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RELIABILITY AND VALIDITY OF WELLNESS INSTRUMENTS: USERS AND NON-USERS OF COUNSELING CENTER SERVICES AND THEIR LEVEL OF WELLNESS

By

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ABSTRACT

RELIABILITY AND VALIDITY
OF WELLNESS INSTRUMENTS:
DIFFERENCES IN USERS AND NON-USERS OF
COUNSELING CENTER SERVICES

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Wellness is a concept of recent origin that has not been previously examined in the context of users and non-users of counseling center services and their level of psychological health. Previous studies have used the premise of the medical model which infers that users of mental health services have a higher degree of pathology present. A sample of 53 non-users was obtained by a stratified random sample. The users of counseling center services consisted of 57 students who received an intake interview at a large Southwestern University. Both groups were given three wellness inventories (Wellness Inventory, Lifestyle Assessment Questionnaire, and Lifestyle Coping Inventory). The purpose of the study was to determine the reliability and validity of the wellness instruments and to identify differences in wellness levels between users and non-users of counseling center services. The wellness instruments were found to be both reliable as measured by coefficient alpha and valid

with this college student population. There were no statistically significant differences as measured by MANOVA between users' and non-users' level of wellness. In addition, supplementary descriptive analyses were performed with the subscales of the inventories. Nine of the twenty-nine wellness inventories subscales did show statistically significant differences. On eight of these subscales, the users had a higher level of wellness than non-users. These subscales showed users of counseling center services to have a higher level of wellness in the areas of finding meaning in life, self exploration, attitudes towards play/work, cognitions and emotions. The subscales of the test tend to support the findings that users are more aware of their internal processes and issues, seek ways to enhance their psychological well being, and use therapy as one of the means to do so. The subscale results indicate that certain aspects of wellness may be related to the utilization of counseling center services which are counter to the traditional interpretation of pathology as assumed by the medical model.

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CHAPTER 1

STATEMENT OF THE PROBLEM

Introduction

Since the pioneering work of Schneidler and Berdie in 1942, counseling psychologists have been interested in the question, Who are the users of university counseling centers? (Dunn, Lanning, Patch, & Sturrock, 1980; Nagelberg & Shemberg, 1980; Reifler, 1970; Wechsler, Rohman, & Solomon, 1981) Schneidler and Berdie found that students who sought counseling did not differ significantly from their classmates in aptitude for college work, high-school scholarship, or achievement in English. The student populations tested resembled each other in measured personality traits such as morale, social, family, and emotional adjustment, and economic conservatism. Twenty-five years later, a similar finding was reported by Berdie and Stein (1966). They compared counseled with noncounseled college students across socioeconomic, personality, and ability-achievement variables and discovered no "important" differences. After forty years of research, the question still remains, What variables differentiate users of counseling centers' services from non-users?

One of the reasons for the lack of clarity concerning individual traits that differentiate counseled from noncounseled students is

that the treatment/medical model, which characterizes the practice of medicine in the United States today, has been used to examine this population (Travis, 1981). Traditionally, medical and mental health professionals have been concerned primarily with detection and treatment of people who are already ill (Papenfuss & Beier, 1984). According to Travis, the treatment/medical model is built on the diagnosis of a disease, the repair of injury, and the elimination of symptoms. A dimension usually missing is prevention. The treatment/medical model shifts the responsibility of personal health away from the consumer and places it on the provider of medical services (Travis, 1981).

Bloomfield and Kory (1978) labeled the treatment/medical model the "mechanistic" approach. The mechanistic viewpoint pictures the body as a machine with parts that can be treated separately. It stresses the importance of the physician's role in the treatment of disease, and de-emphasizes the role of mental and emotional factors as a part of health. The mechanistic model encourages a disease orientation and medical specialization at the expense of the client.

The treatment/medical model has had an effect on the mental health profession. Throughout the history of psychology, psychologists have been primarily concerned with the unhealthy aspects of personality (mental illness) and have ignored conditions of psychological health (Hosler & Fadely, 1981). Present-day mental health theories and much of psychological theory display a distinct interest and focus on sickness rather than actual health (Hosler & Fadely,1981). Little has been written about defining psychological

health, emphasizing psychological well-being (Jourard, 1971) except for the work of Maslow (1968 &1976).

The research literature on users of counseling center services has followed the traditional treatment/medical model. The result of the use of this model has been the assumption that users of counseling center services have some degree of pathology present. King (1968), for instance, in his study of students at Harvard found that students who used counseling centers also used the medical and surgical clinics more frequently during their college years. King concluded that "one can interpret these data as indicative of the general health preoccupation in many neurotic and psychotic disorders" (p. 156).

Preoccupation with pathology is emphasized in other studies concerning counseling center users. Boor (1975) found that students with art majors contacted psychological services more frequently than did most other students. The data from his study suggest that:

> Persons with propensities toward relatively abstract, subjective ideation are more likely to experience personal adjustment difficulties or at least be more likely to seek help for those difficulties than are persons with propensities toward cognitions related to more concrete, objective concepts. (p. 108)

According to Boor, psychology majors were another group that mainfested pathological tendencies. Persons with relatively marked personal adjustment problems tended to select psychology as a major and were more likely to seek therapy for their adjustment problems than other students. Reinhold (1973) found that students who used counseling centers frequently identified the following symptoms:

depression, anxiety, thoughts of suicide, and fear of a nervous breakdown.

The instruments used to detect differences between users and non-users reflect the focus on pathology. Instruments used by researchers have been the The Minnesota Multiphasic Personality Inventory (Cooke & Kiesler, 1967; Davis & Widseth, 1978; Heilbrun, 1960; King, 1968; Kleinmutz, 1960), The Mooney Problem Check List (Doleys, 1964; Palladino & Domino, 1978; Paradise, 1979), the College Maladjustment Scale (Bosmajian & Mattson, 1980), Eysenick Personality Inventory (McClure et al., 1982), and the Omnibus Personality Inventory (Kirk, 1973; Rossman & Kirk 1970; Synder & Kahne, 1969). The use of these instruments has failed to identify personality characteristics that differeniate users and non-users. To date, there is still little information as to why some students choose to use a university counseling center while others do not (Bosmajian & Mattson, 1980).

Need for the Study

The use of the treatment/medical model, based on the diagnosis of illness, may be one of the reasons why the studies (Bosmajiam & Mattson, 1980; Cooke & Kiesler, 1967; Davis & Widseth, 1978; Doleys, 1964; Heilbrun, 1960; King, 1968; Kirk, 1973; Kleinmutz, 1960; McClure et al., 1982; Palladino & Domino, 1978; Paradise, 1979; Rossman & Kirk 1970; Synder & Kahne, 1969) have failed to pinpoint consistent differences between users and non-users of services. The treatment/medical model identifies only those personality

characteristics that are deemed pathological. Rimmer et al. (1978), using psychiatric diagnoses, found that 18% of their college sample had some degree of psychological disturbance. Yet, only one half of those defined as ill by the study sought help or considered getting help. The authors concluded that being "ill" was not the reason why students sought help.

The treatment/medical model does not discriminate between users and non-users of counseling services. The focus of the treatment/medical model overlooks nonpathological personality characteristics. The narrow focus of the treatment/medical model limits the use of other attributes and behaviors in describing the differences between users and non-users. Therefore, a need for a new model is evident in the research that seeks to differentiate users from non-users.

Theory

Increasingly, there is acknowledgment from both the medical and mental health professions that mental health care is delivered most effectively when the total person is addressed. Findings indicate that a multidimensional model needs to be adopted in the mental health field (Ferguson, 1980; Flynn, 1980; Lafferty, 1979; Pelletier, 1977, 1979; Ryan & Travis, 1981). One model that has the potential for incorporating mental health care is wellness. The wellness model offers a holistic view which recognizes that the multiple dimensions of human functioning are inseparable (Elsenrath, 1984).

Dunn (1961, p. 4) defines wellness "as an integrated method of functioning oriented towards maximizing the potential of the individual." This definition implies that there is no optimum level of wellness, but rather that wellness involves progress towards an ever-higher level of functioning (Dunn, 1961). In other words, wellness is an ever-changing state, incorporating many degrees or levels of wellness (Ryan & Travis, 1981). Wellness does not imply the absence of disease, but rather that disease presents an opportunity for the growth of the individual (Ardell, 1979). High level wellness means attending to the physical self, using the mind constructively, channeling stress energies positively, expressing emotions effectively, becoming creatively involved with others, and staying in touch with the environment (Travis, 1981). According to Travis, a person is constantly striving to improve his/her health, regardless of where he/she is on the continuum of wellness. This definition implies that there is no point where wellness is totally achieved. Wellness is as dynamic as life itself (Lafferty, 1979).

The concept of wellness provides a new way of looking at health, illness, and the utilization of service. It is a multifaceted approach that includes physical, mental, intellectual, and spiritual dimensions. A new paradigm for mental health and medicine, wellness enlarges the framework of the medical model, incorporating scientific and technological advances while restoring and validating intuitions about the mind and interpersonal relationships (Ferguson, 1980). When this new paradigm of wellness is applied to health care, a qualitative change is noted (Ferguson, 1980), one that respects the

interaction of mind, body, and environment. The wellness paradigm seeks to correct the underlying disharmony between mind and body that is one of the causes of physical and mental health problems (Ferguson, 1980). Ferguson, in The Aquarian Conspiracy, has compared the assumptions of the old paradigm of medicine with the new paradigm of health (pp. 246-248):

Assumptions of the old Paradigm of Medicine	Assumptions of the new Paradigm of Health
Treatment of symptoms.	Search for patterns and causes, plus treatment of symptoms.
Specialized.	Integrated, concerned with the whole patient.
Emphasis on efficiency.	Emphasis on human values.
Professional should be emotionally neutral.	Professional's caring is a component of healing.
Pain and disease are wholly negative.	Pain and disease are information about conflict, disharmony.
Primary intervention with drugs, surgery.	Minimal intervention with "appropriate technology," complemented with full armamentarium of non-invasive techniques (psychotherapies, diet, exercise).
Body seen as machine in good or bad repair.	Body seen as dynamic system, context, field of energy within other fields.
Disease or disability seen as thing, entity.	Disease or disability seen as process.
Emphasis on eliminating symptoms, disease.	Emphasis on achieving maximum wellness, "meta-health."
Patient is dependent.	Patient is (or should be) autonomous.
Professional is authority.	Professional is therapeutic partner.

(Ferguson Paradigms of Illness and Health, continued)

Body and mind are separate; psychosomatic illness is mental, may be referred to psychiatrist.	Bodymind perspective; psychosomatic illness is province of all health-care professionals.
Mind is secondary factor in organic illness.	Mind is primary or coequal factor in all illness.
Placebo effect shows the power of suggestion.	Placebo effect shows the mind's role in disease and healing.
Primary reliance on quantitative information (charts, tests, dates).	Primary reliance on qualitative information, including patient's subjective reports and professional's intuition; quantitative data an adjunct.
"Prevention" largely environmental: vitamins, rest,exercise, immunization, not smoking.	"Prevention" synonymous with wholeness: work, relationships, goals, body-mind-spirit.

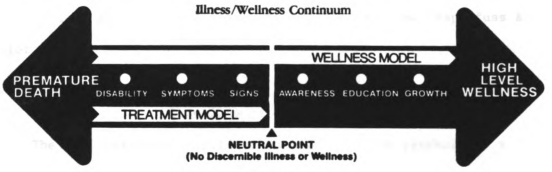
Note. From The Aquarian Conspiracy (pp.246-248) by Marilyn Ferguson, 1980, Los Angeles: J. P. Tarcher, Inc. Copyright 1980 by Marilyn Ferguson.

Advocates of the new paradigm for health strongly believe that the wellness model will enable the members of society not only to feel better about themselves, but to also have more of an impact on determining their own degree of health (Ardell, 1979; Dunn, 1961; Ferguson, 1980; Flynn, 1981; Gross, 1980; Ryan & Travis, 1981; Travis, 1981). The wellness model emphasizes the need for an integration of the mind, body, and spirit, and regards illness from a new perspective—as a possible means of personal growth.

