant #2 Well, if you are a Christian, it means you are saved, but, if you believe in traditional beliefs I think . . . how can I put it? . . . it's difficult . . . . We're sort of in between western culture and the traditional culture . . . I don't understand the traditional aspects, just as I don't understand the western culture.
>
> . . . some people they treat the mental and spiritual as one.
>
> Informant #3 I think this issue of the spirit being part of one's health or rather contributing to it is what you've been taught to believe, because I can not really say I have a spirit. I was taught through religious teachings and church-going that there's a spirit.

> . . . If you are bodily healthy and you are happy, then I would conclude that . . . your soul is also happy.

Being "possessed" was one way expressed which identified spiritual illness.

All informants seemed to distinguish between "being well" and "being healthy". Health was more frequently used to refer to concrete knowledge, while 'being well' seemed to refer to general feelings.

The following is an example of the differentiation between "well" and "healthy":

> Informant #4 Sometimes you feel quite okay - you feel quite well, but when you go through a medical check-up, you have a few problems. . . . I think 'healthy' is kind of a deep one you have to check thoroughly.

Negative health states such as digestive upsets, diarrhea, skin problems and/or eye problems were readily identified. Pursuit of a number of semantic relationships to health revealed more tacit understanding of the intricate nature of health.

Semantic Relationship: Ways to Stay Healthy

Semantic relationships to health were identified from the analysis of the initial interview. These relationships were confirmed in the second interview session. Probes were used to expand the terms within a domain related to the specified semantic relationship. The semantic relationship (means-end) of "ways to stay healthy" was

pursued in depth. These are presented in relationship to the categories of positive health previously identified.

Activities directed toward maintainance of physical health included having adequate meals, maintaining personal and environmental hygiene, getting exercise, having enough sleep and wearing appropriate clothing for the weather conditions (see Figure 8). Three of the informants reported that as course work increased, exercise decreased. The following comments illustrate what the informants identified as being important activities to maintain their physical health status.

Statements on maintainance of physical health status:

> Informant #1 you have to have a general - a high general standard of hygiene . . . the room should be clean in which you are sleeping . . . you should have fresh air in the house . . . moisture in the air. . . you have to keep out the cold . . . be active . . . proper food preparation and type.
>
> Informant #2 if you don't eat good food, you can end up with malnutrition or some disease due to bad diet. I know that if you're drinking you have got a lot of problems. And if you're promiscuous, you can end up getting some venereal disease or that kind of thing. And hygiene . . . you see places, it's dirty, you end up getting something like T.B.

Figure 8

WAYS TO STAY HEALTHY: Physical

Domain	Positive Health				
Category	Physical				
Sub-Category	Diet	Hygiene	Shelter/ Maintain Body Temperature	Exercise	Relaxation/ Sleep
Actions	Eat nutritionally balanced meals Eat well-prepared food	Maintain personal cleanliness Maintain clean environment * Have fresh air * Consider risks of STD & AIDS	* Avoid exposure to extreme weather Wear appropriate clothing for weather Seek adequate housing	Plan exercises Work at tasks * Participate in play * Walk	* Plan ahead * Complete work on time * Get enough sleep
Note: * Denotes actions designated by one or more Students but not all four.					

Informant #3 I was considering the basic requirements of the physical body and that's why I put you eat properly, you keep yourself warm - that's the clothing, the housework . . . and exercises like going out, interacting with other people and doing homework.

> informant #4 maybe do exercise, but I always think the most important thing is the food you eat - you know that will act on the brain. Also if I exercise - the reading, the working . . . but it has to originate from good food and trying to keep yourself comfortable either by wearing warm clothes, depending on where you are, and not exposing yourself to extreme weather.

Physical and mental health variables interacted as one informant's remark demonstrated:

> (Health) is a function of two things: academics and nutrition. It depends on how much pressure I have. If for instance, we are coming to the end of a term. I tend to think more about the academic aspects of life than about nutrition. I don't have much time to go around looking say, for vegetables or salads, so I go into a shop and don't find what I need, I feel I don't have time to go to another shop to look. . . I think after the exams I'll have time to say what I have to have in terms of nutrition and in terms of exercise.

Activities directed to maintainance of mental health included ringing home, talking to friends, visiting friends, attending socials, securing sufficient sleep and relaxation, working at all tasks especially academic work (see Figure 9).

Figure 9

WAYS TO STAY HEALTHY: Mental/Social, Spiritual

Domain	Positive Health					
Category	Mental/Social				Spiritual	
Sub-Category	Academic	Social Communications	Rest/ relaxation	Other behaviors	Personal	Group experience
Actions	*Attend classes *Balance work plan *Work at academic problems	Ring home Visit and/or talk to friends Participate in groups/socials *Receive letters from home *Make friends *Have satisfying relationship with one partner *Seek out neutral person to discuss concerns	*Have a good night's sleep *Take a break-watch TV, listen to music, dance, Shop, travel	*Remind self - "I am loved." *Avoid drugs, cigarettes and alcohol *Hold positive expectations of life	*Feel closeness of God in room or in church	*Practice good behavior-no drinking, smoking, or adultery *Go to church *Attend church activities

Note: * Denotes actions designated by one or more students but not all four.

Statements on maintaining mental health status included:

Informant #1 If I have an assignment that I have to complete or an academic issue that I have to think about, if I don't find a solution to that problem, then I'll have some kind of mental stress. It's more like thinking with a view to finding a solution.

> If I find a relationship that has sex as a compliment, I find it more satisfying and in that way I think - well you know, I cannot feel a direct relationship to health, but I think it would be that, because not only would you look after yourself . . . take precaution against AIDS, if the relationship itself satisfies you.
> Informant #2 so if you do very well in your school, you're kind of mentally free, you have nothing to worry about - like they'll send you back home if you haven't done very well . . . . You'd be received (at home) but I think you would be a laughing stock . . . and everybody would be pointing a finger at you.
> Informant #3 To know somebody somewhere cares for you. I thought this should be the strongest of them all because it gives you the courage and the stamina - it places you above the levels that sometime you feel like you are really losing your balance and you just remember somewhere in your mind that somebody cares for you . . . loves me the way I am - so I think this is the biggest of all.

Ringing home was a frequent activity of all the students. As one informant reported,

> we left families . . . and I always want to know how they are getting along. . . . then I get worried. It creates mental stress and sometimes if there was a trouble then you might have to send some money or something like that which means you might have to cut down on some of your expenditures.

Contact with others was a major consideration for all the informants, particularly the contact with family and friends at home. Interacting with other people was seen as a way to happiness which was recognized as a big part of being healthy. One's happiness was seen as one way to tell you are healthy. While students recognized the importance of social contact, learning the unspoken rules of interaction within the culture of Winnipeg offered a challenge. (See Domain of Change.)

Activities supporting spiritual health consisted of attending church and/or practicing 'good' behavior such as not smoking (see Figure 9).

Statements on maintaining spiritual health included this:

> Informant #2 like you go to church if you are spiritually well. I mean you're safe if you're saved - if you are not a pagan.

One student expressed an interaction of physical, mental and spiritual states. The following is an expression of such:

> Informant #2 if you don't smoke, this was because the church does not allow smoking. Then you won't have those problems related with smoking. And I think mentally you feel you are clean.

Statements on economic health concerns related primarily to situations in the home country where services for health care were at a premium and incomes were low. Mention was made of costs of personal items in order to cope with health needs while here in Winnipeg. One student emphasized the need to exercise some

financial discretion and to set aside money for emergencies while here, as there is no one to rely on for help.

Discussion

Exploring the psychological reality of the informants' worlds related to health revealed that the meaning of health had a large physical component. Initially, health was described in the negative, that is, the absence of physical disease. The questioning process revealed the relationship between mental health and disturbances of sleep, loneliness, worry being in a relationship and knowing one is loved related to mental health. For some, spiritual health was said to be a state of "being saved" or a result of physical health and happiness.

The informants identified ways to maintain physical, mental and spiritual health. Maintainance of physical health involved a broad range of activities including hygiene practices, eating, maintaining warmth, exercise, sleep and relaxation. Activities directed to maintainance of mental health focussed on establishing and maintaining satisfying relationships, academic work, rest and positive self-talk. Spiritual health was nourished by attending church and practicing "good" behavior.

Summative statements on health were derived from the data analysis. These are presented as follows:

1. Specific statements about the cultural domain, health:
    a) Awareness of physical ill-health is a major component in self-assessment of overall health.
    b) Awareness of (1) one's need for caring relationships, (2) worries and (3) academic performance are major ways to assess mental health.
    c) Being "saved" and having body health and happiness are ways for some students to assess spiritual health.
    d) Hygiene practices, eating well, maintaining body warmth, exercising, ensuring relaxation and sleep were important ways to maintain physical health.
    e) Establishing and maintaining satisfying relationships, fulfilling academic requirements, rest and positive self-talk were important ways to maintain mental health.
    f) Attending church and practicing "good" behavior were possible ways to maintain spiritual health for some informants.
2. General statements about the specific cultural group.
    a) Physical and mental health are core components of overall health for the African informants.
    b) Awareness of the physical body status is the primary component in self-assessment of overall health for the African student informants.

3. Universal statement

> The choice of activity to maintain health differs according to the assessment of health status, the perceived area of need and the *meaning* of the need and known alternatives to meet the need.

There was strong agreement between the students' perceptions of physical and mental health suggesting cultural consistency of meaning. Spiritual health conceptualization was less consistent.

The Domain of Change

While emic knowledge of health and social support concepts were directly investigated, sense of coherence was researched more indirectly, that is, as a function of the management of change. However, one informant expressed evidence supporting the sense of coherence concept and its impact on health as follows:

> I wanted to say that before I take any deliberate step to look after my health, before I seek assistance, before I go to the hospital, before I look for tablets or even just taking a nap, I only want to think that my body will fight whatever if I'm not feeling well.

Another informant stated, "I wouldn't be sacrificing so much if I didn't see my future as being better that what it is." Both informants verbalized a strong global orientation that they had some control over

events and that their life and the lives of their families would be improved by their efforts.

Change was pursued on two accounts. Firstly, inherent in the concept of change is the notion of adjustment. As the international student was perceived to be faced with many changes, knowledge of what is accepted as a routine stimulus and therefore posing no problem in adjustment versus that which becomes a stressor demanding increased energy and creative action, is fundamental to understanding and supporting positive adaptation. Change carries with it potential stressors. A stressor is "any demand made by the internal or external environment of an organism that upsets its homeostasis, restoration of which depends on a non-automatic and not readily available energy expending action". (Antonovsky, 1988, p. 72) Stressors introduce entropy or disorder into the human system. To cope with constant entropy, humans draw nourishment from their environment. This leads to the second important reason to pursue change: to learn how students draw nourishment from their environment, that is, how they cope with the identified stressors. If generalized resistance resources are characteristic phenomena or relationships that assist in creating order and meaning out of the entropic stimuli, (Antonovsky, 1980), identifying what these resources are will assist in creating a positive adaptation environment for these international students. Therefore, change with its inherent entropic stimuli or stressors has a potential to create dis-ease within

the human, but the student with the strong sense of coherence will likely find ways to manage the stressors, maintain good health, and be academically successful.

The topic of change was pursued with the four informants through a series of direct and indirect questions (see Appendix D). They were asked to describe events which occurred from the time of arrival in Winnipeg. These included getting settled in the city and within the university. Through descriptive questions (grand-tour, mini-tour, example and experience), informants revealed their personal experience of change. The semantic relationship of strict inclusion, that is, kinds of change, were confirmed through structural questions.

Change in four major categories became apparent: physical environment, social environment, university/academic environment and public services. Continuous exploration of change through descriptive, structural and contrast questions on daily happenings revealed ongoing awareness of a number of subcategories within each category (see Figures 10 and 11). Initially each informant cited experiences which were surprising and different to them as they settled in Winnipeg. Some of these changed in priority over the time of the three interview sessions as adaptation occurred and the other experiences of change were verbalized.

Figure 10

Major Components of Change (A)

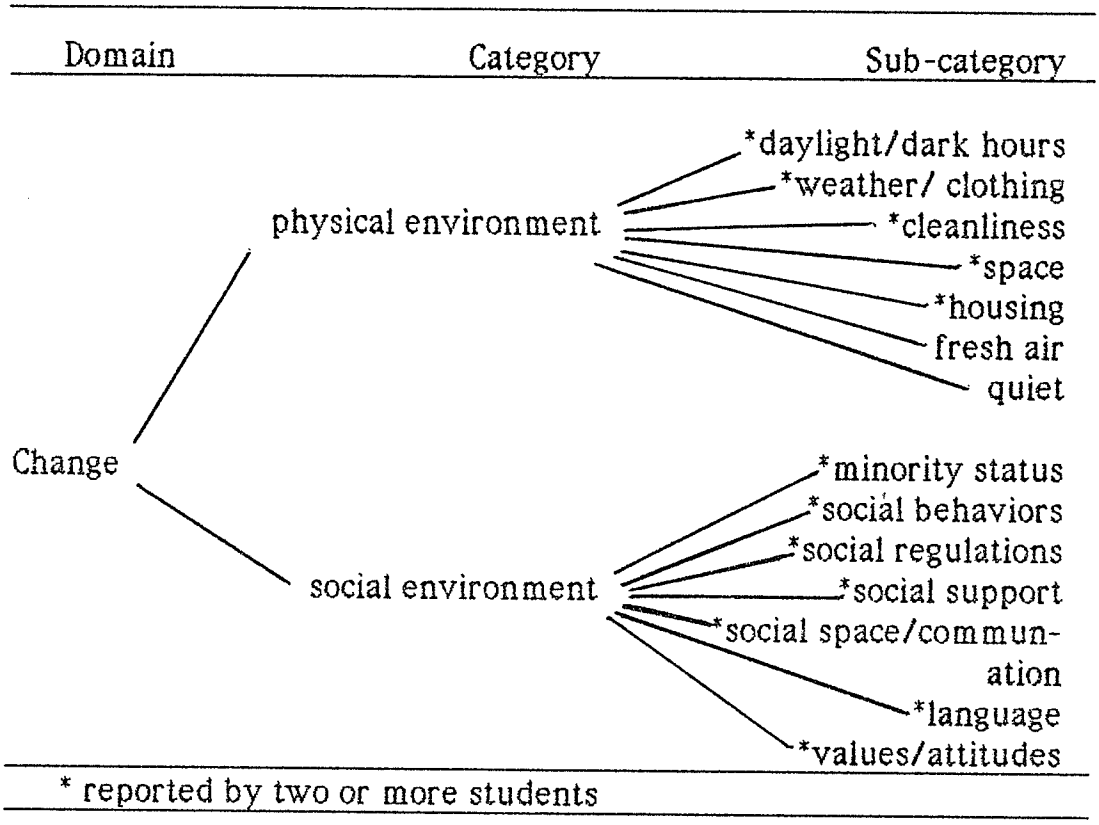
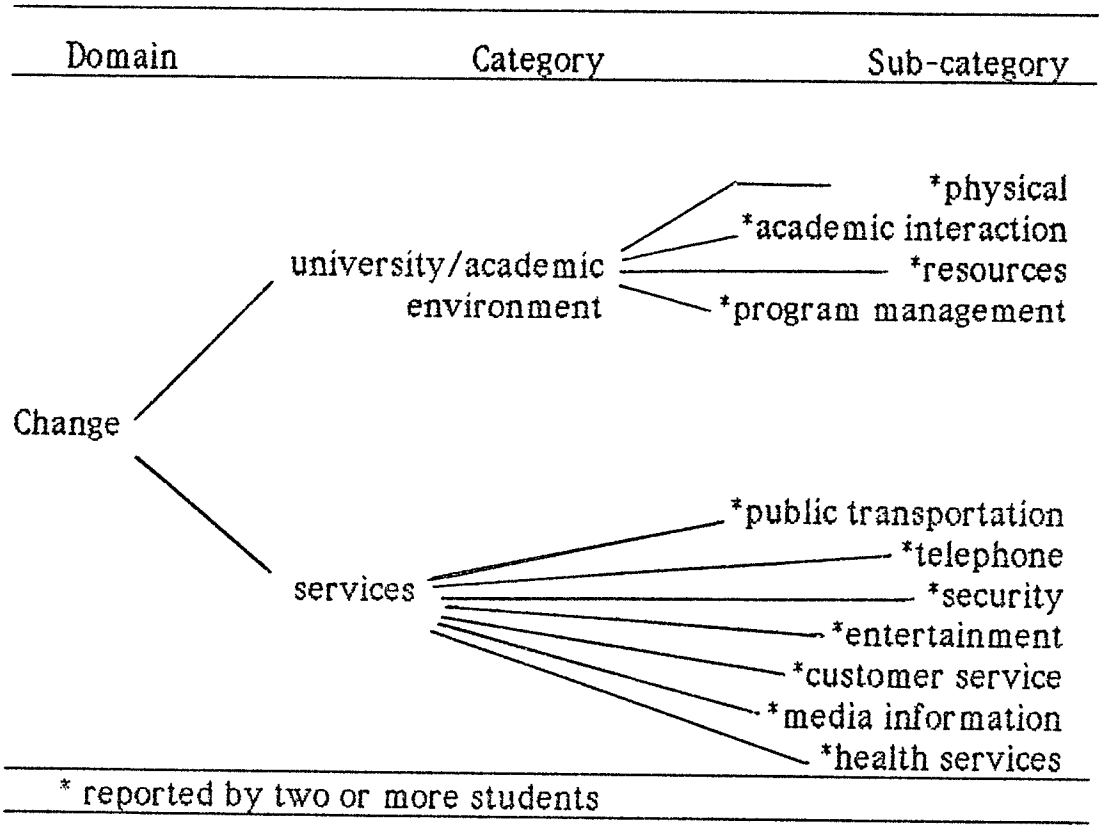


Figure 11

Major Components of Change (B)



Physical Environment

Physical environment changes included differences in daylight/dark hours, weather and clothing, cleanliness and housing . Feelings of space, fresh air and quietness also were expressed as differences.

Initial exposure to the change in day-night cycle was a stressor. Two factors impacted: (1) daylight late into the evening during the

first weeks of their stay in Winnipeg and (2) increased hours of darkness with onset of winter. As one informant stated about the morning darkness: "That is difficult to get used to . . . every morning you feel like missing classes." Because of the light during the evening hours, the student reported "eating supper when it's still light" despite it being late evening. At home these informants are accustomed to equal day-night cycle with their working-resting hours governed by the rising and setting of the sun. The changes in the day-night cycle concomitant with their move to Winnipeg upset this natural rhythm. One informant explained,

> We rarely even use watches, we just look at the sun and we know what the time is. But here, I don't even know where the sun rises. I kind of got mixed up. So it really is a confusion of time.

Another informant reported of the sun changes: " it kind of distracts me ecologically . . . like even my sleeping habits . . . I sleep late most of the time." In January, informant #4 reported,

> I'm still sleeping late. And even now I have a problem . . . I maybe just continued sleeping late and wake up with problems and doze in class. I don't like it. I don't think I know how to cure it.

Weather too was an obvious change leading to subsequent purchase of different clothing. All expressed reactions to weather changes similar to one informant's remark: "The weather is number

one change. It is bad. Like when it is just cold, and there is no wind I think it is okay, but when it is windy, then it is terrible."

Spaciousness and quietness, cleanliness and the fresh air were all impressive. Although impressed by the feeling of space and quiet, students also seemed intimidated by it. As one informant initially remarked, "Everyone was driving. You walk in the street, you're all alone." Later in the year these feelings were expanded on as:

> You're sort of free - I mean you walk free the first few days . . . your neighbours . . . you don't know whether people are friends or not . . . you read these stories like this man was killed . . . for the first few days I think it was scary walking at night going home from the bus stop. But I think now you can walk confidently.

Awareness of community cleanliness related to the differences in water and sanitation systems from their home communities as well as social norms. An informant remarked:

> People feel kind of responsible here . . . people feel obliged even to throw it (refuse) in the garbage. They have responsibility toward a clean environment. The first thing you think that it's kind of restrictive . . . . So the thing you feel like you have been in a cage. But later you also think it's a good idea.

Differences in housing construction were easily recognized and attributed to environmental differences.

Physical environment changes were immediate and obvious to the students and coping resources seemed readily available. However, social environment changes were startling and frequently experienced in a negative manner initially with apparent deficit of resources for managing the changes.

Social Environment

Social environment changes reported included moving into a minority status, language, social space/communication patterns, values/attitudes, social behaviors/lifestyle and social regulations social support.

Minority status was a new experience for these informants as indicated by these remarks: "During the initial stages, one tends to be conscious of one's color", "I was feeling so much out of place. I just felt I was the only black person around . . . . I was not relaxed in the atmosphere." , and "I've never been in a minority and it was the first time and I think most minorities feel that they are being looked down upon. . . . It's taking time for me to adjust - to speak up in a minority." These feelings were accentuated with recognizable differences in language.

Language differences included accents, expressions and humour. Informants recognized that while they had difficulty understanding people in Canada, that these people also had difficulty understanding them. Language differences were problematic in the classroom. The

following remarks exemplify some experiences of the language changes:

> Informant #1: You ask a question the first time and someone hasn't understood what you are asking because of the way you speak, I can't help but feel that perhaps my question is not relevant to the subject, or completely in a different direction . . . a feeling of being slower than the other students.
>
> I'm finding it difficult defining who is a Canadian . . . because it is more heterogeneous with Greeks, with Italians . . . they have their own accents.
>
> Informant #2 (During January interview): Now I tend to appreciate some Canadian jokes . . . . At the beginning, some of those things didn't really make any sense. I think as you learn more about Canadians, I understand the Canadian way of life - I mean jokes start making sense. Like, for example, if I came in August and people were talking about Halloween - all those jokes about Halloween, you don't know what it is all about, but after . . . you know what Halloween is all about.
>
> For one or two months I had a problem understanding the Canadian accent, but I think that's improving.
>
> Informant #3: Most Canadians would not get the way I speak . . . they would keep on asking me, "Pardon me . . .", I felt at a loss as to why they could not understand.
>
> (On Canadian speech) I could not get what they were saying.

> Informant # 4: the lectures . . . the English is the same, but the accent is different. By the time you understand, it has passed you and if you ask a question, they don't understand you . . . . They have to ask me twice to repeat what I asked and I thought I was speaking clear English.

Feelings of minority status and language difficulties were accompanied by differences in social space and communication patterns. Differences in these patterns were expressed as follows:

> Informant # 1: when you get onto a bus, the first few people will sit one on each seat until all the seats are full and that's when the sharing starts. And you can be seated next to someone, he or she won't care to say anything to you. So I think I've had to join - so to say- the band wagon. These days I don't bother.
>
> Informant # 2: like in the bus . . . people sit one - one - one before they start pairing . . . I find it difficult.
>
> Informant # 4: they told me you don't just walk into somebody's place. . . . if I happen to pass by a friend's (place) . . . I don't have to make an appointment to see them, I just go and if they are there, they open for me. So it's more like an extension of home relationship.

Making business appointments and waiting for social invitations to visit were uncommon experiences at home. Informants found these to be the norm in Winnipeg.

Recognition of value or attitude differences was evident in many comments. Examples of such comments are:

(On rights and privileges) Informant # 1: things like communication by telephone is more like a privilege back home than a right.

(On customer service) Informant # 2 : (here) in the bus if I'm lost, I ask the bus driver . . . they help. At home you'd jump off the truck and find your way back.

(On the classroom interaction) Informant #2 it's more informal, you can discuss even if you don't agree. Participation is encouraged.

(On social responsibility) Informant #2 (as a newcomer) if you come home I know you are a foreigner, it's more like my responsibility to make you feel at home, and like here, someone is a foreigner, but they (Canadians) don't care.

When you have a problem here and you send your problem to somebody that can help, I think they are more helpful.

Someone will try to help or assist you in any way possible.

(On comfort) Informant #3 I like the way they dress because it's so casual. Nobody is worried about how you are dressed as long as you are comfortable. And from then I told myself (that) in Canada you don't dress for fashion, you dress for comfort.

I found that jeans are like uniforms in the college. Everbody's

dressed in a jean and I used to wonder . . . maybe someone wants them to be dressed in jeans but I found . . . people feel freer than tying themselves up in other things.

(On time) Informant # 3 the most respected item here is time . . . . I had to try and do things as required by time. You rarely see people talking here. Like, everybody's specific about what they are about to do, so they don't have spare time to talk and I realize the time they talk is when they ring.

Informant # 4 here people are almost timed; they work to a clock so you find it's difficult, even if you want to be social, it's difficult. They regulate their work so they work around time. You don't miss something now and say 'I'll make it up later. You have to start over again to rebook . . . . It's difficult here, it's kind of positive, but . . . a person from home has to hurry . . . they cannot relax.

(On individualism) Informant #4 Here people are quite individualistic in thinking and even in action. You might have your mom here, but you don't even stay with her.

(On appearances) the old people, the youngsters, the way they dress and kind of behave - I don't think it's a change which I'll go in for . . . . I've seen others paint their hair red . . . and wear very funny things.

(On economics) Informant #4 Nothing is free here . . . you have to pay for everything even after you payed for the fee . . . .