An outcome of the wellness paradigm is that psychologists and mental health professionals now have an alternative to the

treatment/medical model, which has been used in the field of psychology since it was developed by Freud (Maslow, 1961). Maslow believed that this new model would give us more possibilities for controlling and improving our lives and for making ourselves better people (1961, p. 5).

The use of the wellness model provides an opportunity for professionals to seek and develop other means to assess health and understand the relationship between wellness and illness (Jourard, 1971; Pelletier, 1977; Travis, 1981). Van Ness (1981) found that professionals using the wellness model looked at the presenting symptoms of the client in the context of his/her whole life and were able to recommend medical, life style, psychological and/or spiritual changes. Travis (1981) developed the following model for professionals showing the continuum of wellness and illness.



Note. ILLNESS/WELLNESS CONTINUUM. From The Wellness Workbook (p. 2) by R. S. Ryan and J. W. Travis, 1981, Berkeley, CA: Ten Speed Press. Copyright 1972, 1981 by John W. Travis. Reprinted by permission.

Moving from the center to the left shows a progressively worsening state of health. Moving to the right of center indicates

increasing levels of health and well-being. The treatment/medical model can bring the individual to the neutral point, where the symptoms of disease are alleviated. The wellness model, which can be utilized at any point, directs the person beyond neutral, and encourages her/him to move as far to the right as possible. The wellness model incorporates the treatment model and adds the dimensions of awareness, education, and personal growth.

With wellness as a continuum, mental health and service utilization can be described and evaluated from a broader perspective, not just from the left half of the continuum that the medical model addresses. The dimensions of mind, body, intellect, and spirit can assist mental health professionals in understanding client concerns and in the development of a wholistic approach to treatment. Treatment can then serve as a vehicle for personal growth as well as a means for correcting behavioral problems (Papenfuss & Beier, 1984).

Significance for Counseling

The wellness model provides, for the field of psychology, a preventative and holistic approach to mental health services and it permits psychologists to break away from the traditional treatment/medical model, which has not been useful in differentiating users and non-users. Since wellness theorists regard illness as a means of personal growth, this may indicate that students who seek counseling services are healthier than those who do not. This premise would encourage psychologists to move away from the

assumption that students who use counseling center services have some degree of pathology present.

The wellness model is congruent with the philosophy of new approaches to mental health (Elsenrath, 1984; Travis, 1981). The current trend in counseling centers is to emphasize normal growth and development, address the issues of person/environment fit, developmental crises, needs of neglected populations, and issues that address life span development (Delworth, 1977).

The wellness model examines each of these issues using a holistic and proactive approach (Travis, 1981). It is believed that the wellness model has the potential to provide counseling center professionals with a means to implement this new philosophy of mental health through its emphasis on prevention and personal growth.

Purpose of the Study

Though the theory of wellness has been part of the psychological literature since the works of Maslow (1968), Jourard (1971), and Allport (1955), little research has been conducted to validate this construct. Several instruments have been developed, however, to measure an individual's level of wellness. Three popular inventories are: Wellness Inventory (Travis, 1981); Lifestyle Assessment Questionnaire/Wellness Assessment Questionnaire (The National Wellness Institute, 1983); and Lifestyle Coping Inventory (Hinds, 1983). These inventories measure the following characteristics:

Dimensions of Wellness

Wellness Inventory	Lifestyle Assessment Questionnaire	Lifestyle Coping Inventory
Self Responsibility and Love	Physical Fitness	Nutritional Actions
Breathing	Self-Care	Physical Care
Sensing	Drugs and Driving	Cognitive and Emotional Actions
Eating	Nutritional	Low Risk Actions
Moving	Social-Environmental	Environmental Actions
Feeling	Emotional Awareness	Coping Style
Thinking	Emotional Control	Social Support
Playing and Working	Intellectual	
Communicating	Occupational	
Sex	Spiritual	
Finding Meaning		
Transcending		

Note. The list of characteristics in column 1 are from Wellness Inventory by J. W. Travis, 1981; the list of characteristics in column 2 are from Lifestyle Assessment Questionnaire by the National Wellness Institute, 1983; and the characteristics in column 3 are from Lifestyle Coping Inventory by W. Hinds, 1983.

These instruments have also been used to provide a framework for defining positive mental health in both the university community and industry (Elsenrath, 1984; Juechter & Utne, 1982; Snow, 1982; Van

Ness, 1981). Though instruments of this type are readily accepted by the public and industry, little research has been done to determine the reliability and validity of the concept of wellness itself. The literature contains no research to substantiate whether these instruments actually measure wellness.

The purpose of this dissertation is two-fold. First, this study is to determine whether wellness inventories measure similar characteristics, and therefore report similar results in terms of the level of wellness. The second purpose is to determine whether wellness inventories identify consistent differences between counseling center users and non-users.

Research Questions

Two sets of research questions guide this study. The first set of questions focus on the reliability and initial validity of wellness inventories: The Wellness Inventory (WI), The Lifestyle Assessment Questionnaire-Wellness Assessment Questionnaire (LAQ), and the Lifestyle Coping Inventory (LCI). The second set of questions center around the differences between users and non-users of counseling center services. Three main questions will be researched, and they are stated generally in this section and in statistical form in Chapter III.

Instrumentation Questions

1. Are the WI, LAQ, and LCI reliable measures of wellness for college student populations?

2. Is there evidence of construct validity with the WI, LAQ, and LCI?

Differences Between Users and Non-Users of Counseling Center Services

3. Do users of counseling center services and non-users of counseling center services differ in wellness levels as measured by the WI, LAQ, and LCI?

Overview of Dissertation

In Chapter 1, the problem investigated is presented along with the need for, importance of, and theory framing the research. In Chapter 2, a comprehensive review of the literature is presented. Chapter 3 describes the overall design and methodology for the study. Chapter 4 will contain the results of the research. In Chapter 5 a summary will be presented and conclusions drawn from the results. Implications of the research will be discussed in the final chapter.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of this chapter is to review theory and research relevant to wellness and users and non-users of counseling center services. It includes a description of psychological instruments used to differentiate users and non-users of counseling center services, the use of Health Risk Appraisals, the theoretical foundation of wellness, the development of wellness inventories as an outgrowth of Health Risks Appraisals, and the university community and wellness.

Psychological Instruments and Users and Non-users of Counseling Center Services

Since the 1930s professionals have been concerned with the mental health of college students and the use of counseling center services (Nikelly, 1966), yet there is little information as to why some students choose to use a counseling center while others do not (Bosmajian & Mattson, 1980). Researchers have tried to predict which students would be users of counseling center services through the use of psychological instruments. A review of the literature shows that a wide range of instruments have been used to differentiate users from non-users, from the MMPI to the Survey of Study Habits, yet

little attention has been paid to the original purposes of the instrument, methodology and research procedures, and psychometric limitations associated with the instruments. Therefore, it is difficult to compare the results of these studies and draw definite conclusions from the literature.

The following section is a review of studies using psychological instruments as a means of differentiating users from non-users of counseling center services.

Minnesota Multiphasic Personality Inventory

One instrument that has been used extensively is the Minnesota Multiphasic Personality Inventory (MMPI). The MMPI consists of 550 affirmative statements, to which the examinee gives the responses True, False, or Cannot say. The test items of the MMPI range widely in content, covering such areas as: health; psychosomatic symptoms; neurological disorders and motor disturbances; sexual, religious, political, and social attitudes; educational, occupational, family, and martial questions; and many neurotic or psychotic behavior manifestations, such as obsessive and compulsive states, delusions, hallucinations, phobias, and sadistic and masochistic trends (Anastasi, 1982, p. 501).

The principal application of the MMPI is to be found in differential diagnosis. In using the inventory for this purpose, the procedure is much more complex than the labels originally assigned to the scales might suggest. The test manual and related publications caution against literal interpretation of the clinical scales. "We cannot assume that a high score on the Schizophrenia scale indicates

the presence of schizophrenia. Moreover, such a score may occur in a normal person." (Anastasi, 1982, p. 503) Elevated scores cannot be solely interpreted as an indicator of pathology and/or mental illness.

The relevant studies using the MMPI fall into two major categories: studies comparing the different MMPI scales, and studies that classify students according to their level of psychological adjustment. Davis and Wideseth (1978) administered the Minnesota Multiphasic Personality Inventory to university freshmen males (N=755) entering in the fall semesters of 1969, 1970, 1971, and 1972. The purpose of the study was to investigate the utility of elevated MMPI scales 2 (Depression) and 7 (Psychasthenia) as a predictor of psychological help seeking during college. The results support the conclusions that among male college students elevated MMPI 2 and 7 scores were indicators of current anxiety and of a relatively enduring clinical problem. Students with moderately high MMPI scales 2 and 7 at college entry were 50% more likely to seek counseling than were other students. The 2-7 elevation was characteristic (62%) of freshman male counselees (the study did not include female students). A study by Strupp and Bolxom (1975) reported similar findings for males and failed to find a comparable relationship between 2-7 elevation and rate of counseling for females. Overall, the relationship between the MMPI scale elevation on college entry and later help seeking appeared stronger for male than for female students. Therefore, it is difficult to generalize the results of these studies to all university students.

Parker (1961) used the long and short forms of the MMPI to see which would be a better predictor of counseling center usage. Parker found that the long form, not the short form, of the MMPI discriminated between users and non-users if it was given at orientation. However, if the test was given at the time of counseling, either form discriminated between the two groups. The greatest differences were found in the D and AI scales in the long form. The short form showed greater differences on the Pt and Sc scales. These results question the reliability and validity of these two instruments. If the two forms of the MMPI were statistically equivalent, similar test results should be reported. This study indicated that there are psychometric problems with the two instruments. One is unable to concluded that either form differentiates users from non-users.

Cooke and Kiesler (1967) administered the MMPI and the Welsh Anxiety Index to all incoming freshmen at the University of Iowa from 1958 to 1962. The client subjects for each year (40 males, 40 females) were chosen by a table of random numbers from a group who applied to the counseling center for personal adjustment problems. The non-client subjects (40 males, 40 females) were randomly selected from the routine case files of all incoming freshmen.

For both male and female groups, clients had a significantly higher total MMPI mean and a significantly higher neurotic triad mean than non-clients. However, there were no significant differences between clients and non-clients on the Welsh Anxiety Index. The results of this study indicate that students who seek counseling

generally have more elevated MMPI scales than those who do not. The elevation was not limited to a few specific scales, but a generally higher profile across all scales. Cooke and Kiesler concluded that it might be possible to use the MMPI to predict, at college entrance, those students who will later require counseling. However, the study does not answer the question, what are the personality traits that differentiate users from non-users.

Calhoun and Selby (1974) incorporated the MMPI as part of a test battery to determine help-seeking attitudes and the severity of psychological distress with undergraduates (N=45) enrolled in introductory psychology courses. The scores on the MMPI were correlated with the overall score on the help seeking inventory. The results indicated that the more distress, the less favorable the attitude toward seeking help. In other words, the more disturbed individuals were less receptive to psychological help. The results of this study would question whether those who seek counseling are actually the more disturbed individuals on the college campus.

Bosmajian and Mattson (1980) attributed the lack of differences between users and non-users in previous studies with the MMPI to overlooking the wide variability within user and non-user groups in respect to the individuals' level of personal adjustment. Although it is well known that counseling users exhibit a wide range of troubled behavior, research is typically conducted as if the differing levels of personal adjustment found within users' and non-users' groups is of little consequence in terms of outcome measures.

The primary purpose of the Bosmajian and Mattson study (1980) was to determine the extent to which several predictor variables were able to discriminate between individuals (matched on levels of personal adjustment) who sought help at a university counseling center and those who did not. The College Maladjustment Scale (Kleinmuntz, 1960) was used as the investigating instrument. The College Maladjustment Scale is a 43-item scale empirically derived from the MMPI on the basis of each item's ability to successfully discriminate between individuals who were seen at a college mental health clinic and those who were not.