> Things here have a cost attached to it. Such things could be free at home.
>
> (On smoking in public) Here people really care about their rights.
>
> (On appearances) Informant # 2 people worry very much about weight. I don't think at home it's much of a problem.
>
> (On customer service) Informant #2 I think they are serious with their work. At home civil servants really don't care about work. Here they have more incentives for working.
>
> (On social interaction) Informant #2 I think people tend to narrow down interactions to economic related aspects . . . . If there's no benefit for me to attend a function economically, there's less incentive for me to go . . . . at home you are more or less obliged.

Some changes of values and attitudes were perceived as positive while others were perceived negatively. Frequently these changes were recognized during the observation of social behaviors as when people were seen with unusual hair colours and clothing.

One informant's comment reflected a fundamental social difference, of the egalitarian versus the free enterprise society, called by Foster (1965) as 'the image of limited good'. As all good things are limited, one family can only improve their position at the expense of another. The informant said:

> Informant #4 they (Canadians) have not been brought up kind of sharing everything which you find . . . like it's very odd for

you even to share your bed or even bedroom. But for us it's kind of common - maybe it's lack of facilitites, but we are used to it, so it's not really odd. So it's not just individualistic, it's also the culture.

Social behaviors of Canadians were frequently interpreted negatively. For some informants the changes became social barriers. Comments reflecting the observed difference in social behavior from their home communities included:

Informant # 1 (On Winnipegers) it seems it's been that way for a long time - they have kept to themselves. I'm only here for ___ years. I won't do much to make the change so . . . it's just kind of a reaction the situation creates in a person and I also tend to build such barriers and (overtime) you don't tend to see where the barriers are broken down, because you've built your own barriers as a reaction. You know, maybe I've done that - which I think I have to a very great extent.

Informant # 2 Canadians I think they are more cold than I expected. We've got Canadians at home and we get along very well - so when you come here and find out it's different. If you ask while you are still at home about Canada, they say, "Oh, very nice country and the people are very friendly." You come here and you feel sort of cheated.

Informant # 3 Canadians on campus mind their own business. In our society . . . there is that general concern of everybody . . .

people will take the time to take you ... and show you the place you wanted to be in. Here, the only difference is that you've got to ask. . . . so these days I've learned to talk.

Here I haven't seen people shaking hands . . . . I find saying "Hi" a bit cold . . . and then the cold smile. You find people - they smile, but they are not smiling. They kind of just move their lips. It's not in their eyes - it's not genuine. They say it's the famous Canadian smile. We call it a plastic smile.

Informant # 4 I find persons are a bit cold socially. If we want to visit somebody, you just go . . . you don't have to book an appointment. But here things seem to be running on high speed. You don't even seem to have that time to go visiting . . . . They might advertize things like socials . . . but they look to me very formal and almost official. I find that different from ours.

Informants expressed surprise at receiving invitations to go out and then being expected to pay for their own food. Within their home communities such behavior was unheard of. As time passed, one student reported liking this system because sometimes it's too much cost for the host.

Canadian society was perceived to be orderly. This was reflected in comments on social regulations such as not drinking in public places, lining up for services and regulation of traffic. For the most part social regulations were seen as positive to the individual.

However, some adjustment was required. As one informant explained,

> in the campus back home I felt I was one of them, so I felt I had the right of doing anything I wanted because I knew the laws and the rules of the land. When I came over here there was a time period when you fear to do . . . because you don't know how it will reflect to the government of the society.

A major social change was that of social support. Social support in this study was defined as "the existence or availability of people on whom one can rely, people who let us know that they care about, value and love us" (Sarason, G., Levine, H., Basham, R., & Sarason, B., 1983, p. 127). Quantitative data collected measuring this included the numbers of available others and the satisfaction with that support. The qualitative exploration of support sought to determine the places and people students go to for help and the type of help desired, that is, the classification of support behavior, as well as the actions needed to become connected to people here.

The informants were asked to describe their experiences of being an international student in Winnipeg and at the University of Manitoba. Through descriptive questions and responses, informants revealed people and places that they accessed for help. Structural questions clarified these resources.

The domain of support revealed two categories of help: informal or volunteer and formal or official and paid. The following statement explains the differentiation between formal and informal.

> International Centre for Students (ICS) are rather official - they're more formal. With (co-nationals) you don't open files. Maybe you can go (to ICS) and just discuss but it's more formal than with (co-nationals). Otherwise the functions are more or less the same I would think.

Host families were categorized as "volunteers" while academic staff and ICS staff were recognized as "paid staff". Persons in the "paid staff" category sometimes extended themselves as one informant noted:

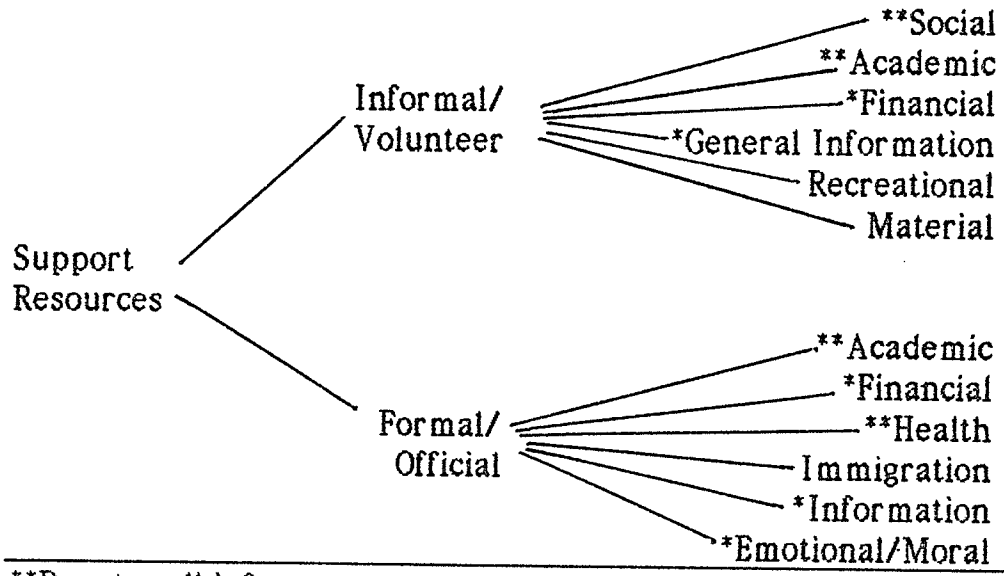
> But let me just put it clear also: sometimes the academic staff go out of their way to see that you get help . . . so you can still have a friend among these.

Informal help included social, academic, financial, informational, recreational and material support (see Figure 12). Sources of this informal help were friends, co-nationals and others. One informant explained the help source this way:

> You could come from home, like you know, they send people but you are not friends. They are just people from home. So I might not be going to them for help. I might just go to a person whom I think is a friend to me. So it depends, . . . you have to be friends anyway to go for help.

Figure 12

Major Components of Support



**Denotes all informants
* Denotes two or more informants

The informants expanded the category of friends to include other students from home, international students, Canadian students, people from home and host families. These informal help sources were described as volunteers. Co-national friends were a primary source of help for "almost everything I would think . . . academic . . . social . . . . my life is made up mostly of those two, especially here in Winnipeg", explained another informant. Initially, many expressions of bewilderment with the friendliness of Canadians were offered. There was an implicit sense of isolation revealed through the reporting of

numerous calls home. Coming from the home country with other students did not mean that these students were friends, explained one informant:

> Because sometimes you might choose to discuss a problem with somebody you think is a friend . . . and the next day you hear about it from very funny sources and it will be distorted and it hurts.

First interviews of informants conducted between six and eight weeks after arrival in Winnipeg revealed a scarcity of contacts. The overall impression was that Canadians are not friendly, but are helpful when asked. The following remarks exemplify the loneliness expressed by lack of social contacts and frustration experienced in trying to make contacts.

> Informant #2 you feel very lonely I think . . . that's why you feel depressed, moody, short-tempered. It's not good to be missing home when you are going to be here for _ years . . . somehow I have to get used to the people you have around here. That's been my biggest problem . . .
>
> I've tried to talk to people and certain people don't mind when you talk to them, while certain people it's like you're bothering them.
>
> The only people I interact with I think are those in the same faculty . . . there are several (co-nationals) there and some

> Canadians . . . I never made any friends outside of that . . . . I'd say off campus, I don't think there is any.
>
> Informant #3 Most of the people in the campus, unless they are out to talk to you, it is very difficult to arrest their attention. . . . If you get them (friends) they are older people like the members of staff or (they) may be students in (advanced years of study), they are easier to talk to.

Overall confusion from the many changes seemed to interfere with the process of interacting.

> Informant #3 . . . some of us are already preoccupied with other worries and you don't see a thing . . . . if I cannot brave it to ask you (a Canadian), then I might find another (co-national) who is also as new as I am and then we talk about it.

Social isolation was reflected in many comments. The following comment summarizes this feeling:

> Informant #4 I find persons are a bit cold socially . . . . You don't even seem to have that time to go visiting and then even with our fellow people who are here, we don't seem to come across them either. So I find it a very cold environment. We are used to interacting very many times.

Learning the unwritten codes of social interaction was a trial and error experience for all the informants. Learning to ask for the assistance required was a key they learned to attaining help. Informants identified differences in values and attitudes related to time, money

and individualism that impacted on social interactions and support. As one student remarked, "here people are almost timed, they work to a clock so you find it's difficult, even if you want to be social". By the end of six months of stay in Winnipeg, a sense of certainty was implicit in remarks such as this:

> if I want help or I want to know something about the Canadians, the Canadian friends tend to be more helpful. And if it is something maybe that is affecting me from home, I think I'd revert to the (co-nationals) for example. So depending on the problem.

Having friendly contact people was important to socialization. One informant said, "I think once you get to know people there is the likelihood of getting invitations to various places", and referring to contacts made through church attendance, "if I had a problem I would ask one of them". Student organizations were a source of entertainment. Canadian students were important to "exchange ideas" with or to ask "how to go about your homework". Co-national students acted as consultants. As one informant said, "a person who has a similar case like mine - because the person from home understands maybe the way things are done back home, they can show me how to adjust back to here."

Other international students filled consultant roles too, as they had shared common experiences. Contact with all co-nationals - students or private citizens - was helpful for students in financial difficulties,

reported one informant, "we organized a little function to raise money to help another student".

Formal help included academic, financial, health, social/emotional, general information and immigration assistance (see Figure 12). Sources of this formal help were those persons who held official and paid positions. These included persons within the International Centre for Students (ICS), academic staff, University Health Service staff, Counselling Service staff, bank staff, National High Commission staff and University of Manitoba Student Union (UMSU).

The ICS staff was seen as a vital link by the informants. Through them, students participated in seminars and luncheons and had opportunities to meet other international students. One informant reported that "once you meet one, the other one has his or her own friends, so you get to meet his or her own friends - so it becomes a branched tree". The ICS staff was recognized as coordinators for host families and were seen as central to coordination of the Canadian International Development Agency (CIDA) scholarships and information on immigration concerns. Beside the formal role, the Assistant to the Director was seen in an unofficial role as a help source for personal and academic problems and general information. The Centre itself was used as a place "to read a few magazines" and to hear the latest "gossip".

Academic staff were seen as sources of help for course problems or "academic information". Informants reported meeting others through

the academic staff but that "it's not a very rich experience and I haven't met very many like that". To one informant, academic staff included "facilities like the library . . . like computer services, and it includes the physical education department . . . on when certain activities are taking place or when facilities are available to the non-members of the department". The assistance available from academics was seen as having a narrow focus. University Health Service staff were recognized as sources of medical help as well as knowledgeable referral sources for other types of needed help. Counselling Service was known to be a place where you could take a "big problem". While co-nationals may be an informal source of financial help, bank staff too were recognized as important when there was a financial problem. The University of Manitoba Student Union was seen as a gatekeeper to organizing socials on campus or seeking typing services - "like they synchronize all the services which students might want to use . . . . they can represent you to the administration".

The media were seen as a source of information on such things as weather, shopping and travel. Students reported using the daily newspaper, television and the yellow pages as resources.

Academic Environment

Academic environment changes expressed were related to the physical size of the university, program management, academic interactions with professors and students and resource availability.

The change in size of academic institution was captured when one informant remarked, "This is far bigger than the university at home." Classes were perceived to be "very large". Many more activities and services were recognized as being available compared to their home academic environments. These included physical education facilities, many team sports, health services, counselling service, banking services and peer services. Initially, the size and complexity of the university created some confusion for the informants. Some reported difficulty finding buildings and occasionally attending wrong classes.

Informants stated that program management at the University of Manitoba was different in that courses could be dropped. They expressed a desire to know before registration that one need not take a full course load. Some believed that concentration on fewer courses during the adjustment period would improve their performance. Here, the university grading system was found to be "very high". Examinations here were in a different format. One informant stated,

> Back home there are no multiple choices, here it's IBM, so you have to get used to choosing the right answer from the ones which are placed in front - I get confused because those answers are so much alike - so maybe I could have done better if they had asked me to write my own answer.