Bosmajian and Mattson divided the sample into three groups of females, each containing 40 individuals: 1) Adjusted seekers who made and kept their first appointment with a counselor for a problem other than one of a personal-social nature, and scored equal to or less than 15 on the College Maladjustment Scale; 2) Nonadjusted seekers who made and kept their first appointment with a counselor for help with a personal problem (ranging from serious psychological complaints to other difficulties such as loneliness, loss of boyfriend/girlfriend) and scored greater than 15 on the College Maladjustment Scale; 3) Counseling nonseekers, a group comprised of 10 adjusted and 10 nonadjusted subjects. Level of adjustment was determined by scores on the College Maladjustment Scale, 10 scored 15 or less and 10 scored greater than 15. Bosmajian and Mattson found that the results of the study would have been quite different had levels of adjustment been ignored. The tendency for adjusted and nonadjusted seekers to differ would have gone unnoticed.

The results of the study suggest that variables traditionally associated with help-seeking attitudes and behaviors, such as willingness to disclose and attitudes toward psychologists and psychiatrists, did not discriminate between individuals who sought help and those who did not (when level of adjustment was controlled). The study also found that seekers and nonseekers were capable of making and maintaining an intimate friendship. Both groups did talk to friends about personal problems, however, nonseekers used more sources of help in efforts to deal with their problems. The results of the study indicated that the number of social supports was the discriminating variable between users and non-users.

The College Maladjustment Inventory has psychometric limitations due to its construction, i.e. use of items from the MMPI. No reliability estimates are cited, therefore, it is difficult to determine whether the study is psychometrically sound. Another limitation of the study was the sample itself of female students only. The results can only be generalized to female college students.

In summary, investigators have used the MMPI in their research with users and non-users of counseling centers. In some of the studies, students who seek counseling have generally appeared more maladjusted on the MMPI than students who do not seek counseling (Cooke & Kiesler, 1967; Danet, 1965; Kleinmuntz, 1960; Parker, 1961). In other studies, the MMPI has not been able to differentiate between users and non-users and they have indicated that those who

need help may not be the ones that seek help (Calhoun & Selby, 1974). As a whole, the results of these studies bring into question the validity of the MMPI as a differentiator of users and non-users.

Mooney Problem Check List

Instruments that access students' current areas of concerns have been another area of focus for researchers. The Mooney Problem Check List (1950) has been the primary instrument used in this type of research. The manual (1950) emphasizes that the counselor must keep in mind that the Problem Check List is not a test. It does not yield scores on traits or permit any direct statements about the adjustment status of the respondent. Rather, the Problem Check List is "a form of simple communication between the counselee and counselor designed to accelerate the process of understanding the student" (Mooney & Gordon, 1950).

The counselor needs to be continuously aware that the importance of the number of items checked by a single person cannot be known except from the total counseling situation (Mooney & Gordon, 1950). A person with many checked problems is likely to have more real problems for which counseling might be helpful, although this is not necessarily so. Similarly the importance of the mean number of checks made by a group and the frequency distribution therefore resides, not in the magnitude of these statistics, but to a considerable extent in the purposes for which the survey of student problems was instituted.

Palladino and Domino (1978) were interested in the dimensions tapped by using instruments that did not emphasize serious pathology.

In 1969, entering freshmen were invited to participate in a testing program sponsored by the counseling center. Each participant was given the California Psychological Inventory (CPI), the Survey of Study Habits and Attitudes (SSHA), and the Mooney Problem Check List (MPCL). In 1974-75 an analysis of counseling center files was made to locate students from the entering class of 1969 whose folders contained complete and valid test protocols, clear record of their contacts, and the registrar's certification that they had graduated as expected. For this study, 279 files were selected.

The MPCL was the only instrument of the test battery that yielded significant results. Eight problem areas of the MPCL showed significant differences between users and non-users: social and recreational activities; social-psychological relations; personal-psychological relations; courtship, sex, and marriage; home and family; morals and religion; and adjustment to college work. The author conducted further statistical analyses to determine if significant differences existed between long-term clients and short-term clients. For males, the short-term clients checked the fewest items, non-clients were in the middle, and long-term clients checked the most. For females, non-clients checked fewer problems in the health area, followed by short-term and long-term clients, while the order of short-term and long-term clients was reversed for the section on finances.

The authors of the study concluded that those seeking counseling were not substantially different from their peers in basic personality dimensions but were significantly different in the

reporting of actual and potential difficulties. This conclusion seems premature. The authors did not address inconsistencies such as sex differences and inconsistent ranking within groups, which heightens the caution mentioned in the test manual. The MPCL is an instrument designed to assist the therapist in identifying clients' concerns, but not necessarily identifying the severity of their distress (Mooney & Gordon, 1950).

Doleys (1964) administered the Mooney Problem Check List to six sections (N=158) of introductory psychology classes. However, instead of asking the students to complete the essay questions at the end of the check list, another page was inserted. This sheet contained statements and instructions designed to determine how interested the student was in using counseling center services. Those students who expressed either very interested or interested, were contacted either by phone or by letter. If the client continued to express an interest in counseling, an appointment was made. Of the 158 students tested, 63 (40%) met the above criteria for potential clients. After all of these were contacted, 33 (21%) actually became clients, while 30 (19%) had either changed their minds about wanting counseling, or made appointments and failed to keep them on two consecutive occasions.

Doleys found that students who became clients of the university counseling center expressed significantly more total problems on the Mooney Problem Check List in the areas of: Health and Physical Development; Finances, Living Conditions, and Employment; Social-Psychological Relations; Personal-Psychological Relations; and

Adjustment to College Work. The author concluded that the MPCL was able to differentiate among students who did not want counseling, students who wanted counseling but did not become clients, and students who became clients by counting the number of problems checked on the instrument.

The results of study are misleading. The sample of counseling center users were students who were directly contacted by the staff of the counseling center. It is difficult to determine which variable identified counseling center users, the number of problems checked on the MPCL or the personal contact by the counseling center staff member. The sampling procedures may have biased the results of the research.

Tryon's study (1978) attempted to identify incoming freshmen who would request counseling by determining the relationship between difficulties endorsed during summer orientation and later counseling problems. In this study 343 freshmen took the Mooney Problem Check List (MPCL), the Strong Vocational Interest Blank, and the Survey of Study Habits and Attitudes.

The results of the study indicated that students who came for personal counseling, vocational counseling, and test feedback all endorsed similar numbers of problems. These students did not differ from students who made appointments but did not show or from students who did not seek counseling. Even when students were classified as either users or non-users of counseling, they were found to differ only on one MPCL scale. The users of counseling underlined

significantly more problems in the moral and religion category than non-users.

The outcome of Tryon's study were in agreement with previous studies that found little or no differences between users and non-users of counseling (Berdie & Stein, 1966; Rossman & Kirk, 1970; Schneidler & Berdie, 1942). In summary, the results of Tyron's study indicated that the MPCL was not a good predictor of help-seeking behaviors. Issues that bothered students before they entered college were not necessarily what caused them to seek counseling after entry.

Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) is a personality inventory based largely on Jungian theory and yields scores on four dimensions: Judgment-Perception, Thinking-Feeling, Sensation-Intuition, and Extraversion-Introversion. The client must choose between two descriptive terms or phrases that appear equally acceptable but differ in validity. The MBTI is concerned with the way people prefer to use their minds, interact with their environment, and process information (Anastasi, 1982).

Mendelsohn and Kirk (1962) used the Myers-Briggs Type Indicator to complete a study concerning personality differences between users and non-users of counseling services. One sixth of the 1959 freshman class at the University of California-Berkeley was given the MBTI during registration week as part of an assessment battery. By inspecting the files of the counseling center, sub-samples of those who had been given the MBTI and had utilized the counseling service within the following year were formed. The results of the study

indicated that the user sample and the non-user samples were similar on a number of important variables, for example, intelligence, age, education, socio-economic status. The two dimensions that discriminated best between the client and the non-client samples were Judgment-Perception and Sensation-Intuition. The data indicated that those whose preference was toward perception rather than judgment and who relied less on overt, concrete stimuli (Intuition types) were more likely to seek counseling assistance. The conclusions of the study may lead one to assume that students who are more perceptive and intuitive are less healthy than the judging-sensing types. The test manual cautions users from drawing such conclusion when using the MBTI.

King (1968) used the Myers-Briggs Type Indicator as one of the variables in a study with undergraduate students (N=666) who received psychiatric services before graduation and those who did not seek services. King found that students who used psychiatric services were more intuitive and introspective. King also compared these two groups on a number of other variables including psychological mindedness, social desirability, need deference, and emotionality. He found that users of counseling centers possess psychological characteristics that are highly valued within the university including, being more individualistic, able to think for oneself, less emphasis on the work-success ethic, and more present focus.

Summary

The assumption that the average counseling center user is more disturbed than the average non-user is not clearly supported by the

literature. A close inspection of research that purports to discriminate counseling users from non-users on the basis of level of adjustment reveal users and non-users to be more alike than different on most measures (Bruch, 1977; Cooke & Kiesler, 1967). In 1940, Williamson and Bordin reported that counseled students were better adjusted and achieved higher grade-point averages than noncounseled students. These findings were confirmed by Campbell (1963). Snyder and Kahne (1969) noted that freshman users as compared to non-users showed more of the qualities that the college values: "an appreciation of a broad range of intellectual interests, tolerance for ambiguity, autonomy, and a relative lack of stereo-typical responses" (p. 28). There seems to be in the user a pattern of positive and valued qualities that may make adjustment more difficult and complex in the student's college years, and lead to more personal problems and adjustment difficulties, that also may well put this student ahead in the long run (Snyder & Kahne, 1969).

Carskadon (1975) in his review of the literature concerning help seeking behaviors noted:

> Helpseekers are more psychologically minded than nonhelpseekers,more questioning, and more introspective. They are less authoritarian and less accepting of traditional values in and out of college. They are more cosmopolitan and more aesthetic. They are more complex in their thinking, and tend to be more autonomous. (p. 132)

Whether or not helpseeking is a sign of weakness remains debatable (Carskadon, 1975). It is a value judgment whether the characteristics that distinguish users from non-users represent strength or weakness (Carskadon, 1975). Given the goals of higher

education, however, it is difficult not to see some of these attributes as strengths.

Health Risk Appraisals

Health Risk Appraisals (HRA), also known as Health Hazard Appraisals (HHA), are tools that describe an individual's chances of being ill or dying from selected diseases (Chenoweth, 1981). (The literature does not clearly differentiate between HHA and HRA. To elimination confusion, the term HRA will be used in this literature review.) The questions used on Health Risk Appraisal forms cover age, race, sex, height, weight, blood pressure, cholesterol level, history of chronic bronchitis or emphysema, family health history, and such life-style issues as smoking, drinking, seat-belt usage, and exercise habits (Imperato & Mitchell, 1985). The objective of HRA is to modify an individual's behavior by motivating lifestyle changes (Chenoweth, 1981). According to Pelletier, HRA systems are one of the most important tools now being developed for preventive medicine (1977).

The Health Risk Appraisal, based on the work of Lewis Robbin and Jack Hall (Fenger & Byrd, 1979), was developed at the Methodist Hospital in Indianapolis (Milsum, 1981). During 1975, Robbin and Hall sent more than 40,000 appraisals to physicians, medical schools, residency programs, health educators, health clubs, and departments of public health (Pelletier, 1979). Robbin and Hall established the validity of the HRA by comparing the responses on the returned appraisals to the twelve leading causes of death. The data bases for

HRA were based on several studies and a compilation of death certificates over the past two decades. From the results of the comparison an estimate of a participant's probability of dying in the next ten years was determined (Imperato & Mitchell, 1981; Milsum, 1981).