This process of attaining marks was reported as different. One informant remarked,

> even the small quizzes . . . they matter a lot for your final grade. Even your term papers . . . even attendance. Sometimes you get a few points for attending. Here it's easier for you to pass like it's not only one exam which determines you, so you can accumulate your marks and at the end of the year you're only trying to get a few marks to make you pass or to make you get a good grade.

The academic interaction was enjoyed by all informants. One captured this feeling in commenting on the classroom,

> I like this system - it's more informal . . . . you can discuss with the lecturer - participation is encouraged between the lecturer and the students and among the students themselves. You feel you can ask a question if you don't understand and you participate in the class without feeling you are challenging the professor.

Professors/advisors were found to be helpful resource persons. Informants reported more interaction with them than at home and appreciated being able to discuss grades and programs with them.

Television presentation of lectures was a new experience and found to be " too fast for us to write the notes". Initially, language posed a problem in the classroom as the lecturer's "accent is different. So by the time you understand, it has passed you and if you ask a question, they don't understand you". Language difficulty "introduces an element of looking at oneself as being inadequate if you have to

ask a question several times just to be understood", remarked another informant.

Fellow students were seen as help sources; as one informant remarked, "You tend to benefit a lot by discussing lecture materials or assignments with the other students". This activity was more pronounced here than in their home country.

All informants appreciated the availability of resources. As one remarked "books are available. You can go to the library and get a book and read. Or if you have an allowance for books . . . you can buy the book. You can buy second-hand if you can't afford new ones."

Library assistants were recognized as very helpful persons. Computer services were seen as a luxury to be enjoyed here. Informants reported that only professors use them at home.

One informant remarked on the "leading role" members of the university community here take in local concerns and matters of the larger community. This person was impressed by their lending of their expertise to public officials.

Public Services

All the informants reported that in general, services both on and off campus were markedly improved compared with their home countries. The confidence they expressed in the assurity of service seemed a comfort to them. Some examples of service changes follow:

> (On food service) you get more varieties here and it's more guaranteed that you're going to get food. Unlike at home, you

might go into a restaurant at peek hour, you might not find anything because it has all been sold out.

(On transportation services) in terms of efficiency and abundance, you can go almost any place any time. Allowing for the time that the buses are not operating, you can still get a cab in the middle of the night.

I think with good roads you have more transportation.

(On entertainment services) You have more choice. Of course, it might not include what I'd be used to.

You learn to like the music you have access to.

(On security services) there are fewer robberies than at home. There's more security to the individual than at home .... It's more related to employment rate. And also I think some differences in terms of material wealth among the people (at home) are glaring.

(On telephone service) It's so easy to get a telephone. (At home) it's very difficult because you could arrange an application, it might take two years to be given a number .... Things like communication by telephone is more like a privilege back home than a right.

This is the land of communication.

(On media services) You can get anything here now - like TV, flyers, daily newspaper - you can rely on what is going on if you just open it if you have the time.

You can hear the news or you can watch . . . . there are so many stations where you can tune in and hear anything.
(On health services) The service (at home) is very poor. We don't have facilities like here. It's not organized. But here I think if you got an accident it's very easy to go to a hospital . . . if your person (friend) was involved in an accident, you can trace. . . they have records. (At home) there are not computers so it's even difficult to trace.

Semantic Relationship: Ways to Manage Change

The semantic relationship of 'ways to manage' change was addressed through structural and contrast questions during the second and third interview sessions. On exploration of the subcategories of change, the informants identified how the new stimuli were integrated into their lifestyle to create balance.

Actions directed toward coping with physical environmental changes included management of the daylight/dark hours, weather/clothing, cleanliness and fresh air/space/quiet (see Figure13). One informant summarized the way to cope with the daylight/dark cycle change with "I set my alarm". This was the usual way to cope with not feeling like waking up. Another informant reported taking coffee and missing breakfast. Evening light changes were stressed less but one student reported staying away from the window in order to control exposure to sunlight which upset sleeping and eating patterns.

Figure 13

Actions to Cope with Physical Environment

Domain	CHANGE			
Category	Physical Environment			
Subcategory	Day-light/ dark hours	Weather/ clothing	Cleanliness	Space fresh air quiet
Actions	set alarm for morning stay away from the window late at night take coffee and miss breakfast	listen to the weather forecast dress well for the cold dress for comfort stay indoors when it is extremely cold drink more liquids remove shoes on entering homes	think what you are doing and just fall into the system of environmental care learn ways of garbage disposal	learn not to be afraid of the space and quiet enjoy the fresh air

The experience of weather change brought to reality previously held knowledge which students had of weather in Canada. Winter cold was dealt with in the following ways:

> Informant # 2 when it was extremely cold and it was unnecessary for me to go outside, I made sure I stayed indoors.
> . . . buying more and more winter clothing
> . . . drink more and more liquids because the air is dry
> . . . I've got used to listening to the weather forecast.
> Informant #3 Nobody is worried about how you are dressed as long as you are comfortable.
> . . . if I came in your house, the only thing that would have to be adjusted is to remove my shoes. That is very Canadian.
> Informant #4 Dressing change depends on the weather. Be careful of the information you get because everybody wants to show that he/she knows everything. The way (some) talk about the weather was very misleading.

The implication of weather changes were immediate with readily apparent solutions for the informant.

Referring to health, all informants stated the importance of hygiene including personal cleanliness and a clean environment. Exploring change, these informants remarked on the clean environment in Winnipeg and on campus. One student said of this change, "I was most impressed by the way you can keep your vicinity, the vicinity of your house clean . . . I would be grateful if somebody came on a business trip and sold the idea to the municipalities back home." Another informant remarked that "the law enforces a clean environment (here)" While the way cleanliness was achieved through the social

norm of garbage disposal in appropriate containers was initially felt to be restrictive, attitude change was evident in this remark by one informant: "later you also think it's a good idea." Comfort in the assurance of clean toilet facilities was also expressed. The new social norm of environmental cleanliness was adopted by learning the ways of garbage disposal here and as one informant articulated, ". . . Thinking what I am doing and then you just fall into the system."

Feelings of space, fresh air, and quiet were another subcategory of physical environment change. Like the cleanliness differences, the spaciousness, fresh air and quietness were enjoyed and yet they created some uneasiness. One informant reported, "I kind of got impressed by the cleanliness and the space.", while another admitted to discomfort at first when walking alone in the street. Through time, experience and self-talk, the uneasiness disappeared and the new conditions were appreciated.

Social environmental changes were numerous and actions to cope with these are discussed by subcategory (see Figures 14, 15, 16).

Minority status was identified as a new experience. One informant reported,

> In some cases I've suspected racism, but I've tried not to look at it this way.
>
> and

Once I found myself in a minority, it takes time for one to adjust - to speak up . . . . I think you tend to adjust and say, 'Okay, I have to understand and whatever anybody else thinks is their business.' . . . I get used to being looked at right? Then I can even look back. I get more self-confident. Then I like to believe that perhaps I'm not the only one who has missed the point.

Figure 14

Actions to Cope with Social Environment Change:

Minority Status, Language and Social Space

Domain	CHANGE		
Category	Social Environment		
Sub-category	Minority status	Language	Social space/ communication
Action	self-talk do things in a group to give self-confidence take a positive attitude to difference	learn about Canadian life for humor to make sense learn to ask questions be patient and repeat oneself learn new expressions for things	learn to sit alone on the bus and not talk to passengers enjoy the space on buses learn when to initiate talk learn to keep to the right when you walk

Colour served as a connecter to others both on and campus. One informant reported,

> Informant #4 Like a black will always nod at me or greet me, even though we don't know each other. . . . it's a sense of belongingness. You want to feel that you have somebody you can relate to and say, 'Okay, he's home.' It's kind of security. You just want to feel that you are not alone.

Closely connected to the feelings of being a visible minority were language differences. Language differences included accent and speed as well as semantics. Ways of coping with these differences were explained in this manner:

> Informant #1 The biggest problem was not the problem of accent but in terms of speed, intonation and the like, I think has been speed. People sometimes speaking too fast for me to hear what they say so I ask 'Can you say it again, please?' . . . Of course, after several times, the pronounciation becomes familiar, even though you notice the accent.
>
> I think it's a two-way, so-to-say, action and reaction. While I'm making an effort to be heard, I think everybody else - those who know I'm not an English-speaking Canadian - make an effort to get me the first time.
>
> Informant #2 I think as you learn more about the Canadians . . . I mean jokes start making sense, you know.

> Informant #3 (On accent differences) I told myself that I had to be positive and to give them that job of trying to know. . . . and at one time I felt snappy. . . . sometimes I used to feel so miserable to even open my mouth to speak because I imagined that they were out to ridicule. . . . I told myself, 'I'm going to speak, whether they hear it or not'.
>
> and
>
> just take your time, try to explain. I don't mind somebody asking me to repeat.
>
> and
>
> you strictly have to learn this by hearing over and over until you got it.

Examples from Canadians were reported to be helpful in giving understanding to new expressions. Also prior experience listening to tapes of people with different accents accustomed students somewhat to the different speech patterns.

> Informant #4 sometimes I can hear what they're saying, sometimes I don't,and if I don't I make the person repeat. I guess it's the same also with mine, . . . so I have to repeat.

Differences in social space and communication patterns proved to be a major surprise. Seating patterns on public transportation produced negative feelings about the unfriendliness of Canadians. To cope with this exposure to a new pattern of public behavior, one informant reported, "I've realized my priorities and I don't really care

whether the next person on the bus is sociable". Over time the informant became resigned to the difference while still believing "people are not as sociable".

Learning the new code of behavior was the most important way to cope with the change in social space. Another informant remarked of social movement patterns, "people go for a walk . . . you tend to keep to the right", quickly accepting this as the acceptable pattern.

The apparent change in communication patterns was addressed in the following manner be one informant:

> I've managed by being more positive than negative. The thing is you tend to shun away - if you are a bit negative about people - 'They don't talk to me, I won't talk to them', that kind of thing . . . . sometimes you must become more positive, make an effort to talk to people.
>
> Here you have to ask first before someone will help you.

Statements reflecting values and attitude changes fell into five major subsets: time, individual rights, customer service, individualism and the importance of money (see Figure 15).

Figure 15

Actions to Cope with Social Environment Change:

Values and Attitudes

Domain	CHANGE
Category	Social Environment
Sub-Category	Values and Attitudes
Action	integrate with Canadians to help get the feeling of time usage understand what time means to Canadians plan ahead for the day to cope with time learn to eat at different time learn to do things as required by time follow example of host person to cope with time drink coffee to wake yourself up and cope with time miss breakfast to cope with time problem recognize people don't have spare time to talk you can claim your rights quickly with no problem learn rights of women and their social roles learn you can cross the street safely - cars stop learn people want your business and will help - just ask learn civil servants must deal with your problem here don't worry about your weight learn to pay your own way buy at second-hand shops or pawn shops save money for emergencies minimize calls home don't go to the banking machines too often return items purchased which are not needed learn to think for yourself

The usage of time evident in Canadian living produced feelings of being rushed among the informants, particularly in the early weeks. Learning to cope with the organization of social interaction by time included following: "the example of my hostess", recognizing people "don't have spare time to talk" and that "the time they talk is when

they ring", "know what it means to be a Canadian and not to keep time . . . I wouldn't want that person to think that I took him/her for granted", "economize between breakfast and sleeping", "drink coffee" to wake yourself up, and learn that "you shouldn't miss opportunities".

One informant remarked that initially "we used to run from place to place", but now "I know I have to time myself". Integration with Canadians was suggested as a way to help, "maybe you can get the feeling of it (time) faster".

The rights that Canadians expect and claim were noticeably different for the informants. Recognition of this difference allowed for any necessary action. Comments implying acceptable action were:

> Informant #1 You actually criticize your government over here. You are free both on paper and you do it actually on the ground.
>
> Informant #2 We've also come to know that motorists here respect pedestrians. You're sure that most of the time the guy will stop and let you cross if for some reason you didn't check the signs properly.
>
> I think that women have special rights here. . . . If she's got a point to speak she will - if it's a big crowd she will just speak her mind . . . at home they will tend to be shy.
>
> (On consumer rights) If they bought something and they don't like it they are free to take it back within the number of days they give you for full refund.

The value of money was heightened in the minds of the informants. In order to cope with the financial change in their situation, informants said:

> Informant #1 Exercise some financial discretion. I mean some of them (international students) might get stranded, you know. They should save a certain amount of money for emergencies... about $300.00.
>
> I'd tell them to minimize the number of calls to (home country), but that one depends on how they adjust.... It also depends on the commitment you have at home.
>
> I think just from the beginning you start making calls, you almost feel that you can make calls anytime. So that I think you should start by writing them letters and giving them minimum calls, so they don't expect much. But if you ring almost every week, they think telephones are cheap.
>
> Informant #3 these days I write more than I ring . . . I think it is economical that way.
>
> Informant #4 like if I invited you for lunch sometime. In this case you can say, "You come for lunch", but you will pay your own. In our case it's unheard of.... In our case you go to a party and everything is provided. I find later I think I like this system where you go with your own thing because sometimes it's too much on the host.

> Sometimes I visit second-hand shops, pawn shops, except some things you don't buy second hand.

Personal appearance reflected more individualism to the students and they appeared to adopt this attitude. One informant said, "I told myself (that) in Canada you don't dress for fashion, you dress for comfort." The struggle with individualism was reflected in this statement: "We are used to thinking in a community, so here it's quite different, so you have to try and adapt. That's a big change. To think of yourself only".

Differences in social behavior required the informants to learn what the new behavior was and then to adopt that pattern of action (see Figure 16).

Figure 16

Actions to Cope with Social Environment Change:

Social Behavior, Social Regulations

and Social Support

Domain	CHANGE		
Category	Social Environment		
Sub-Category	Social behaviors	Social Regulations	Social Support
Action	you have to check yourself (on shaking hands) you try to adjust - accept people as they are don't just walk into somebody's place, wait to be invited	don't drink beer in the streets get a cab and go home if one is drunk/keep cab numbers handy learn that motorists respect pedestrians learn to line up for service remove shoes on entering a Canadian home	come to Winnipeg without preconceived ideas of Canadians talk to - make first step to break coldness of Canadians talk with people in waiting rooms and shops write letters and telephone home attend church/seminars/university activities/socials bring pictures from home to share make as many friends as you can ask for a host family

Some examples were:

> Informant #1 I think the major difference here is communication. Back home, if you are walking in a neighborhood, or if you are driving and there is someone you know in there even though you are actually not going over there, but because you don't have a telephone or he doesn't have a telephone . . . you say, 'Okay, let me drop in and see how they are doing'. But here you can go into a neighborhood, if there is a good friend . . . because you know you can contact him by phone . . . you won't actually think about just dropping in and saying 'Hi'.
>
> Informant #4 now they told me you don't just walk into somebody's place and then again the way we greet, we like shaking hands . . . you have to check yourself. . . . it's a matter of accepting people as they are.

Social regulations reflected different attitudes and norms for the informants. These were adjusted to in the following manner:

On drinking, one informant commented,

> at home you can drink beer in public . . . but here it's an offence. . . . so you don't drink beer in the streets. And if you are drunk . . . I think it's better to get a cab and go home . . . keep cab numbers with you all the time.

On regulation of people and traffic, informants stated:

> Informant #3 Lining up here is more organized because everybody is convinced that they should line up. They sort of value themselves . . . (when not doing so once) later I was told by friends that everybody was really wondering and everybody was looking at me.
>
> Informant #4 when I cross the road now, they (cars) just stop. I cross the road, but I still stop. I'm not so sure - I'm not used to that . . . people are good. I just hope I remember to stop when I go home.

Social support resources were limited for the informants. On explaining the ways they connected to people at the university and in Winnipeg, the following was stated:

> Informant #1 my (co-nationals) connected me to other people including (co-nationals) and (non-co-nationals) and I got to know people in (my faculty) who connected me to other people also . . . it's working with them that you get connected with them. . . . I've come to know some people at parties. I am a member of the African Students Association . . . it has parties . . . . host families . . . is a way people have got connected. . . . attending parties and through working relations . . . we find ourselves in the situation where either the staff learn from the students or the students from the staff, or the students from the students . . . and I learn because of the need to learn, so you tend to get first hand experience . . . if you just let someone do

it for you, you don't learn, but if you actually do it yourself, if you actually go out and find out who is useful, then you learn more.

Informant #2 I think it's better to come without preconceived ideas (on Canadian friendliness). . . . you see I think it's better to adapt through learning . . . by talking to - making a move sometimes. Even attending socials around the university . . . the environment itself creates the opportunity to make an effort to talk to somebody. You have to ask here first before someone will help.

Informant #3 in the case of host families, they would introduce you to other people, like their friends, so that when you meet next time you have already overcome the strangeness between you . . . . so I think I have met all the people I have through my host . . . apart from a few people in the class that I started to know.

(On church) I don't like being alone. I always like being with friends . . . being among people. I'm not very particular about going for church services . . . . but then being with other people physically matters a lot . . . . I just feel that life in me when I'm with people.

Informant #4 . . . accidental meetings. Like you meet somebody and you start talking . . . when you are in a waiting room, maybe in an office. . . . in a shop we were speaking our national

> language and a lady heard us and said, ' Oh, you must be _____..' so we introduced each other. . . . through colour also. Like a black will always nod at me or greet me . . . .
>
> the host family of the co-national I came with, they are like my parents to me. . . . and I can relate to them as people I can go to when I'm in problems.
>
> apart from the host family . . . the seminars . . . we discovered that we could also meet maybe in church and some of the activities in the campus . . . classmates, you know the people - maybe you sit together and later you get to talk and make friends.

To facilitate relationship building, one informant advised: "bring things like pictures and postcards from home. . . . it makes people learn about you (when they ask) 'Oh, what's about this?' So you can explain".

When ranking ways to get to know people, one student listed attending the International Centre for Students, socials, multicultural activities and nightclubs as the highest, followed by "Canadians in the same faculty", co-nationals, host person and lastly "going to the gym, attending seminars and going to church. Many of these were also listed as ways to stay healthy.

Over time, students developed ways of coping with the "feeling of missing home and feeling rejected". As one student reflected, "in missing home you sort of learn to leave by making as many friends as

you can. I don't think the way I'm feeling now (January) that's the way I was feeling maybe in December or November."

Contact with home remained a major source of social support for all the informants by either letter writing or ringing home. Some informants were making arrangements for a family member to join them in Canada while others counted the time until they could return home.

Academic Environment

Learning to cope with the university included learning how to live with the physical size of the university, manage one's academic program, function with different social norms, and utilize a myriad of resources (see Figure 17).

The size of the university was a change for all the informants. By necessity each had to learn to cope with its' vastness. One informant reported having a tour of major campus sites by the host person. As well, the informant reported: "We (co-nationals) sort of teamed up and were doing our things in a group and that gave me a lot of courage . . . and made me get the places easily". However, this informant also stated:

> "we sort of didn't bother to find out where classes were before (classes started) . . . we didn't realize that we should have done it so that we could have easily found our classes . . . . Many times we used to go around - you know you can go around the buildings without seeing the main doors, so there was quite

some confusion. . . . sometimes we used to come back to International Centre for Students to get our bearings which means we were taking the long way . . .

Figure 17

Actions to Cope with Academic Environment Change

Domain	CHANGE			
Category	Academic Environment			
Sub-category	Physical	Program Management	Academic Interaction	Resources
Action	ask campus police or other university staff for directions get a tour of major facilities	seek a tutor pay attention to all the tests work regularly learn rules on course selection learn how to drop courses discuss program with advisors attend classes	discuss lecture materials with other students learn to ask questions in class as it is okay learn to cope with TV class lectures learn to seek help from professors for problems	learn how to use the library- assistants are very helpful buy second-hand books if you can't afford new ones photocopy the chapters you need attend orientation to learn how to do things and about campus resources seek tutor by asking friends

This informant said, "The solution of the problem is ask. If you ask, you will get somebody to direct you". The uniformed police on campus were important persons for information on directions to

buildings. Informants tended to know only the buildings and resources of which they had particular need. One informant reported, "I just identified the resources that I would make use of and I tried to make use of those without really being adventurous and looking around to see what else is there". This informant reported missing orientation and thereby not knowing major resources on campus.

Program management included adjusting to the "very high" grading system, the number of courses and the process of dropping courses. The following remark exemplifies the dilemma some informants expressed:

> Informant #4 when we came here we were given a whole course load and they kind of told us ' you have to take it' . . . . other students they say, 'No, they will give you, but you don't have to do them all' . . . . you don't want to feel like you did not try. So you take everything. But if you have less load which you feel you can comfortably take, maybe your grades could be higher . . . like you also want to set a mark - it means that the university can accept more people from our country because we have not been performing badly . . . if you have been performing well, it makes things easier also. You're like an ambassador, you are paving the way for somebody else.

Three informants reported dropping one course. Two informants also used private tutorial services to help with their course studies. Program management was facilitated by easy access to professor

advisors in order to discuss grades and course selections. Learning the timing and sequencing necesary for course selections was vital to overall length of program.

The testing system was different for most informants. Adjusting to this required:

> Informant #2 I think I'm putting in more here than I used to at home . . . I prepare differently . . . more regular . . . I think almost everyday I do something.
>
> Informant #4 think of even the small quizzes . . . . They matter a lot for your final grade . . . whatever you are told to do, it counts a lot . . . . even your term papers . . . even attendance. Sometimes you get a few points for attending . . . just be a good student.

The change in social norms of academic interaction facilitated learning. Some comments reflecting this behavior adjustment were:

> Informant #1 in a class setting . . . I think I realized I'm here to learn and I won't learn by not asking questions . . . I felt I'm going to learn at all costs. If they want to look down upon me, as long as the lecturers listen to me, that's fine with me.
>
> Informant #2 the professors come across as very accommodating. I mean they allow questions and you can go and talk to them any time you have a problem . . . and you can participate in the class without feeling you are challenging the professor.

> . . . you tend to benefit a lot by discussing lecture materials or assignments with the other students . . . . And that tends to help very much when it comes to exams.
>
> Informant #4 then they have TV classes and very large classes . . . . you can't tell them to slow down so that you can write the notes or you can't ask them to repeat. You have to be alert and also very quick . . . . the TV class was a bit funny. But now it's okay . . . . sometime we don't complete their notes. There's nothing you can do about it, unless you wait for another class . . . . I don't like IBM (examinations) because it is either you get it or lose it . . . . I just read and go and try my luck. Sometimes I pass, sometimes I don't.

The availability of resources was appreciated by all the informants. They captured the adjustment process this way:

> Informant #1 academic (problems), I would go to the faculty staff and seek help there. The academic staff includes facilities like the library if you're looking for something in particular. It includes some of the other facilities like computer services and it includes the physical education department or faculty.
>
> Informant #3 the system of getting books might be faster here . . . books are available and the system quite different from home so they have to learn how to use it . . . . There was an orientation but that was not enough. You have to come and try

> it out yourself . . . those assistants are very helpful. They will even show you how to use the computer.

Availability of resources such as photocopiers assisted the informants financially. One informant remarked:

> Informant #2 Because there are certain courses that just base the whole syllabus on two chapters and sometimes if you have no money, just photocopy those two chapters.

Being able to purchase second-hand books also eased financial strain for the students.

Orientation services were recognized as valuable to facilitate the adjustment process.

> Informant #1 I missed the orientation given by the International Centre for Students. I think it was poorly advertized . . . . if it (health service) was covered by the orientation . . . that would be more specific - not only to Winnipeg, but to the situation at the University of Manitoba.
>
> Informant #4 if you have a problem, the International Centre for Students was very good to us because they organized orientation sessions where they invited like even the doctor, the police, a lawyer. They invited guest speakers who came and talked to us and tell us when we have a problem where to go.

The University of Manitoba Student Union list of typing services was useful for some students. One informant reported that tutor services were best found through friends or university staff.

Non-academic campus resources such as banking, recreation and health were utilized also. Their ready availability was appreciated.

Public Services

Adapting to the plethora of services for the most part was a reassuring process, (see Figure 18). Informants learned that they could count on services and that asking for help usually got the desired results. With the luxury of a variety of goods and services, the informants learned the need to exercise financial discretion. Particular mention was made of watching for sales, window shopping to compare prices, returning inappropriate items, restricting calls home, and careful selection of entertainment to maintain financial stability.

Initially, bus transportation was confusing, but all informants learned the tranfer system, bus stop locations, and direct routes to campus. Checking for traffic required learning a new response pattern which caused some concern.

Consistant availability of news and information in the media readily became a source of help. Informants reported frequent media use by turning on the television and/or checking flyers and papers for sales and information.

Figure 18

Action to Cope with Public Services

Domain	CHANGE					
Category	Services					
Sub-Category	Customer Services	Public Transportation	Telephone	Entertain-ment	Media	Health
Action	watch for sales learn that one may return goods for refund be careful with the way you use your money window shop first to compare prices be careful of the information you get-everybody wants to show that she/he knows everything learn to ask here if you want someone to help you	learn the transfer system on buses learn which way to look when you cross the road learn where to get appropriate bus learn direct bus routes to campus ask bus driver for help if you are lost enjoy the service ask host person how to use public transportation	minimize the calls home learn that people ring to talk here learn to talk on phone and do something else at same time carry emergency phone numberes in case you are lost	choose where to go be careful because of the time and money	you can hear the news or watch TV- just tune in learn to check flyers and papers for sales to learn to use papers for housing information	book an appointment to see someone learn when it is urgent/non-urgent to see a doctor

Adjusting to the health care system caused some frustration initially. Informants learned to make appointments to see physicians but expressed anxiety about not knowing what is an urgent or non-urgent problem. This concern remained.