Upon completion of the HRA, the individual's computerized score is compared to their peer group based on the most recent Geller Table to precisely determine potential health risks to that person. The Geller Tables are risk tables based on a search of about 20 years of medical literature. From this data, a determination of probability is made concerning the 15 leading causes of death for each of the four categories: black males/females and white males/females.

According to Pelletier (1977) the assessment program is intended to determine whether the person is above or at an average in terms of health risks as compared to his/her peers. After the HRA is scored, the individual is given a health-hazard age, which might be the same as or in excess of his/her chronological age.

> For example, an individual of age forty-five may in fact have a health-hazard age of fifty, in the sense that he is engaged in sufficient negative life-style activity at the present time to place him at the risk of a decreased longevity of five years. At this point the individual simply has the information he is in fact living in a high-risk manner. (Pelletier, 1977, p. 313)

The HRA proceeds one essential step further. The computer printout informs the individual of the years that are recoverable and notes to the person the specific area in which s/he should alter his/her life style to decrease the health risk. Included in this risk reduction procedure are recommendations such as: start an

exercise program, quit smoking, lose ten pounds, have a yearly physical checkup, or, simply, wear seat belts all the time while driving. Each of these factors is given a numerical value of how many years can be regained though implementing these recommendations. Often it is possible to regain or to reverse the risk by as much as 90% (Pelletier, 1977). Simply stated:

> The HRA process identifies preventable and unpreventable health risks for each individual participant. These risks, which are presented in a graphic format demonstrate the beneficial effects in terms of longevity and of reducing preventable health risks. (Fenger & Byrd, 1979, p. 121).

One of the doctors most active in the development and continued application of HRA and preventive health care is John W. Travis (Pelletier, 1977, 1979). As part of his work, he developed an appraisal system concerning the etiology of disorders. Inherent in this appraisal system is the assumption that the etiology of a disorder is a long developmental process that can be altered by either a health or a disease orientation (Ryan & Travis, 1981; Travis, 1981). According to the HRA literature written by Travis and Reichard (1978), the natural history of a disease progresses in a series of seven stages:

> Stage 1: 'No-risk' category-constitutes the early part of life, when an individual is least likely to have a severe disease.
> Stage 2: 'At risk' category-when conditions such as age and environmental pollution exist and the individual may become increasingly vulnerable to a disease.
> Stage 3: 'Excessive Stress'-a particular physical agent or psychosocial situation is present which is determined places excessive stress upon the person. During this third stage the patient might smoke or engage in another activity which is a precursor of disease and places that individual into a higher stage of risk.

Stage 4: 'Disease Initiated'-there are definite clinical signs that a disease is initiated, but the individual is as yet unaware of it.
Stage 5: 'Help Seeking'-there are clear symptoms, such as pain, blood in the urine, or other unequivocal signs to the individual that lead him to his physician to seek help for his discomfort.
Stage 6: 'Disability'-there is disability, and at this point the individual has usually already sought medical care, since he is now in a stage of acute pain, disease, or disorder. If this stage is not adequately noted or treated, then the final stage;
Stage 7: 'Death'

Note: From Holistic Medicine from Stress to Optimum Health (p. 84-85) by K. R. Pelletier, 1979, New York: Dell Publishing.

Health practitioners do not usually concern themselves with the disease process until it reaches the signs characteristic of stage four when there are definite clinical signs of a disease (Pelletier, 1979). HRA makes it possible to look at stages two and three prior to the symptoms of a disorder; at this time preventive techniques can be initiated. During stage four, psychological, sociological, and situational variables can be used in conjunction with the traditional medical exam. Obviously, at stages five and six there is a pressing need for traditional medical care. Most important, detecting disease at early stages allows health practitioners to practice truly preventive medicine by giving ample warning both to the person and the practitioner before a disease becomes manifest (Pelletier, 1977, p. 315).

In primary prevention, the first step is to make high-risk individuals aware of their potential health problems. Only after this recognition is the person likely to engage in activities designed to lower that risk. Often a patient is aware of what

activities s/he needs to do to restore or maintain health, but, all too frequently, the patient does not implement activities to restore health. A reliable health status appraisal can often provide strong motivation to change self-destructive habits (Pelletier, 1979).

Milsum (1981) outlined the following issues as needing to be clarified with the client when using HRA:

1. The concept of reduced risk does not necessarily guarantee avoidance of death, or even sickness.
2. Mortality figures represent only a small part of the total disease entity, the tip of an iceberg of morbidity.
3. The program is intended to be educational and the important issue is to become aware of how various lifestyle habits are capable of influencing one's health.
4. Although the recommendations may appear rather commonplace, and are not new, these issues keep coming up because they are the important ones.
5. Finally, the HRA is not primarily a screening tool for disease. Rather, the underlying intention of HRA is to motivate individuals for lifestyle change in those stages when the person's risk of contracting such diseases through imprudent health habits is increasing (p. 112).

Studies Using Health Risk Appraisals (HRA)

The HRA has been incorporated as part of a proactive approach to health care and prevention in police departments, business and industry, social service agencies, and in educational systems (Badenhop et al., 1985; Bensley, 1981; Chenoweth, 1981; Cottrell & St. Pierre, 1983; Fenger & Byrd, 1979; Juechther & Utne, 1982; LaDou, Sherwood, & Hughes, 1975; McClaran & Sarris, 1985; Shea, 1981; Van Ness, 1981; Wilson et al., 1980; Wood & et al., 1982). Many professionals regard the HRA as a solution to problems facing agencies and institutions (Wilson et al., 1980). The following is a

review of the literature concerning the use of HRA with high school and college student populations. Included in the review is a summary of the findings and possible limitations of the research.

Bensley (1981) incorporated the HRA entitled Database Acquisition For Student Health (DASH), a commercially available HRA instrument designed specifically for college students, in his health education course. As a result of the attitude survey (N=31) regarding the use of HRA the following observations were made: 1) Students seemed excited about the use of health risk appraisals as a means of building a curriculum for health education courses; 2) Students welcomed the opportunity to change their health behaviors using a group setting; and 3) Students committed themselves to positive health behavior changes. From the follow-up survey, Bensely concluded that students were healthier in December than they were in August; every student achieved some of their health goals.

Nagelberg (1981) also used DASH in his evaluation of Bowling Green State University's health risk education program. Freshmen students (N=337) who had completed a DASH health questionnaire prior to entering the university, were assigned to one of three treatment groups: 1) DASH information was discussed with a peer health educator and then distributed to the student; 2) DASH results were sent through the mail; and 3) DASH results were temporarily withheld (no-feedback control group). After the treatment phase of the study, a post-test questionnaire was mailed to all students who completed the pretest. A number of items dealing directly with DASH and the peer health education programs were included in the post-test for the

peer health education and mail feedback groups. It was hypothesized that the most effective means of feedback would be by the peer health education program.

The results obtained from these measures failed to support the original hypothesis. Though the student evaluations of the DASH and peer health education programs were favorable, the three groups did not significantly differ from one another. Nagelberg provided three possible reasons for the results: 1) Peer health education was not a powerful intervention in affecting students' health attitudes and did not motivate students to improve their health; 2) The testing measures utilized were not psychometrically adequate; and 3) It may be argued that the students were already "healthy" (as a group) at the time of pretesting, and thus changes were not forthcoming nor to be expected. A measure of "risk" was determined for each student based on their health risk index. Only 12.3% of the sample was classified as "high risk." Nagelberg concluded that further research is needed regarding the use of this instrument with "healthy" students, its role in prevention, and promoting positive health across all age groups. The results of the study, however, did support the assumption that students regard the use of HRA as a valid part of health education.

In contrast, Chenoweth (1981) in his study of college students (N=113) enrolled in health education classes found that students who completed the HRA pretest and post-test, experienced changes in health behaviors significantly more than students in the control groups. Chenoweth concluded that the HRA when combined with a

feedback session with peer student assistants, caused a positive change in the students' health age as compared to the pretest results.

The University of Minnesota (Duluth) Health Education Program in cooperation with the student health service and the St. Louis County Health Department, developed, taught, and evaluated a course surrounding the concept of Health Risk Appraisal (Fenger & Byrd, 1979). The course revolved around the centralized theme "How to Take Care of Yourself" and the use of the HRA as a teaching instrument in health education. The results of this evaluation indicated that this group of university students (N=32) perceived the HRA experience as highly favorable. A high percentage (94%) of the population evaluating the HRA experience felt it was a worthwhile learning experience. Over one-half of the students thought HRAs should be a requirement for all university students. Students interpreted the HRA as a tool that helped to identify health concerns on which they could concentrate to improve their own health status. Fenger and Byrd concluded that the HRA promoted individual responsibility for health, lifestyle examination, and the identification of conditions that may precede disease states.

Cottrell and St. Pierre (1983) studied the effectiveness of HRA in motivating self-reported behavior change. The HRA was incorporated into a college health education course (N=234) centered around a lifestyle theme. This study differed from previous research (Bensley, 1981; Chenoweth, 1981; Fenger & Byrd, 1979; LaDou, Sherwood, & Hughes, 1975) in that the HRA was used only as an

independent variable, not as a dependent or combination dependent-independent variable. A second purpose of this study was to investigate the motivational impact of the health education course.

The study concluded that the HRA, when incorporated into a college health education course, did not produce a significant difference in the overall rate of behavioral change. Enrollment in a health education class produced a slightly greater (but not significant) rate of behavior change for those specific topic areas that were assessed by the HRA. The behaviors easily modified were less traditional concerns such as salt and cholesterol intake, testicular self-examination, sun exposure, and the inclusion of high fiber foods in the diet. Smoking, exercise, diet, and weight control were not significantly affected by either the HRA or the course.

In an earlier study, Dunton and Rasmussen (1977) had concluded that the amount of positive behavior change was directly related to the initial health risk of the client. The health risk index for the Cottrell and St. Pierre study was very low; 90.4% of the sample had a greater than average life expectancy. Cottrell and St. Pierre (1983) concluded that the HRA should be used with student populations that are at a higher health risk. The use of the HRA in college level health education classes served as an attention-gaining device and as a possible motivator of behaviors.

McClaran and Sarris (1985) surveyed 85 college students who were enrolled in a one-credit mini-course "Health and Lifestyle." The seminar explored the concepts of health promotion and personal responsibility for health. The primary evaluation instrument was a

50-item questionnaire designed by the authors to access attitudes, behavior, and knowledge before and immediately after the course.

Statistical analysis of the questionnaire yielded the following results. Students' health behaviors showed significant positive changes after the course in reported personal intake of salt, fats and oils, sugar, alcohol, number of times per week in exercising for at least 20 minutes, and drinking and driving or riding with someone who had been drinking. There was no statistically significant change for perception of weight, inclusion of the four basic food groups in the diet, regular examination of breasts or testes, use of contraceptives, wearing seatbelts, and cigarette smoking. In regard to mental health related attitudes, students stated that they felt better about themselves, felt more comfortable expressing anger toward others, and felt more strongly that they could prevent themselves from becoming ill.

In conclusion, McClaran and Sarris saw health maintenance and lifestyle courses for academic credit offering a workable and effective mechanism for providing health information as well as changing health behaviors. The positive response, seen through students' comments and general interest in the course, indicated that not only were college students interested in learning health information, they were also enthusiastic about the subject. The significant changes in reported health-related behaviors, attitudes, and underlying knowledge suggested that this format was successful in promoting at least short-term behavior change in this self-selected population.

Wilson et al. (1980) used the Risk of Death Section, part of the Lifestyle Assessment Questionnaire, to determine the health status of undergraduate students (N=89). This section asks about age, sex, race, biochemical and physical measurements, medical history, and key aspects of lifestyle. Many health professionals have viewed the HRA as the solution to changing lifestyles problems (Wilson et al., 1980). The results of this study suggest this is not the case with young college students. The findings of Wilson et al.'s study indicated that the HRA was not an effective free-standing personal health behavior change tool with a young college population. It was not possible to identify any motivational differences between the study and the control groups.

Wilson et al.'s study has not demonstrated that the HRA was of no value; rather it has clarified the role an HRA can play in health education efforts with college populations. The HRA created a briefly heightened interest in health. According to Wilson et al., even though the HRA may not change personal health behavior, its use encourages students to enter specific health programs where more effective behavior change modalities can be implemented.

The HRA's primary long-term importance may reside in the fact that it creates a "teachable moment," when a health professional and a client/patient can come together and discuss comprehensively the person's health condition, and the risks to which s/he is being exposed (Milsum, 1981). At that time, according to Milsum, possible changes in lifestyle can then be discussed. These changes take into account the client's present beliefs, reservations, prejudices, and

more, in such a way that the decision to contract for change is fundamentally reserved for the client.

Limitations of Health Risk Appraisals

Studies have incorporated the concept of differential age or changes in risk age as the key dependent variable under investigation (Bensley, 1981; Fenger & Byrd, 1979). The use of risk age creates a problem in that once an individual has filled out an HRA and obtained the results, s/he recognizes that changing certain behaviors may increase his/her longevity as predicted by the HRA. The second time the questionnaire is completed, a testing effect could be present. There may be a conscious or subconscious motivation to improve the results by altering the responses even though behaviors have not been modified (Cottrell & St. Pierre, 1983).

Researchers measure behavioral changes through self-reports, differences in risk age through pre-test/post tests, and comparing control groups with experimental groups. The studies also vary according to the HRA used. Some studies used commercially prepared instruments while others use instruments designed by the authors. Because of the lack of consistency in both the research methods and the instruments used, it is impossible to compare the results of these studies and generalize the findings to the population at large.

Summary

The Health Risk Appraisal in and of itself involves a rather negative process (Opatz, 1983). Many of the risks identified in a standard HRA that contribute to a lowered life expectancy are risks over which the individual has little or no control, such as family

history, a history of certain diseases (e.g. cancer), and the number of miles driven annually in an automobile. The HRA tells people what not to do and overlooks what one can do in a positive way to remain or to become healthy (Ng et al., 1981). For this reason, a number of the available Health Risk Appraisals include sections providing information on aspects of an individual's health other than morbidity and mortality estimates. These sections have been labeled and developed into wellness inventories.

Wellness inventories encompass all aspects of one's life, including the dimensions of work, play, emotional awareness, social interactions, spiritual development, coping styles, eating habits, and more. Wellness inventories provide positive and encouraging information to the individual about his/her lifestyle over which s/he has the greatest control. In order to understand the benefits of using a wellness inventory rather than the medical emphasis of the HRA, the theoretical foundations of wellness will be discussed.

Wellness-Theoretical Foundation

Practitioners have developed wellness models incorporating the idea of creating an optimally functioning self by integrating the body, mind, and spirit (Warner, 1984). The following will be a review of wellness literature covering the works of Maslow (1968), Dunn (1961), Jourard (1963 & 1971), Ardell (1977 & 1981), Travis and Ryan (1981), Travis (1981), Hettler, Elsenrath, and Leafgren (1980), Elsenrath (1984), and Hinds (1983).

The major wellness theorists Ardell (1977), Ryan and Travis (1981), Travis (1981), and Elsenrath (1984) attribute the theoretical foundation of wellness to transpersonal psychology and the works of Abraham Maslow and his teacher Alfred Adler (Carlson, 1979). Maslow and Adler believed that health was more than the absence of disease and pain. An underlying assumption of their theories was that physical, emotional, intellectual, and spiritual growth were interrelated (Carlson, 1978). The work of Maslow and Adler addressed itself to the idea of the full development of human potential, emphasizing self-responsibility as a key factor in the process (Travis, 1981).

Maslow (1963) believed that within the human being there is a tendency toward or need for growth in a direction that he labeled as "self-actualization," or psychological health. Maslow regarded growth as a continuous and forward moving process. The more one moves toward growth, the more one desires growth. Growth becomes an endless process that can never be attained or fully satisfied. Self-actualized individuals have a zest for life, happiness, serenity, calmness, responsibility, and confidence in their ability to handle stress, anxieties, and problems. When these feelings are used to guide one's life, Maslow saw the individual as being able to grow "healthy, fruitful, and happy" (1963). If the essential core of a person is denied or suppressed, the individual could become ill. At the same time, Maslow viewed illness as an opportunity for growth. Illness is a communication to the organism of the need for change and growth. Maslow believes that self-actualizers are superior as

"choosers" and, therefore, are predisposed towards health-promoting behaviors.

The history of wellness dates back to 1961 with the work of Dr. Halbert Dunn (Warner, 1984). Dunn was a retired public health service physician, who in the 1950s began lecturing in the Washington, D.C. area and writing articles about an idea he called "high level wellness" (Ardell, 1984). Dunn (1961) coined the term "wellness" and defined it as "an integrated method of functioning which is oriented toward maximizing the potential of which the individual is capable" (p. 4). Dunn did not believe that there was an optimum level of wellness, but rather that wellness was a direction toward an ever higher potential of functioning. Each individual is responsible for deciding his/her level of functioning.

In order to achieve a high level of wellness, Dunn assumed that individuals needed to develop an understanding about the self and to be able to accept themselves as others perceived them. Dunn labeled this "an integrity of the self" (p. 132). Dunn also saw a relationship between the way we use our mind and the way we use the energy of the body. If individuals maintain integration between mind and body, it would enable them to operate as a whole. An inability to maintain the integration between mind and body would result in illness or what Dunn labeled as psychosomatic illness.

Within the psychological literature, the major psychologist who has written about wellness is Jourard. In The Transparent Self (1963), Jourard attributed higher-level wellness to such events as having one's individuality respected and acknowledged, of being

listened to with understanding, and of being touched. He found that people who have much to live for, who love deeply and broadly, who draw on their inner resources to solve the mysteries of the universe, and to satisfy the needs and wants of mankind, lived longer than less dedicated people.

Jourard believes that normal personalties are not necessarily healthy personalities and, therefore, most individuals within society do not function at a high-level of wellness. Individuals who do not function at a high-level of wellness seldom have great jobs, great enthusiasm, or passionate dedication. If this pattern continues, the person may develop such psychological problems as depression, boredom, or anxiety. In time, these psychological problems permit illness to take root and may eventually lead to the individual's death.

Ardell was one of the first wellness theorists who publicized the theory of wellness. His book High Level Wellness: An Alternative to Doctors, Drugs, and Disease (1977) is a classic within wellness literature. Ardell divided high level wellness into five dimensions: self-responsibility, nutritional awareness, physical fitness, stress management, and environmental sensitivity. In order to achieve wellness, an individual needs to obtain a level of proficiency in each of these areas and not to emphasize one area over another. Ardell believed that each dimension of wellness affected another and motivated the individual to pursue other dimensions of high level wellness. He believed, as did Maslow, that it is possible to be "well" in the midst of illness and dying. One can interpret

illness as a message from within--a signal that some aspect of life deserves attention and reform. According to Ardell, a wellness lifestyle will not only drastically reduce risk of illness or disease, it will also provide a life of greater satisfactions, increased serenity, and an expanded interest in the future.

Ardell (1982) defined high level wellness as a lifestyle-focused approach that an individual designs for the purpose of pursuing the highest level of health within his/her capability. A wellness lifestyle is dynamic, ever-changing, and a lifetime process. Such a lifestyle will minimize the chances of becoming ill and vastly increase one's prospects for well-being by reducing stress, increasing fitness, providing better feelings of physical health through changed food patterns, more awareness of environmental subtleties, and a greater sense of self through acceptance and constant practice of personal responsibility.

To Travis (1981) high level wellness means giving care to the physical self, using the mind constructively, channeling stress energies positively, expressing emotions effectively, becoming creatively involved with others, and staying in touch with the environment. Travis believes that wellness begins when an individual sees himself or herself as a growing, changing person.

Travis and Ryan (1981) summarize wellness as the following:

> Wellness is a choice--a decision you make to move toward optimal health.
> Wellness is a way of life--a lifestyle you design to achieve your highest potential for well-being.
> Wellness is a process--a developing awareness that there is no end point, but that health and happiness are possible in each moment, here and now.

> Wellness is an efficient channelling of energy--energy received from the environment, transformed within you, and sent on to affect the world outside.
> Wellness is the integration of body, mind and spirit--the appreciation that everything you do, and think, and feel, and believe has an impact on your state of health.
> Wellness is the loving acceptance of yourself (Ryan and Travis, 1981, p.1).

Wellness allows the individual to integrate extremes. It also allows the individual to appreciate the dynamic of illness and health as complementary parts of the life process. Wellness means moving freely between seeming opposites, learning from each, and growing from both. Illness is created when one becomes stuck at an extreme through fear or fatigue.

> We resign ourselves to being helpless victims of disease, we give up on ourselves, we latch on to one system and refuse to let go even though it fails to meet our needs, or we become compulsively attached to what we know and refuse to accept that there might be a better way. (Ryan & Travis, 1981, p. 6)

Moving toward high level wellness involves four phases: awareness, education, growth, and revaluating.

AWARENESS	EDUCATION	GROWTH
Seeing how you are presently conducting your life.	Exploring options looking within. Receiving from others.	Trying out some of the options.

RE-EVALUATING

Note: From The Wellness Workbook (p. 3) by Regina Ryan and John Travis, 1981, Berkeley, CA: Ten Speed Press. Copyright 1981 by John W. Travis.

These four phases allow the individual to determine what is working, or not working currently in their life. Ryan's and Travis's wellness model provides options for personal growth, suggestions for

alternatives, invitations to stretch personal limits, permission to risk, and encouragement to change.

Hinds (1983) has incorporated wellness into a new model entitled "Personal Paradigm Shift-A Lifestyle Intervention Approach to Health Care Management." Hinds sees this model as valuable for anyone wanting to make changes along the wellness - sickness continuum. The paradigm shift of personal health care behaviors is based on the belief that life is directed toward the goals of growth and development. Healthy behaviors contribute to personal growth, while unhealthy behaviors contribute to decay or death. The process one can use to promote growth and development is that of dynamic equilibrium.

Dynamic equilibrium is a process that maintains the balance between adaptive resources and adaptive demands.

> When we are well, we have the resources for coping with ever changing adaptive demands; when we are ill, the balance is upset, because we may have too few resources to meet the demands of the illness. (Hinds, 1983, p. 7)

When life's demands exceed, deplete, or threaten our adaptive resources, a state of stress, both physical and mental, is experienced. However, with preventive health care behaviors and stress reduction strategies, a reasonable balance between resources and demands can be maintained. Hinds perceives this process as a dynamic system, since both sides of the equation are constantly undergoing change. "When we become unbalanced (disequilibrium) our life falters and breaksdown; when we maintain a healthy balance, a sense of physical and mental harmony can be achieved" (p. 7).

Hinds does not believe that we "catch" an illness or a disease. Rather, we create the opportunity for them to happen. The biological defenses given to us at birth to prevent, reject, and neutralize "harmful invaders" become weakened to a point where they can no longer resist and defend. Hinds attributes the weakening of the defense system to a seemingly "comfortable lifestyle" (p.4)!

The continuation of this comfortable lifestyle has three negative consequences that affect one's health:

1. The maintenance and aggravation of stressful internal and external environments which weaken the body's immune system and its ability to defend against an illness.
2. The maintenance and aggravation of a current disease.
3. The acceleration of the natural wear and tear that life experiences have on our physical and psychological health. (Hinds, 1983, p. 4-5)

The harmful effects of the comfortable lifestyle can either be reversed or the effects slowed down if one believes s/he has some control over "habits of life."