Discussion

Change was evident in multiple ways in the lives of the informants as revealed through their description of their settling in Winnipeg and at the University of Manitoba. The scope of environmental change included physical, social, academic and service dimensions. Obvious major physical changes included differences in daylight/dark hours, weather and environmental cleanliness. Subtle and interacting social environmental changes included moving into a minority status position, language differences, cultural differences of social space, communication patterns, values and attitudes, social behaviors, social regulations and social support. Academic changes requiring some adjustment included the physical size of the university, program management, interactions with professors and students, and resources availability. Social environment changes also impacted heavily within the academic environment through the changes in minority status, language, social behaviors, regulations and social support. Differences in public services, both with regard to availability and consistency, were appreciated by all informants.

The informants identified ways to adapt to the changes. Adapting to physical environmental changes included developing new stimuli

for waking, eating and sleeping, preparing for the weather and learning new environmental care systems. The complex social changes required learning new cultural ways, that is, behaviors grounded in knowledge of social norms and regulations with their implicit values and attitudes. Learning ways to establish social support networks continued to be an essential on-going process to combat isolation and to increase satisfaction with the chosen path to academic enrichment. Coping with the academic environmental changes included getting to know essential buildings and services on the campus, learning the expected and accepted systems of program management, developing skills in new ways of interacting with professors and other students, and learning to use the many campus resources. Coping with public services, while initially confusing, required the informants to develop behaviors which then become routinized and comfortable.

Summative statements on support derived from the data analysis are presented as follows:

1. Specific statements about the cultural domain of support within the category of social environmental change:
    a) Support resources are principally made up of two categories of help, informal or volunteer and formal or paid.
    b) Informal support is classified as social, academic, financial, informational, and material.
    c) Sources of informal help are friends, co-nationals and others.

d) Primary sources of informal help are co-national students and contact with home.

e) Formal support is classified as academic, financial, health, social/emotional, general information and immigration assistance.

f) Sources of formal help include all persons in official and paid positions within the specific support area.

g) Informants report that the International Centre for Students and social activities were important places to get to know people.

h) People facilitating connections for the informants were co-nationals, fellow students, and host families.

2. General statements about a specific cultural group

a) African students require informal and formal social support.

b) Initially, informal help from co-nationals and home is the first avenue explored for a majority of assistance required.

c) Confidence in support resources increases over time for African student informants.

3. Universal statement

Use of sources of support differ by the definition of the need, the *meaning* of the need, the resources known and the confidence in the resource required.

All informants identified similar categories of support resources, with other students from home or nearby countries providing the

primary bond. Host families were at times major sources of help. Social isolation was an important stressor for all the informants affecting self-image. Persistant action to integrate into the new social environment eased some of the mental tension. The integration process was ongoing with forays into the new cultural milieu. Bewilderment at times followed with subsequent retreating into oneself or into the few comfortable associations already established. Generally, informants persisted in learning the skills necessary to establishing a comfortable, yet limited, social support network.

On examination of the larger domain of change including physical, social, academic and public services, the following summative statements were derived from the data analysis:

1. Specific statements about the cultural domain of change:
    a) Awareness of physical environmental changes is readily identifiable with readily identifiable solutions.
    b) Awareness of social environmental changes is a gradual discovery process requiring both cognitive and social behavior changes.
    c) Academic environmental changes included both physical and social differences from previous academic experiences. Adaptation required both cognitive and social behavior changes within a compressed time frame.

d) Changes in public services are numerous, easily identifiable, and mainly positive, requiring learning new systems based on availability and dependability.

2. General statements about a specific cultural group:

a) Change is evident in all major spheres of the African student informants' lives, requiring cognitive, physical and social adaptation.

b) Changes within the categories of physical environment and public services are most obvious with readily identifiable solutions.

c) Changes in the social and academic environments are both obvious and subtle requiring learning of new cultural and academic systems.

3. Cross-cultural statement

International student informants coming from a non-western, communal, family-centred society are required to adapt to an individualistic, highly efficient social structure in order to realize their goals.

4. Universal statement

Adaptation to change is dependent on the impact of the change, the personal (including sense of coherence and self-efficacy), physical and social resources available and the *meaning* of the change.

Perceived major categories of change were consistent among the informants. Differences in public services and the physical

environment elicited like coping strategies. Differences in social and academic environments elicited a variety of adaptation skills depending on personal and known environmental resources.

The impact of change on perceived health for the sub-group of African students was dependent on the number and types of stressors as well as the resources available to meet the challenges. Where resources were not apparent, there was a negative impact on mental/social health momentarily. The informants evidenced problem-solving skills in that areas of tension were addressed until sufficient order was attained in their lives. Major resources included personal cognitive skills, flexible coping strategies, social support, material wealth, health maintainance practices and a deep sense of self and purpose. Despite the power of change with its inherent stressors, the informants found ways to manage the stressors, maintain overall good health and achieve academic success.

CHAPTER SIX

Summary, Conclusions and Implications

Summary

In order to focus the conclusions, it is essential to restate the research questions at this point. These were:

1) the global sense of coherence (SOC) for international students will remain relatively constant on entry to the University of Manitoba and five months after entry;
2) health as measured by: (a) the General Health Rating Index (GHRI), and (b) a self-rating of health will remain relatively constant on entry to the University of Manitoba and five months after entry;
3) there will be a positive relationship between the two measures of health (a) the GHRI and (b) a self-rating of health;
4) the level of SOC will be positively related to a measure of social support;
5) measures of health will be positively related to a measure of social support; and
6) the level of SOC will be positively related to the measures of health.

Findings from the quantitative research relating to these questions are summarized as follows:

1. Overall sense of coherence scores remained relatively stable from October 1989 to March 1990. There was over a four-point rise in the mean score from the initial data collection to the second time of data collection.
2. Health rating changes as evidenced by the single-item health rating and the GHRI were small overall. Both measurements demonstrated small declines in the overall mean scores.
3. The overall measures of health, the single-item health rating and the GHRI demonstrated parallel results from October 1989 to March 1990, with small declines in the mean scores. In the one instance where there was a large increase in the GHRI, the single-item scores also moved upward. In the one instance where there was a large decrease in the GHRI, the single-item score dropped dramatically. The mean scores reflected good health overall.
4. Inspection of data indicates that the overall number of social support persons was negatively related to SOC, while overall satisfaction with those support persons available was positively related to SOC. Two participants had scores on numbers and satisfaction which appeared to be both negatively related to their SOC scores.
5. The overall health scores , while demonstrating very small declines from October 1989 to March 1990, indicated that the participants had good health overall. Over the same time

period, mean scores for numbers of support persons decreased by only 6/100 of a point and therefore were essentially stable at a low level. Satisfaction scores were constant at a moderately high level. The evidence demonstrates a positive relationship between overall health and support satisfaction and a negative relationship between overall health and numbers of support persons.

6. Overall health and sense of coherence scores remained relatively stable at moderately high levels, pointing to a positive relationship between the two variables.

Qualitative findings elaborate on the meaning of health and change, particularly that of social support.

1. The major components of health are physical and mental (socio-emotional). Self-assessment of overall health, while including both elements, primarily begins with physical body status.
2. Maintainance of health varies according to the assessment of status, the perceived needs and its *meaning* to the individual as well as to the known resources to meet the need.
3. Change requiring adaptations is evident in all major spheres (physical, social, academic and public services) of the informants' lives. Changes within the physical environment and public service spheres are most obvious and have readily identifiable solutions. Changes within the social and academic

environments are both obvious and subtle, requiring learning of new cultural and academic systems.

4. A major social change, social support, requires informal and formal resources.
5. Informal help from co-nationals and home is the primary source of support, while confidence in local support resources increases over time.
6. Informal activities and relationships were the primary facilitators of social supports.
7. The impact of the change, the definition of the situation, the resources available and the *meaning* of the change influence adaptation including social adaptation.

Conclusions

The data presented in this investigation indicate that sense of coherence is positively related to health and social support satisfaction for an international student group from Africa. Clearly, sense of coherence and health are negatively related to numbers of support persons for these students. Social support persons remained limited throughout the five months of the investigation.

The qualitative data revealed that social isolation was an important concern. Informants made attempts at being friendly, but frequently felt rebuffed. Persistance led to the development of small social networks predominantly composed of students from home or

neighboring countries. The informants also developed knowledge of other resources to use if they should become necessary.

Through the qualitative data analysis, health was revealed to be assessed initially by its absence. Physical and mental health were the major components. Informants possessed a repertoire of behaviors known to promote health, although they admitted to ignoring some during periods of academic stress. The health status of the informants improved over the five months of the investigation with assurances of physical normalcy, increased self-confidence and social comfort.

From the qualitative data, sense of coherence is hinted at through the determined efforts by the informants to persevere academically and socially holding the belief that things will work out to their satisfaction. This orientation appears to be a basis for health status and for persistance at social integration and academic success.

Theoretical Implications

Theoretical implications arising from this thesis are as follows:

1. Definitions of health are built on cultural realities. Where physical dangers are paramount, physical assessment is foremost; where mental stressors are predominant, social-psychological needs are uppermost.
2. Limited numbers of social support persons can provide satisfaction providing they let those needing support know that they are truly valued and loved.

3. Sense of coherence will remain relatively stable despite the impact of significant change.
4. Integration into a new cultural milieu entails understanding and acceptance of different norms while maintaining one's own sense of worth through being valued as an individual.

Practical Implications

1. Health, particularly mental health, of international students may be supported through creation of informal social groups for the purpose of sharing cultural knowledge, learning the unspoken cultural norms and values and creating an atmosphere for bonding. Such groups would be important soon after arrival.
2. Orientation of international students should be presented in an ongoing process to ensure maximum benefit to the student and to prevent overload. Such orientation requires informing the students of the benefits of attending orientation to guarantee attendance. Informal communications through social support networks could be used to augment formal announcements. Experienced international students assisting in orientation planning and implementation would increase the validity of orientation programs.
3. Academic program recommendations should be based on academic level, experience abroad, awareness of the cultural change process and time frame for completion of studies.

Suggestions for Further Research

As this was a preliminary investigation, it would be important to conduct further randomized studies and qualitative studies with multiple ethnic groupings of international students. This would allow for discriminate validity testing and generalizations of the findings as well as in-depth understanding of coping strategies used to meet change with its inherent stressors.

Based on the evidence from this study, further investigation should also focus on social health, examining personality factors, social skills and social norms. This would allow for identifying the social norms understood and the skills both used or required for an improved social functioning within Canadian society by international students.

Given the reported difficulty of establishing support groups within the Canadian population by the international student subgroup, consideration should be given to an action research model of investigation.