Hinds identified three components/steps in reversing the harmful effects of the comfortable lifestyle. These steps enable the individual to make changes along the wellness-sickness continuum, provide a firm foundation for enhancing one's quality of life, and promote sound health care habits:

1. An awareness that self-generated change involves self-generated fear and discomfort. Personal expectations about experiences of fear, loss, pain and shame must be confronted for self-generated change to be successful. Otherwise, the process of change will continue to be delayed, avoided, escaped, and finally denied.
2. Successful change involves initially some dependency on others. Individuals and groups who are supportive can facilitate lifestyle change. While independent behavior is an ideal goal, there's truth in the philosophical attitude of a "balance in all things." We are neither independent or dependent, we are both.

3. One needs a change process, an organized approach to personal lifestyle change, and such an organized approach should include:
   a. health care behaviors which impact the environmental system, psychosocial system, psychological system, biophysical system, and the genotype system.
   b. a general change model which encompasses the dynamics of health promotion and stress reduction.
   c. a specific change model which allows one to work on specific equilibrium health care stressors and helps promote specific health care behaviors, i.e., the Personal Paradigm Shift. (Hinds, 1983, p. 4-5)

Note: From Personal Paradigm Shift: A Lifestyle Intervention Approach to Health Care Management (p. 4-5) by W. C. Hinds, 1983, E. Lansing, MI: Michigan State University. Copyright 1983 by W. C. Hinds

The dynamic equilibrium model (wellness model) provides a structure that facilitates examination of the critical relationship between health and lifestyle, and health and stress. Understanding these relationships allows the individual to choose between health or illness. As one expert once said, "If there's such a thing as psychosomatic illness, then there's such a thing as psychosomatic health" (Hinds, 1983, p. 5).

Adler, Ardell, Dunn, Jourard, Hinds, Maslow, Ryan and Travis, provided the theoretical framework for wellness. They agree that wellness is a lifestyle in which the individual assumes an active role in determining his/her level of wellness. Wellness is a lifetime process and does not have a definite end or beginning. As Jourard stated in his book Personal Adjustment (1963), an individual can "grow" in the direction of fuller functioning, and a healthier personality, or s/he can "regress" in the direction of mental illness

(p. 24). The purpose of wellness is to help increase the likelihood of healthier personality growth and to decrease the probability of mental and/or physical illness.

Wellness Instruments

A major issue facing wellness theorists has been the development of a means to assist individuals in determining their personal level of wellness. One of the most active researchers in the development of a paper and pencil instrument to measure wellness is John Travis (Pelletier, 1979). Travis's Wellness Inventory grew out of his early work with Lewis Robbin's original Health Risk Appraisal for the U.S. Public Health Service in 1973. Travis shared Robbin's dissatisfaction with the Health Risk Appraisals, which were based on mortality statistics. Travis decided "to provide an instrument that focused on wellbeing and developed the Wellness Inventory" (J. W. Travis, personal communication, January 13, 1986).

Travis described the Wellness Inventory in the following manner:

> The Wellness Inventory is growth oriented, not "illness" oriented. It is designed to stir up new ways of approaching personal issues or problems. It gets at the root causes of the high risk behavior quantified by HRAs and is much more effective for behavior change than the scare tactics Health Risk Appraisals often invoke. (J. W. Travis, personal communication, January 13, 1986)

With the use of the Wellness Inventory, the concept of wellness was placed in a format that provided direct feedback to the client concerning his/her level of wellness.

Travis (1981) realized that assessing an individual's wellness level was only the beginning step in achieving personal growth and wellbeing. He incorporated the Wellness Inventory into an

educational framework. The primary purpose of wellness education was to increase conditions of wellness and to encourage people to take charge of their own health.

Travis outlined the following objectives of wellness education:

> 1) To enhance personal wellness and create a supportive professional environment; 2) To foster personal responsibility among clientele by personal example; 3) To impact the existing illness/crisis-care system by adding alternatives which are attractive to those who wish to become more well. (Travis, 1981, p. 24)

According to Travis, most clients who participate in wellness education programs are motivated to do so by chronic physical symptoms or by some psychological discomfort they are experiencing. Travis's educational model not only provides a means for clients to assess their level of wellness but also educational information to deal with the symptoms and discomforts that initially motivated the client to seek assistance.

Another group of individuals interested in measuring wellness were Bill Hettler, Dennis Elsenrath, and Fred Leafgren at the University of Wisconsin-Stevens Point (1980). Hettler, Elsenrath, and Leafgren saw that the standard health physical required by the university provided limited information for most students and staff while reinforcing a passive posture among students with regard to their well-being.

The initial departure from the standard physical examination requirement at the University of Wisconsin-Stevens Point (UWSP) occurred in 1974. Students were given the choice of completing a commercially available computer-scored medical history or submitting

to a traditional physical examination. After using the computer-scored medical history, Hettler, Elsenrath, and Leafgren believed that they could create an assessment instrument tailored to students' needs and at less cost than the standard physical or commercial computer-scored medical history and developed the Lifestyle Assessment Questionnaire (LAQ).

The Lifestyle Assessment Questionnaire was first introduced on a pilot basis during the fall of 1976 and has been revised. The LAQ was designed to help students assess their current level of wellness and the potential risks or hazards that they choose to face at that point in their lives. More importantly, the LAQ helps identify the areas of self-improvement that lead to higher levels of joy and wellness (Hettler, Elsenrath, & Leafgren, 1980). The LAQ could help people to realize that the individual was the most important provider of health or "illth" care (Hettler, Elsenrath, & Leafgren, 1980). The purpose and function of the LAQ are:

> To help one examine lifestyle behaviors so that the individual can assess his/her current level of wellness in addition to identifying the risks or hazards that one faces at the present point in their life. (Hettler, 1976, p. 1)

The LAQ is divided into four sections: Wellness Inventory, Topics for Personal Growth, Risk of Death, and Medical Alert. Presently the LAQ is being utilized by 84 colleges and universities as an alternative to a physical required by school health centers and as an evaluation tool for health education (Warner,1984).

One of the newest wellness inventories that emphasizes wellness behaviors is the Lifestyle Coping Inventory (Hinds, 1983). From his

extensive work with university students and adults, Hinds (1983) developed the Lifestyle Coping Inventory to help the individual understand health promotion - stress reduction actions. The inventory covers various lifestyle, nutritional, drug, exercise, environmental, problem solving, and psychosocial habits that affect health and stress levels.

The Lifestyle Coping Inventory (LCI) is a component of Hinds's lifestyle management program (1983). The program is structured so the individual can educate him/herself about the significant relationships that influence personal health and stress experiences. The purpose of the LCI, is not to prescribe or diagnose, but to structure information for personal decision-making goals. The LCI can be used in cooperation with a doctor to institute a stress reduction - health promotion program. As with Travis's and the UWSP's models, the Lifestyle Coping Inventory is part of a wholistic program that both educates and provides guidelines for the individual to expand his/her level of wellness.

Wellness Studies

Within the literature, researchers have incorporated wellness inventories as an assessment instrument in their studies (Jeney, 1985; Melby, 1985/86; National Wellness Institute, 1985; Papenfuss and Bier, 1984; Richter, 1985). These studies either report on the reliability and possible validity of wellness inventories or have used wellness inventories as an evaluation instrument for psycho-educational programs and/or instruction. The following is a review of these studies.

Studies Examining Psychometric Properties

Jeney (1985) administered the LCI at pretreatment and at a 3-month follow-up in a study with chronic pain patients (N=12). Using the total scores obtained from the pretreatment administration of the LCI, the split-half reliability coefficient was reported to be .74.

A study was conducted by the National Wellness Institute (1985) to measure the reliability of the LAQ and the wellness subsections. Thirty-nine parents of incoming students volunteered to take the LAQ, then repeat the instrument two weeks later. Test-retest reliability coefficients among the eleven wellness subsection dimensions of the test ranged from .57 to .87 with an overall coefficient of .76.

Richter (1985) used the LAQ in a study with junior year female college students (N=88) who were enrolled in an introductory course in nursing. Test-retest reliability of the subscales ranged from .81 to .97. Cronbach's coefficient alpha was computed on the wellness scale data to estimate internal consistency reliability. Reliability of the wellness subscales ranged from .67 to .94. Factor analysis was used to gain an estimate of construct validation. Content validity of the tool was established with the evaluation by two experts in measurement and health promotion.

Program Evaluation

Papenfuss and Bier (1984) studied forty-eight tenth graders to determine the effectiveness of a wellness behavior inventory (WBI) and a wellness education program in changing student's attitudes and behaviors concerning wellness. The WBI was administer as a pre-test and as a post-test to both experimental and control groups.

Papenfuss and Bier found that wellness education significantly enhanced both attitudes toward wellness and wellness behaviors among tenth grade health education students. Additional conclusions were drawn upon completion of the longitudinal study one and one half years later. They found a continuation of both attitude enhancement and behavior change by both the experimental and the control group. Papenfuss and Bier concluded that completing a wellness inventory can produce changes in attitudes and behaviors that are sustained over a period of time by both the experimental and control groups.

The National Wellness Institute (1985) administered the LAQ to students who were then provided with no results. These students were surveyed nine and twenty-one months later in an attempt to ascertain the degree of learning and behavior change that occurred. Eighty-seven percent of the students reported learning to some degree from simply completing the LAQ. Sixty-five percent reported learning to a high or moderate degree. In this same study, twenty-seven percent of the students involved responded that they had made moderate changes in their lifestyles while twenty-six per cent reported making a small degree of change as a result of completing the LAQ. The LAQ gave these individuals an indication of their lifestyle status and served as a stimulus for change towards a more positive lifestyle.

Melby (1985/86) in his health education classes used Travis' Wellness Inventory (WI) to identify health behaviors that detracted from students' health, or increased their risk for illness or disorder. From the results of the inventories, students then specified the desired behavior they would like to change. Students

were encouraged to understand the educational, social, psychological, spiritual, physical, and emotional factors surrounding the particular desired changed and then to plan and carry out appropriate change strategies.

Each student was required to complete a project concerning changing undesirable health behaviors. At the end of the semester, oral presentations were made by each student to explain the nature of his/her project and the successes, failures, and new insights gained. While the project emphasized successful health behavior change, the evaluation of student performance was not based on the degree to which the desired change was realized. Rather, the overall attempt, the use of creative methods and change strategies, and the acquisition of new insights, was the basis for performance evaluation.

In summary, the studies that have used wellness inventories as an evaluation tool for behavioral changes indicated a positive response both in terms of student acceptance of the use of the inventories and as an indicator of health behavioral changes. Statistically the studies have shown that the reliability coefficients among the wellness inventories were within acceptable range. For research purposes an alpha coefficient of .65 is acceptable (Mehrens & Lehmann, 1978). These statistical findings indicate that wellness inventories are possible alternatives to the current assessment instruments being used in the counseling field.

Wellness and the University Community

The wellness model within higher education has been labeled as "a systems approach to education that is based on the idea that growth in one area of living affects functioning in other areas as well" (Snow, 1982, p. 554). The wellness approach is highly compatible with the educational mission of universities. The mission of both the university and wellness is "helping people to understand themselves, think clearly and rationally, recognize the interconnections of their total functioning, and assume increasing degrees of self-directedness" (Elsenrath, 1984, p. 30).

Van Ness (1981) in his work at the University of Colorado-Boulder identified the following reasons for a wholistic or wellness approach on the college campus:

1. Students are living through one of the major stress periods of life.
2. Most campuses have a group of students easily identified as "disturbed" and who fail to respond to present modes of treatment. The wellness approach offers a different mode of treatment which may well provide the needed help.
3. Wellness programs instill within the students both a sense of responsibility and certain basic health information to enable them to live a more healthy life style.
4. A wellness approach can assist students with the impact of undesirable life events and therefore help improve their academic performance.
5. Educational programs, which are essential in any wellness approach, are easily developed in a campus environment.
6. Because they are in a learning frame of mind, students are more likely to accept the new points of view inherent in the wellness approach than the general public. (p. 26-27)

Dr. Philip Marshall (1984), Chancellor at the University of Wisconsin-Stevens Point, found the wellness model to be "a positive

and uplifting experience" for the campus. According to Chancellor Marshall:

> A campus with an emphasis on health promotion programming gains a competitive edge for attracting, retaining, graduating, and placing its students. There is growing evidence from the business world that employees who pursue a wellness lifestyle are more productive, use less sick time and cost less in terms of disease care benefits. (p. 3)

Learning about preventive lifestyle choices during college is particularly important because the causes of death at age forty are often the result of behaviors that were established during adolescent and young adult years (Hettler, 1980). Introducing wellness in the university community may be one means of preventing unnecessary illness and death at the workplace in later years.