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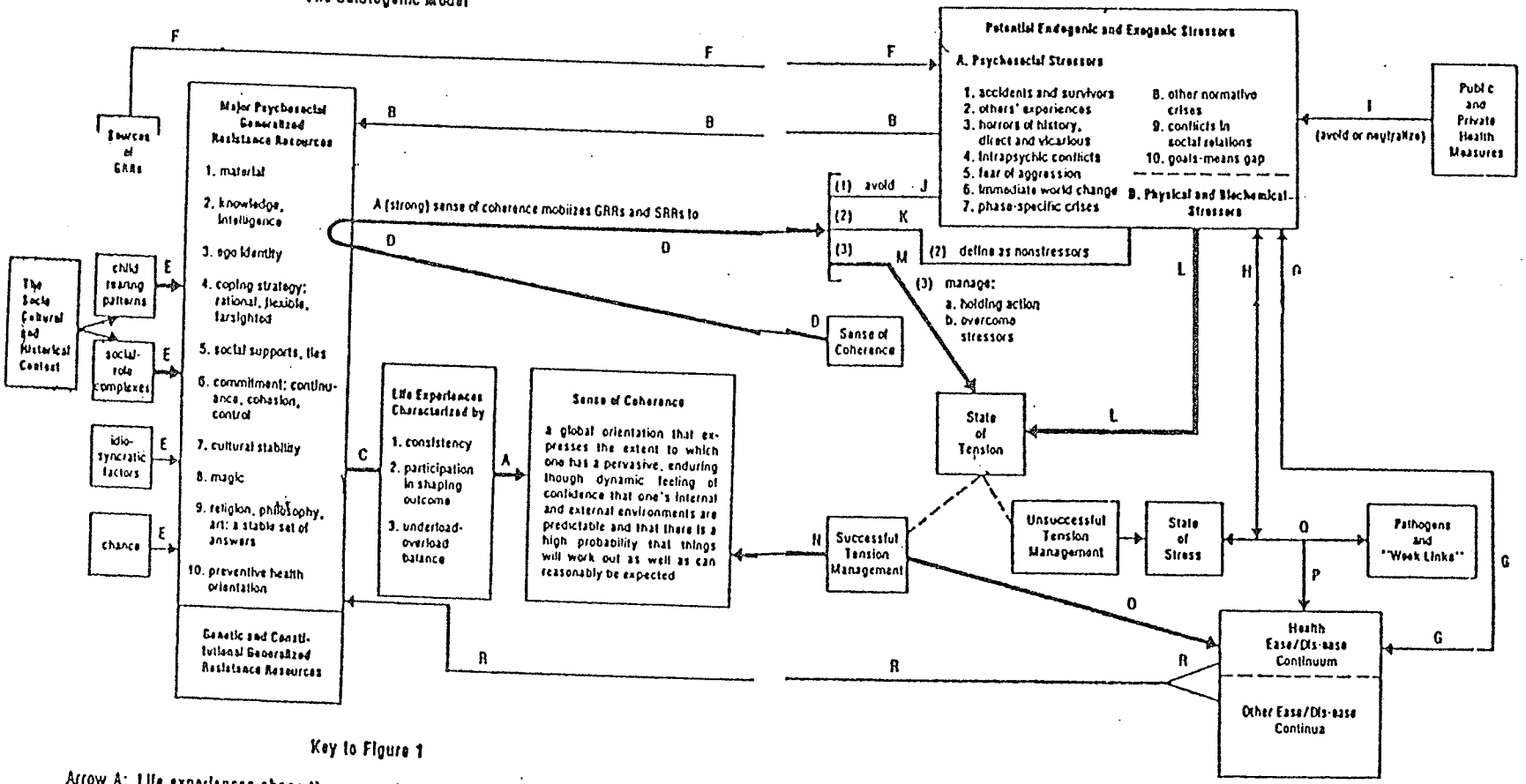
Figure 1
The Salutogenic Model



Key to Figure 1

Arrow A: Life experiences shape the sense of coherence.
Arrow B: Stressors affect the generalized resistance resources at one's disposal.
Line C: By definition, a GRR provides one with sets of meaningful, coherent life experiences.
Arrow D: A strong sense of coherence mobilizes the GRRs and SRRs at one's disposal.
Arrows E: Childrearing patterns, social role complexes, idiosyncratic factors, and chance build up GRRs.
Arrow F: The sources of GRRs also create stressors.
Arrow G: Traumatic physical and biochemical stressors affect health status directly; health status affects extent of exposure to psychosocial stressors.
Arrow H: Physical and biochemical stressors interact with endogenic pathogens and "weak links" and with stress to affect health status.
Arrow I: Public and private health measures avoid or neutralize stressors.
Line J: A strong sense of coherence, mobilizing GRRs and SRRs, avoids stressors.
Line K: A strong sense of coherence, mobilizing GRRs and SRRs, defines stimuli as nonstressors.
Arrow L: Ubiquitous stressors create a state of tension.
Arrow M: The mobilized GRRs (and SRRs) interact with the state of tension and manage a holding action and the overcoming of stressors.
Arrow N: Successful tension management strengthens the sense of coherence.
Arrow O: Successful tension management maintains one's place on the health ease/dis-ease continuum.
Arrow P: Interaction between the state of stress and pathogens and "weak links" negatively affects health status.
Arrow Q: Stress is a general precursor that interacts with the existing potential endogenic and exogenic pathogens and "weak links."
Arrow R: Good health status facilitates the acquisition of other GRRs.

Note: The statements in bold type represent the core of the salutogenic model.

– Antonovsky, 1979, pp. 184 – 185

Appendix B

Dear Student,

I am a graduate student from the University of Manitoba studying health and the factors that relate to it for international students. The information I gather will be useful for the development of appropriate health policies and programmes for international students.

In order to complete my study, I require first year students to respond to a questionnaire on two separate occasions, spaced five months apart. If you agree to participate, you will be asked to complete the two questionnaires with the initial meeting being held within the next two weeks and the last meeting in February 1990. Each questionnaire will take 60 minutes to complete. Of those students completing the questionnaire, four or five will be randomly selected to participate in four personal interviews with the researcher.

All your responses to the questionnaires and the interviews will be kept strictly confidential. I am tabulating general results, not individual responses. Your participation in this study is voluntary and you will be free to withdraw from the study at any time without penalty.

If you have any questions, please phone me, Geraldine Prouten, at 269-3865 (evenings) or leave a message at 474-8411, and I will get in touch with you.

Please show below whether or not you wish to participate, and sign your name at the bottom of this page.

I thank you for considering my request.

Sincerely,

Geraldine R. Prouten

Permission Form

Name (please print)_____

Do you agree to participate in the surveys and interviews? Yes__

No__

Signature:_____

Date:_____

Please mark an X in the box if you wish a summary of my final report. ☐

Appendix C

Health Questionnaire

The following questions ask about your health and factors which may relate to it. There are five sections. Please complete each section in the order presented. The questions in each section are preceded by instructions for that section only. Read each set of instructions carefully and then proceed to complete all the questions as best you can. Remember: All your responses will be kept confidential.

Section I

This section contains one question about your health. Please **circle the number** which indicates the word(s) which best complete(s) the statement for you.

1. How would you rate your health? Would you say that your health is ...

Excellent	Very Good	Good	Fair	Poor
5	4	3	2	1

Section II

PLEASE READ THE FOLLOWING STATEMENTS, AND THEN CIRCLE ONE OF THE NUMBERS ON EACH LINE TO INDICATE WHETHER THE STATEMENT IS TRUE OR FALSE FOR YOU.

THERE ARE NO RIGHT OR WRONG ANSWERS.

If a statement is definitely true for you, circle 5.

If it is mostly true for you, circle 4.

If you don't know whether it is true or false, circle 3.

If it is mostly false for you, cicle 2.

If it is definitely false for you, circle 1.

SOME OF THE STATEMENTS MAY LOOK OR SEEM LIKE OTHERS. BUT EACH STATEMENT IS DIFFERENT , AND SHOULD BE RATED BY ITSELF.

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
A. According to the doctors I've seen, my health is now excellent	5	4	3	2	1
B. I try to avoid letting illness interfere with my life	5	4	3	2	1
C. I seem to get sick a little easier than other people	5	4	3	2	1

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
D. I feel better now than I ever have before	5	4	3	2	1
E. I will probably be sick a lot in the future	5	4	3	2	1
F. I never worry about my health	5	4	3	2	1
G. Most people get sick a little easier than I do	5	4	3	2	1
H. I don't like to go to the doctor	5	4	3	2	1
I. I am somewhat ill	5	4	3	2	1
J. In the future, I expect to have better health than other people I know	5	4	3	2	1

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
K. I was so sick once I thought I might die	5	4	3	2	1
L. I'm not as healthy now as I used to be	5	4	3	2	1
M. I worry about my health more than other people worry about their health	5	4	3	2	1
N.When I'm sick, I try to just keep going as usual	5	4	3	2	1
O. My body seems to resist illness very well	5	4	3	2	1
P. Getting sick once in a while is part of my life	5	4	3	2	1

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
Q. I'm as healthy as anybody I know	5	4	3	2	1
R. I think my health will be worse in the future than it is now	5	4	3	2	1
S. I've never had an illness that lasted a long period of time	5	4	3	2	1
T. Others seem more concerned about their health than I am about mine	5	4	3	2	1
U. When I'm sick, I try to keep it to myself	5	4	3	2	1
V. My health is excellent	5	4	3	2	1

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
W.I expect to have a very healthy life	5	4	3	2	1
X.My health is a concern in my life	5	4	3	2	1
Y.I accept that sometimes I'm just going to be sick	5	4	3	2	1
Z.I have been feeling bad lately	5	4	3	2	1
AA.It doesn't bother me to go to a doctor	5	4	3	2	1
BB.I have never been seriously ill	5	4	3	2	1

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
CC. When there is something going around, I usually catch it	5	4	3	2	1
DD. Doctors say that I am now in poor health	5	4	3	2	1
EE. When I think I am getting sick, I fight it	5	4	3	2	1
FF. I feel about as good now as I ever have	5	4	3	2	1

Section III

Here is a series of questions relating to various aspects of our lives. Each question has seven possible answers. Please mark the number which expresses your answer, with numbers 1 and 7 being the extreme answers. If the words under 1 are right for you, circle 1; if the words under 7 are right for you, circle 7. If you feel differently, circle the number which best expresses your feeling. Please give only one answer to each question.

1. When you talk to people, do you have the feeling that they don't understand you?

1	2	3	4	5	6	7
never have this feeling						always have this feeling

2. In the past, when you had to do something which depended upon cooperation with others, did you have the feeling that it:

1	2	3	4	5	6	7
surely wouldn't get done						surely would get done

3. Think of the people with whom you come into contact daily, aside from the ones to whom you feel closest. How well do you know most of them?

1	2	3	4	5	6	7
you feel that they're strangers						you know them very well

4. Do you have the feeling that you really don't care what goes on around you?

1	2	3	4	5	6	7
very seldom or never						very often

5. Has it happened in the past that you were surprised by the behavior of people whom you thought you knew well?

1	2	3	4	5	6	7
never happened						always happened

6. Has it happened that people whom you counted on disappointed you?

1	2	3	4	5	6	7
never happened						always happened

7. Life is:

1	2	3	4	5	6	7
full of interest						completely routine

8. Until now your life has had:

1	2	3	4	5	6	7
no clear goals or purpose at all						very clear goals and purpose

9. Do you have the feeling that you're being treated unfairly?

1	2	3	4	5	6	7
very often						very seldom or never

10. In the past ten years your life has been:

1	2	3	4	5	6	7
full of changes without your knowing what will happen next						completely consistent

11. Most of the things you do in the future will probably be:

1	2	3	4	5	6	7
completely fascinating						deadly boring

12.Do you have the feeling that you are in an unfamiliar situation and don't know what to do?

1	2	3	4	5	6	7
very often						very seldom or never

13.What best describes how you see life?

1	2	3	4	5	6	7
one can always find a solution to painful things in life						there is no solution to painful things in life

14.When you think about your life, you very often:

1	2	3	4	5	6	7
feel how good it is to be alive						ask yourself why you exist at all

15.When you face a difficult problem, the choice of a solution is:

1	2	3	4	5	6	7
always confusing and hard to find						always completely clear

16.Doing the things you do every day is:

1	2	3	4	5	6	7
a source of deep pleasure and satisfaction						a source of pain and boredom

17.Your life in the future will probably be:

1	2	3	4	5	6	7
full of changes without your knowing what will happen next						completely consistent and clear

18.When something unpleasant happened in the past your tendency was:

1	2	3	4	5	6	7
"to eat yourself up" about it						to say "ok, that's that, I have to live with it," and go on

19.Do you have very mixed-up feelings and ideas?

1	2	3	4	5	6	7
very often						very seldom or never

20.When you do something that gives you a good feeling:

1	2	3	4	5	6	7
it's certain that you'll go on feeling good						it's certain that something will happen to spoil the feeling

21.Does it happen that you have feelings inside you would rather not feel?

1	2	3	4	5	6	7
very often						very seldom or never

22.You anticipate that your personal life in the future will be:

1	2	3	4	5	6	7
totally without meaning or purpose						full of meaning and purpose

23.Do you think that there will always be people whom you'll be able to count on in the future?

1	2	3	4	5	6	7
you're certain there will be						you doubt there will be

24.Does it happen that you have the feeling that you don't know exactly what's about to happen?

1	2	3	4	5	6	7
very often						very seldom or never

25.Many people-even those with a strong character- sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?

1	2	3	4	5	6	7
never						very often

26.When something happened, have you generally found that:

1	2	3	4	5	6	7
you overesti-mated or under-estimated its importance						you saw things in the right proportion

27.When you think of difficulties you are likely to face in important aspects of your life, do you have the feeling that:

1	2	3	4	5	6	7
you will always succeed in over-coming the difficulties						you won't succeed in over-coming the difficulties

28.How often do you have the feeling that there's little meaning in the things you do in your daily life?

1	2	3	4	5	6	7
very often						very seldom or never

29.How often do you have feelings that you're not sure you can keep under control?

1	2	3	4	5	6	7
very often						very seldom or never

PLEASE TURN TO PAGE 211 FOR SECTION IV

Section IV

The following questions ask about people in your environment who provide you with help or support. Each question has **two parts**. For the **first part**, list all the people you know, excluding yourself, whom you can count on for help or support in the manner described. Give the person's initials and their relationship to you (see example). Do not list more than one person next to each of the letters beneath the question.