Professionals within higher education believe that the wellness model benefits students (Elsenrath, 1984; Hettler, 1980; Petosa, 1984; Shea, 1981; Van Ness, 1981; Warner, 1984) and prevents illness and disease at a later time during the student's life (Hettler, 1980). They also believe that college is a time when students are more receptive to wellness programs (Van Ness, 1981).

Barth and Johnson (1983) surveyed 107 colleges and universities offering at least a master's programs in school or community health education to determine which colleges and universities were developing wellness/healthy lifestyle centers. Barth and Johnson found that wellness/healthy lifestyle centers were operating on the campuses of 12.8% of the respondents. A recent study by TIAA-CREF shows that wellness programs are becoming more widespread in the campus community. More than half of the colleges and universities

who participated in the survey offered at least one wellness program. The most frequent offering reported was exercise/physical fitness (NACUBO, 1986).

The wellness movement found its way into higher education largely due to the efforts of the Student Life Program at the University of Wisconsin-Stevens Point (Warner, 1984). UWSP has one of the most comprehensive and influential wellness promotion programs in higher education. Their program began in 1972 and was devoted to lifestyle improvement (Hettler, 1980). The UWSP wellness model uses the basic premise that wellness involves the development of a whole person through the integration of six dimensions of one's life: intellectual, emotional, physical, social, occupational, and spiritual (Warner, 1984). The goal of both the UWSP and the wellness approach is to help students understand themselves, think clearly and rationally, recognize the interconnections of their total functioning, and assume increasing degrees of self-directedness (Elsenrath, 1984).

Elsenrath (1984), the director of the counseling center at UWSP, incorporated the wellness perspective as part of the mission of the center. The philosophy of many centers and the staff members includes promoting health and effective functioning with a desire to place less emphasis on clinical treatment. University counseling centers are in an excellent position to promote lifestyle behaviors that will be of benefit not only to a particular individual but also to society in general as these individuals assume leadership positions. Through group sessions, individual counseling sessions,

seminars, workshops, and instructional programs, counseling staff have the opportunity to apply their resources in a concrete and highly usable way. They also have an opportunity to supervise practicum students and interns as these students develop their counseling skills and prepare programs for presentation within the counseling center or on an outreach basis on the campus or in the community.

Eckerd College (Snow, 1982) used a campus survey to determine the special areas of interest in wellness. From the survey results, students requested further programs in the area of body tune-up, massage technique, relationships, relaxation techniques, and exercise programs. Campus resources were mobilized and resulted in the development of the Wellness Support and Strategy Committees. These two committees developed and implemented a wellness program for the Eckerd campus to address the areas of interest identified by the students. During the last week of classes, a second survey was taken to assess the impact of the wellness program during the academic year. The results of the survey indicated that the wellness program had made an impact. The majority of students became aware of the term wellness and were interested in learning more about the life-style choices associated with healthful living.

At the Rochester Institute of Technology (RIT) the wellness model has been incorporated into a comprehensive program designed to positively influence the development of the whole person (Chandler, 1985). To encourage a coordinated and consistent approach to wellness campus wide, a Wellness Resource Committee was established

which included representatives from various departments under the Division of Student Affairs. The committee provided wellness-oriented programs throughout the year and served as a resource for students, faculty, and staff. The wellness programs were designed to a) create an environment supporting a wellness-oriented culture and promote positive lifestyles and attitudes, b) bring about positive changes in student behaviors and attitudes with emphasis on the development of the whole person, and c) coordinate campus-wide programming focused on an integrated wellness approach.

The evidence suggests that the wellness program did produce additional positive changes on the RIT campus. For example, nutritious snack machines, increased nonsmoking areas, wellness floors in residence halls, and a wellness club were changes made at RIT. Chandler found that motivating students' interest in wellness was not difficult, providing students had specific opportunities to become involved in wellness activities and take responsibility for their own behavior.

James Madison University (Van Ness, 1981) has developed an extensive wellness promotion program. The major emphasis has been on a program entitled "Superperson" sponsored by the Divisions of Student Affairs. "Superperson" consisted of a week of activities directed towards familiarizing students and faculty with the basic dimensions of wellness: mind, body, and spirit. In 1978, over 2,300 students and faculty participated in the first "Superperson" programs. The success of the initial "Superperson" promoted

"Superperson II," "Pressures," and "Lifestyling: Living and Loving It," in subsequent years.

As an outgrowth of the university's wellness philosophy and the commitment to an integrative approach to health and well being, James Madison developed the Optimal Health Inventory (OHI) as an alternative to the junior year physical. During 1981, the first year of its use, 590 students chose this alternative; in 1982 there was an increase to over 700 participants. The inventories were interpreted by a Health and Wellness Educator, and the students were given resource lists to help them broaden their knowledge in particular areas. Students would also enroll in a mini course entitled "Wholistic Health Seminar." The content of the course dealt with the six dimensions of wellness and incorporated an active element into the course. The response from students was favorable.

Summary

In summary, wellness programs that have been incorporated into the university structure have had a positive influence on the health behaviors of students. The students have changed their behaviors, have become actively involved in the organization and implementation of these programs, and have seen a need for the continuation of these programs. The one question that is missing from these reports is, Have these programs influenced the mental health of the students involved?

Summary

Extensive research has been conducted to identify the traits that differentiate counseling centers users from non-users. The research methodology has primarily focused on the use of psychological instruments as the means to assess these traits. The conclusions from this research have not answered the question of what traits differentiate users and non-users of counseling centers services. Researchers have found either no differences between users and non-users (Berdie & Stein, 1966; Bruch, 1977; Rossman & Kirk, 1970; Schneidler & Berdie, 1942; Tryon, 1978), definite pathological tendencies in counseling center users (Bosmajian & Mattson, 1980; Cooke & Kiesler, 1967; Davis & Wideseth, 1978; Palladino & Domino, 1978; Parker, 1961; Strupp & Bolxom, 1975), or regard counseling center users as possessing personality traits that are important to academic achievement and future success (Calhoun & Selby, 1974; Carskadon, 1975; King, 1968; Synder & Kahne, 1969; Williamson & Bordin, 1940). A possible reason for the lack of consistent conclusions is that the research instruments seek to identify psychological pathology rather than addressing the whole person. Gross, in his review of the wholistic health movement, defines the whole person as:

> An integration of body, mind, feelings, spirit, and life-style as well as the physical and social environment of the individual and the interdependence of these factors in growth and change. (Gross, 1980, p. 99)

In 1938 and again in 1949, the student personnel profession called for consideration of the whole person, advocating service to

the physical, social, spiritual, emotional, and intellectual needs of students (The American Council on Education, 1939, 1949). More recently numerous human service professionals have advanced the whole person philosophy advocating wholistic, interactional, synergistic viewpoints (Ardell, 1977; Ferguson, 1980; Flynn, 1980; Hinds, 1983; Pelletier, 1977; Travis, 1981). The wellness paradigm emphasizes consideration of the whole person, the interaction of the person with environmental variables, preservation of positive mental and physical health, and prevention of potential problems or disorders (Meinecke, 1981). The implementation of this new paradigm within the mental health field calls for a new model to assess and then incorporate the needs of the whole person.

Professionals in higher education have used Health Risk Appraisals (HRA) as a means to assess the needs of its students. The HRA identifies preventable and unpreventable health risks for the individual (Fenger & Byrd, 1979). The HRA in and of itself, however, is a rather negative process (Opatz, 1983).

A model better suited to the philosophy and goals of higher education and that addresses the needs of the whole person is wellness. The wellness model does not view health as the absence of illness, but as a continual process of learning, growth, and development throughout the life cycle (Ng et al., 1981). Like the development of an illness, the development of wellness may be conceived as a cumulative process that can be influenced by environmental, physical, behavioral, psychological, and social factors.

Counseling psychology has a heritage of psycho-educational strategies that describe the interactions between people and their personal, social environments, and regard the individual as the agent of change. This heritage has prepared counseling psychologists to promote health, the prevention and treatment of illness, and the analysis and improvement of the health care system (Matarazzo, 1982). Counseling psychology has the opportunity to move away from conventional medical approaches and to move toward broad-based quality of life approaches such as wellness. Within the field, no research has been conducted that assesses the traits of users and non-users using a wholistic model such as wellness.

Clearly, there is a need for descriptive research that would provide an understanding of wellness and the use of wellness inventories as a means for counseling psychologists to obtain a wholistic view of client concerns. The purpose of this research is to determine whether wellness inventories can identify the traits that differentiate users from non-users of counseling center services and allow counseling psychologists to explore the use of a wholistic model that addresses the needs of the total individual.

CHAPTER 3

DESIGN OF THE STUDY

The purpose of this chapter is to present the plan of operation for the study. The following sections are included: Selection and Description of the Sample, Measures Used in the Study, Current Psychometric Data on the Instruments, Procedures for Data Collection, Research Hypotheses, and Procedures for Quantitative and Supplementary Descriptive Data Analysis.

Selection and Description of the Sample

The subjects in this study consisted of counseling center service users and non-users. Information regarding wellness levels were obtained from client-subjects through three wellness inventories: The Lifestyle Assessment Questionnaire-Wellness Assessment Questionnaire (National Wellness Institute, 1983), The Wellness Inventory (Travis, 1981), and The Lifestyle Coping Inventory (Hinds, 1983). The data obtained from the wellness inventories were used to determine if differences exist between users and non-users of counseling center services.

Users of counseling center services were recruited from a large Southwestern university counseling center (UCC). The group consisted of 15 males and 42 females (a total of 57 client subjects), from

18-50 years of age, who were enrolled as a student for the fall and/or spring semester, had an appointment for an intake interview at UCC, were United States citizens, and had a current local address. The 57 counseling center users received an intake interview after November 30, 1986, agreed to participate in the study, and returned the wellness inventories.

The non-users of counseling center services were a random sample of 500 students recruited from the same large Southwestern university population, excluding UCC users. This sample consisted of 250 males and 250 females. After using the following criteria, at least 18 years of age and not over 50 years of age, enrolled as a student for the fall semester, have not used the services of the university counseling center, and were United States citizens with a current local address, 309 students remained in the sample pool. The final subject pool of non-users consisted of 19 males and 34 females (a total of 53).

The total sample was 34 males and 76 females, a total of 110 subjects. The ages of the total group ranged from 18-50 years. The largest proportion of the subjects were between the ages of 18-24: 26% were 18-20 years, 46% were 21-24 years, and 25-50 years were the remaining 30% of the sample. According to class standing, 14% of the sample were freshman, 14% sophomores, 29% juniors, 37% seniors, and 7% were classified as other. Of the sample, 30% were liberal arts majors, 22% were business majors, 18% majored in nursing, and 12% were from the college of education. (Refer to Table 3.1 for complete demographic data.) There were no statistically significant ($p < .05$)

differences between the users and non-users groups on all the demographic variables as measured by Chi Square.