For the **second part**, circle how satisfied you are with the overall support you have.

If you have no support for a question, check the words "No one," but still rate your level of satisfaction. Do not list more than nine persons per question.

Please answer all questions as best you can. **Remember: These questions all refer to your situation** *since coming to Canada.*

EXAMPLE

Who do you know whom you can trust with information that could get you into trouble?

No one	1) *T.N.(brother)*	4) *T.N. (father)*	7)
	2) *L.M. (friend)*	5) *L.N.(employer)*	8)
	3) *R.S. (friend)*	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

1. Whom can you really count on to listen to you when you need to talk?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

2. Whom could you really count on to help you if a person whom you thought was a good friend insulted you and told you that he/she didn't want to see you again?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

3. Whose lives do you feel that you are an important part of?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

4.Whom do you feel would help you if you were married and had just separated from your spouse?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

5. Whom could you really count on in a crisis situation, even though they would have to go out of their way to do so?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

6. Whom can you talk with frankly, without having to watch what you say?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

7. Who helps you feel that you truly have something to contribute to others?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

8. Whom can you really count on to distract you from your worries when you feel under stress?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

9. Whom can you really count on to be dependable when you need help?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

10. Whom could you really count on to help you out if you had just been fired from your job or expelled from school?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

11. With whom can you totally be yourself?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

12. Whom do you feel really appreciates you as a person?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

13. Whom can you really count on to give you useful suggestions that help you to avoid making mistakes?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

14. Whom can you count on to listen openly and uncritically to your innermost feelings?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

15. Who will comfort you when you need it by holding you in their arms?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

16. Whom do you feel would help if a good friend of yours had been in a car accident and was hospitalized in serious condition?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

17. Whom can you really count on to help you feel more relaxed when you are under pressure or tense?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

18. Whom do you feel would help if a family member very close to you died?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

19. Who accepts you totally, including both your worst and best points?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

20. Whom can you really count on to care about you, regardless of what is happening to you?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

21. Whom can you really count on to listen to you when you are very angry at someone else?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

22. Whom can you really count on to tell you, in a thoughtful manner, when you need to improve in some way?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

23. Whom can you really count on to help you feel better when you are feeling generally down-in- the-dumps?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

24. Whom do you feel truly loves you deeply?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

25. Whom can you count on to console you when you are very upset?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

26. Whom can you really count on to support you in major decisions you make?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

27. Whom can you really count on to help you feel better when you are very irritable, ready to get angry at almost anything?

No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied

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Section V

The following questions are general questions about you. Please circle the number corresponding with your response where indicated.

1.) Please specify the category which describes your age.

	(Circle one)
Under 19 years of age	1
19 years to 23 years of age	2
24 years to 28 years of age	3
29 years to 33 years of age	4
34 years to 38 years of age	5
39 years or older	6

2.) Please specify your gender.

	(Circle one)
female	1
male	2

3.) Please specify your marital status.

	(Circle one)
single	1
married/common law partner	2
separated/divorced/widowed/other	3

4) Please specify your grade point average on your last set of examinations, December, 1989.

	(Circle one)
under 2.0	1
2.0 - 2.4	2
2.5 - 2.9	3
3.0 - 3.4	4
3.5 - 3.9	5
4	6

5) Please specify your current degree program.

	(Circle one)
Bachelor's	1
Master's	2
Doctorate	3
Other (specify)	4

6) Please specify your spirtual/religious affiliation while in Winnipeg.

	(Circle one)
Roman Catholic	1
Anglican	2
Baptist	3
United Church of Canada	4
Islamic	5
Other (Please specify) _____	6
No affiliation	7

7) Please specify your monthly income from all sources while in Canada (excluding the cost of your registration for study).

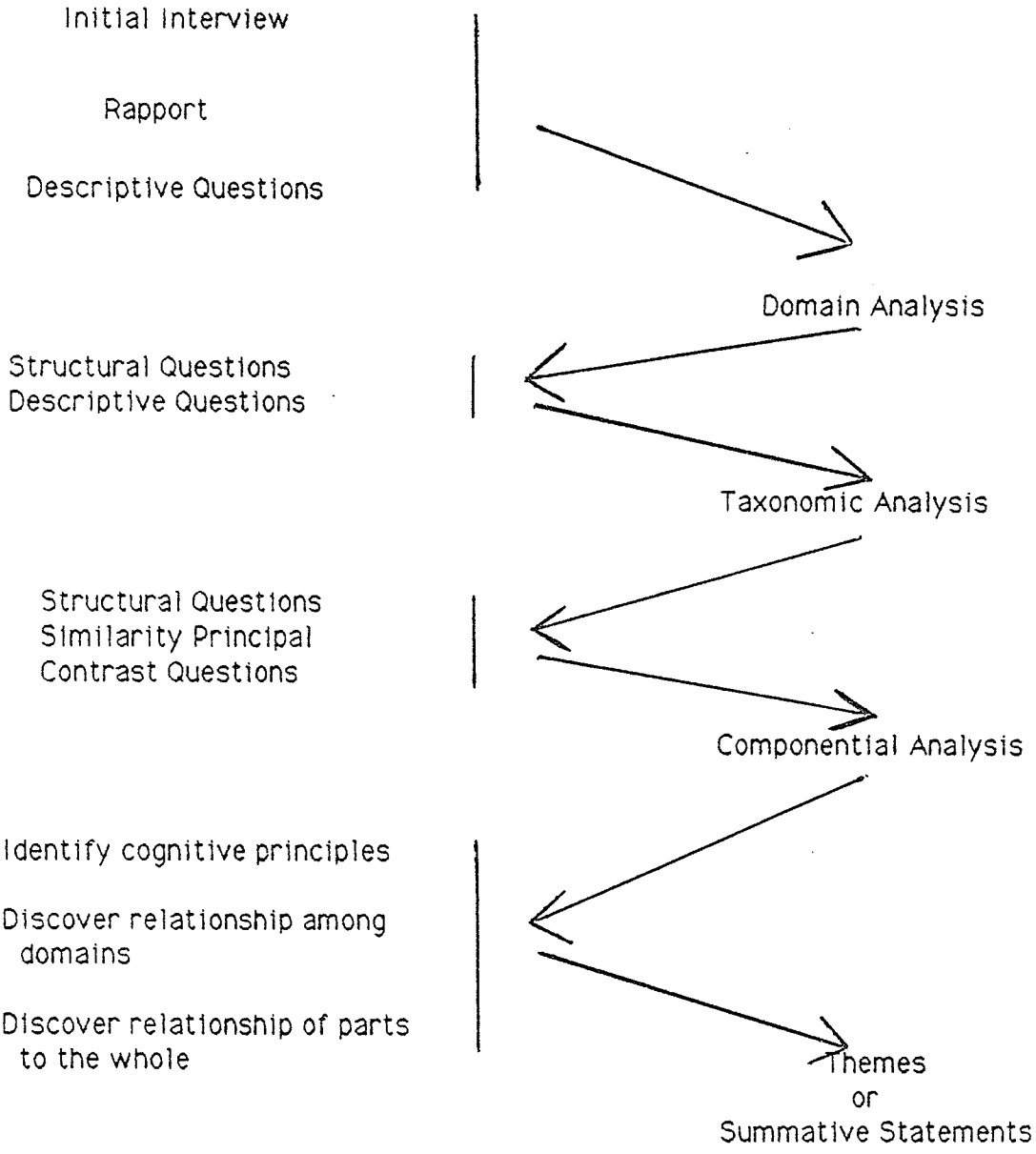
	(Circle one)
less than $500.00/month	1
$500,00- $900.00/month	2
more than $900.00/month	3

8) Please specify your country of citizenship_____

Thank you for participating in this study.

Appendix D

Schematic Form of Ethnoscience Process



Appendix E

Survey Interview

Hi. I'm glad you could arrange to talk with me today. You must be very busy with your courses. How are they going?

As you know, I am interested in studying your health, how it affects your work, and all the experiences which affect your health. I guess what I would like to know is if I had moved from your country to Winnipeg to study, how might my health be affected by the changes and what influences there might be on my health. I want to understand things from your point of view.

Everything you tell me will be strictly confidential. I'd like to record our interview so I can go over it later; would that be okay?

Demographics

Firstly, before turning on the tape machine, I am going to ask you some questions which will help me to understand your background.

Country_____

Community_____

Ethnicity_____

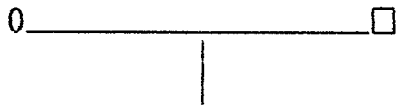
Language_____

Religion_____

Gender_____

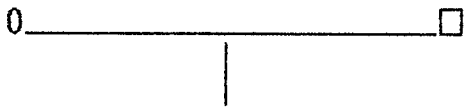
Age_____

Family placement : Could you tell me the names or initials of the people in your family group and their relationship to you.



Marital status _____

Children_____



Population of the community you live in _____
Education programme here_____
Level_____
Financial Resources here_____
Where did you study before coming to Winnipeg?
When was that?
Is this your first year to study outside your home country?
When did you arrive in Winnipeg?

Turn on the recorder

Now I'm going to ask you questions which will refer to when you were at home in your country.

1. Thinking back to your home country ( ), how would you refer to health in your language?

   The word is _____

   This is in what dialect?_____

2. Could you use this term in a sentence for me?
3. If a friend asked you one evening how you are, what would you usually say?
4. What if you felt differently - what would you say?
5. What would be another term to describe health?
6. In Canadian culture, if people are upset, they might say their nerves were upset; what would they say in your culture?
7. If someone in your family group referred to their health using this term _____, how might they act (what might they be able to do or what might they want to happen) that day?
8. How would you know when you were that healthy? What would you feel like and be able to do?
9. If I talked with your mother and asked her, "How was _____ as a young child? What was his/her health like?" What would she say?
10. Who was the healthiest person in your family?

11. How was that person like you?_____
    and different from you?_____
12. What would your mother have seen as important about health?

    What would she have wanted you to do to stay healthy? To look after your health each day? Anything else? Would you agree with that today?
13. Could you describe how family members looked after concerns about their health?

14. Tracing your movements through a typical day at home, what kinds of things would have affected your health? Like when you first awaken?

    How would they affect your health?

Now I am going to ask some questions about the changes which you have experienced on leaving your home country. I have never been away for long periods to study outside my home country. When I've travelled, it has always been for a short stay; never to study for a whole year. You've probably had many interesting experiences since you have left home.

15. How did you get to Winnipeg?
16. Could you start at your arrival in Winnipeg and describe what goes on? What do you do when you first arrive and how do you feel?

17. How was it finding the university and getting settled here?
18. How was it finding accommodation and getting settled here?
19. Could you describe some of the changes you have experienced?
    Is there anything else that has been a change?
20. Have any of these changes felt as if they have made you feel more or less well? ie. changed your health?
    How has this happened?
21. If you were going to rate your health since coming to Winnipeg and you had a scale of one to seven, with 'one' being "not very healthy", and 'seven' being "very healthy", where would you put yourself now? What did you consider to be important to make this decision?
22. What does your health help you to do or stop you from doing?
    (a way to) (Like your studies?)
23. Compared to most others you know here, how would you compare your health? Better? Worse?

24. I've met many international students, but as a nurse, I'm sure my impression of what they expereince is very different from what they experience. Don't you think that's true? I am interested to know what is it like to be an International Student now on a typical day

    - at the university
    - in your room or apartment
    - socially: how are you connected to people?
      " " " " " " in Winnipeg?
      " " " " " " at the U of M?
    - spiritually
    - physically

25. Have you ever not been well since coming to Winnipeg?
    How did this come about?
    How did you look after this concern? Where did you get help?
    What else helped or might have helped?

26. What is important to you about your health now?

27. From <u>the time you waken until you go to sleep</u>, what are some of the things you have to do daily to stay well now? What keeps you as healthy as you feel now?

28. When I talk with other students who have left home, they say certain activities /experiences or people affect their health. Could you describe some activities / experiences or people which have affected you?
    Are there others?
29 Over a typical week, how often do matters of health arise for you now?
30. What areas of your health would you like to see yourself change now?
    What would help you to make this change?
31. If you were making up these questions about health, what would you have thought was most important to include?
32. Is there anything you hoped I would ask but didn't?

Taking Leave

I've learned a lot speaking with you today and I'm sure I could learn more. I need to go over the tape before I ask more questions. I would like to meet with you again. I'll give you a call so we can arrange a time that is convenient for you. Thanks for your help today.

Appendix F

DOMAIN ANALYSIS
WORKSHEET

1. Semantic Relationship: _____

2. Form: _____

3. Example: _____

Included Terms	Semantic Relationship	Cover Term
_____		
_____	_____	_____
_____		
_____		
_____		
_____		
_____		

Structural question: _____

_____

_____