Table 3.1

Description of Users and Non-users Samples by Demographic Variables*

Demographic Variables	Users (N=57)	Non-Users (N=53)	Total (N=110)
Gender			
Males	26.3 %	35.8 %	30.9 %
Females	73.7	64.2	69.1
Age			
1) 18-20 years	28.1 %	23.1 %	25.7 %
2) 21-24 years	36.8	55.8	45.9
3) 25-30 years	19.3	7.7	13.8
4) 31-40 years	8.8	7.7	8.3
5) 41-50 years	7.0	5.8	6.4
Class			
Freshman	17.5 %	9.6 %	13.8 %
Sophomore	17.5	9.6	13.8
Junior	26.3	32.7	29.4
Senior	29.8	44.2	36.7
Other	8.8	3.8	6.8
College			
Architecture	1.8 %	3.8 %	2.8 %
Business	14.0	30.8	22.0
Education	12.3	11.5	11.9
Engineering	3.5	7.7	5.5
Fine Arts	8.8	1.9	5.5
Liberal Arts	36.8	23.1	30.3
Nursing		3.8	1.8
Public Programs	21.1	15.4	18.3
Other	1.8	1.9	1.8

* All differences between groups were $p > .05$ using Chi Square

Table 3.1 (cont.)

Description of Users and Non-users Samples
by Demographic Variables*

Demographic Variables	Users (N=57)	Non-Users (N=53)	Total (N=110)
Martial Status			
Single, Never Married	78.9 %	78.8 %	78.9 %
Married	12.3	17.3	14.7
Divorced, Widowed, Sep.	8.8	3.8	6.4
Children Live With You			
No	91.2 %	84.6 %	88.1 %
Yes	8.8	15.4	11.9
Type of Housing			
Residence Hall	21.1 %	9.8 %	15.9 %
Frat/Soro		2.0	.9
Rent W/Others	54.4	51.0	53.3
Rent - Alone	7.0	7.8	7.5
Own W/Others	12.5	29.4	20.6
Own - Alone	1.8		1.9
Distance To Campus			
Live on Campus	17.5 %	11.8 %	14.8 %
< 1 Mile	15.8	11.8	13.9
1 - 3 Miles	29.8	29.4	29.6
4 - 5 Miles	14.0	15.7	14.8
6 - 10 Miles	7.0	11.8	9.3
11 - 15 Miles	10.5	3.9	7.4
More Than 15 Miles	5.3	15.7	10.2
Current # Enrolled Hours			
Less Than 9 Hours	12.3 %	15.4 %	13.8 %
9 - 11 Hours	3.5	7.7	5.5
12 or More Hours	84.2	76.9	80.7

* All differences between groups were $p > .05$ using Chi Square

Table 3.1 (cont.)

Description of Users and Non-users Samples
by Demographic Variables*

Demographic Variables	Users (N=57)	Non-Users (N=53)	Total (N=110)
Participated in Student Club(s)			
Yes	24.6 %	21.2 %	22.9 %
No	75.4	78.8	77.1
Participated in Student Government			
Yes	3.5 %	1.9 %	1.8 %
No	96.5	98.1	98.2
Participate in a Regular Fitness Program			
Yes	57.9 %	55.8 %	56.9 %
No	42.1	44.2	43.1
Patronage of Bars or Nightclubs			
Yes	36.8 %	41.2 %	38.9 %
No	63.2	58.8	61.1
Religious Affiliation or Spiritual Discipline			
Yes	29.8 %	38.5 %	33.9 %
No	70.2	61.5	66.1
"Partying"			
Yes	45.6 %	44.2 %	45.0 %
No	54.4	55.8	55.0
Membership in a Greek Organization			
Yes	10.5 %	7.7 %	9.2 %
No	89.5	92.3	90.8

* All differences between groups were $p > .05$ using Chi Square

Table 3.1 (cont.)

Description of Users and Non-users Samples
by Demographic Variables*

Demographic Variables	Users (N=57)	Non-Users (N=53)	Total (N=110)
Outdoor Recreation or Intramurals			
Yes	43.9 %	44.2 %	44.0 %
No	56.1	55.8	56.0
Played Intercollegiate Athletics			
Yes	5.3 %	5.8 %	5.5 %
No	94.7	94.2	94.5
Performing Arts			
Yes	19.3 %	15.4 %	17.4 %
No	80.7	84.6	82.6

* All differences between groups were $p > .05$ using Chi Square

Measures Used in the Study

Three measures were used in the present study. The three measures, The Wellness Inventory (Travis, 1981), The Lifestyle Assessment Questionnaire-Wellness Inventory Section (National Wellness Institute, 1983), and The Lifestyle Coping Inventory (Hinds, 1983), were developed to directly assess an individual's level of wellness. The results of the wellness inventories were used to differentiate users from non-users of counseling center services.

The Wellness Inventory

The Wellness Inventory (WI) is a self-scoring questionnaire. It contains 120 questions and is designed to educate as well as test the respondent concerning twelve dimensions of wellness. Items for the WI are on a five point continuum from yes always, or usually to no, never, or hardly ever, and items are scored on a one to five point scale. The lower the score on the item and total scale, the lower the level of personal wellness.

The WI is comprised of twelve dimensions developed around the theme of wellness as outlined by John Travis (1981). The twelve dimensions are: 1) Wellness and Self Responsibility and Love; 2) Wellness and Breathing; 3) Wellness and Sensing; 4) Wellness and Eating; 5) Wellness and Moving; 6) Wellness and Feeling; 7) Wellness and Thinking; 8) Wellness, Playing, and Working; 9) Wellness and Communicating; 10) Wellness and Sex; 11) Wellness and Finding Meaning; and 12) Wellness and Transcending.

After completing the inventory, the respondent totals his/her points on the twelve dimensions and divides this sum by the number of

statements answered. The average score, which ranges from one to five, is then transferred to the "Wellness Inventory Wheel" on the back page of the inventory. The Wellness Inventory Wheel is a visual representation of the individual's wellness level and serves as a guide to further one's wellness.

The Life Assessment Questionnaire-Wellness Assessment Questionnaire

The Life Assessment Questionnaire-Wellness Assessment Questionnaire (LAQ) is a self-scoring questionnaire. The LAQ contains 100 questions, and is designed to educate as well as test the respondent concerning his/her level of wellness. Items for the Wellness Assessment Questionnaire are on a five point continuum from almost always (1) to almost never (5), and items are scored on a one to five point scale. The scale was reflected to show that the lower the score on the item and the total scale, the lower the level of personal wellness.

The LAQ is comprised of ten dimensions developed around the theory of wellness as outlined by the National Wellness Institute at the University of Wisconsin - Stevens Point (1983). The ten dimensions are: 1) Physical Fitness; 2) Physical - Nutritional; 3) Physical - Self-Care; 4) Drugs and Driving; 5) Social - Environment; 6) Emotional Awareness; 7) Emotional Control; 8) Intellectual; 9) Occupational; and 10) Spiritual.

After completing the LAQ, the respondent is asked to total the points on each of the wellness dimensions. The totals are computed as a percentage for each dimension and then compared to a table

printed on the last page of the inventory. The ranges of the percentiles are:

90-100%	Excellent - Super Job!
80-89%	Good - Better than most
70-79%	Average - Mediocrity is ok, but?
60-69%	Fair - Reassess your present lifestyle
Less than 60%	Poor - are you really trying?

(National Wellness Institute, 1983)

The LAQ was developed in 1980. It was subsequently revised with a thorough review over a two year period. The items identified for the ten wellness categories were prepared by a professional working in each of the wellness dimensions. The items were selected to define as accurately as possible each dimension of wellness in behavioral terms. Each statement is a specific behavior to which the individual is asked to respond in terms of the personal degree of participation. These items were tested and modified over the two year development period to provide as much clarity and conciseness as possible.

The LAQ's items were written in a manner designed to be educational. An individual's scores on the wellness section of the LAQ can be compared to two norm groups. The one norm group is the group in which the individual is a member. For example, all of the employees of an organization using the LAQ would be members of the same group. The other norm group is all the people who have taken the instrument. This norm group consists of students, adults in government, business and industry, and health care clients. The total number of people who have taken the instrument through the University of Wisconsin-Stevens Point is approximately 250,000.

The Lifestyle Coping Inventory

The Lifestyle Coping Inventory (LCI) is a self-scoring questionnaire. The LCI contains 142 questions and is also designed to educate as well as test the respondent concerning his/her level of wellness. Items for the LCI are on a five point continuum from never to very often, and items are scored on a one to five point scale. The lower the score on the item and total scale, the lower the level of personal wellness. In the present study, total point score obtained by adding the seven behavioral categories will be used.

The LCI is comprised of seven dimensions developed around the theory of a personal paradigm shift as outlined by Hinds (1983). The eight dimensions are: 1) Copying Style Actions; 2) Nutritional Actions; 3) Physical Care Actions; 4) Cognitive and Emotional Actions; 5) Low-Risk Actions; 6) Environmental Actions; and 7) Social Support Actions.

Current Psychometric Data on the Instruments

Current psychometric data is limited concerning the three instruments. Three studies have been completed that do report reliability and validity estimates for the LAQ and the LCI (Jeney, 1985; The National Wellness Institute, 1983; Richter, 1985).

The LCI was administered at pretreatment and at a three month follow-up in a study with twelve chronic pain patients (Jeney, 1985). Using the total scores obtained from the pretreatment administration of the LCI, the split-half reliability coefficient was reported to be .74.

A study was conducted to measure the reliability of the LAQ and the wellness subsections (The National Wellness Institute, 1983). Thirty-nine parents of incoming students volunteered to take the LAQ, then repeat the instrument two weeks later. Test-retest reliability coefficients among the eleven wellness subsection dimensions of the test ranged from .57 to .87 with an overall coefficient of .76.

The LAQ was used in a study with junior year female college students (N=88) who were enrolled in an introductory course in nursing (Richter, 1985). Test-retest reliability of the subscales ranged from .81 to .97. Cronbach's coefficient alpha was computed on the wellness scale data to estimate internal consistency reliability. Reliability of the wellness subscales ranged from .67 to .94. Factor analysis was used to gain an estimate of construct validity. Content validity of the tool was established with the evaluation by two experts in measurement and health promotion (Richter, in press).

The relationship between the three inventories, WI, LAQ/WAQ, and LCI, has not been studied before. As discussed previously, there are several studies using these instruments that do state reliability coefficients (Jeney, 1985; The National Wellness Institute, 1983; Richter, 1985). The reliability coefficients reported are from experimental designs with pre- and post-tests. No studies have been completed that address alternate form reliability. Therefore the construct validity of the instruments has not been addressed. A purpose of this study is to begin to address the issue of construct validity.

Procedures for Data Collection

Selection of Non-users Group

The non-users group contained 53 students, 19 males and 34 females. The list of non-users of counseling center services were obtained by a stratified random sample of 500 students (250 females and 250 males). The random sample was selected from students who were 18-50 years of age, enrolled as a student for the fall semester, who had not used the services of the university counseling center, and who were United States citizens with a current local address. The list of names selected by the computer was compared to the records of those who had previously used UCC's services. Any student who had received UCC services was eliminated from the sample pool: A 5% elimination rate was found. There was a control for a 2:1 respondent ratio of female and male students.

To assure a maximum return of inventories from the non-users group, each individual on the list was sent a letter asking them to participate in the study. The letter explained the purpose of the study, indicated the time commitment needed, and extended an invitation to be part of a $100.00 lottery upon completion of the inventories. The letter included directions on how the student could secure a packet of test materials if s/he wished to participate in the study, a consent form, and a self-addressed, stamped return envelope. A sample of the Non-Users Request to Participate Letter is found in Appendix A.

The test packets were distributed to the students by the receptionist at the Student Life Office or mailed directly to

her/him. Included in the packet were the three wellness inventories: WI, LAQ, and LCI. Approximately 1 1/2 hours were required to complete the three inventories. To compensate for the fatigue factor that may have occurred, the sequence of the inventories were rotated prior to their placement within the packet. A cover letter was included that provided the participant with general information concerning the purpose of study, how the student's name was selected, and assurance of the confidentiality of the results. In the cover letter, there was a place for the student to indicate if s/he wished to receive feedback concerning the tests results. A sample of the Respondent's Questionnaire Packet is found in Appendix B.

Procedures were used to maximize response rate. After a two week return period, a follow-up letter was sent to encourage the non-users to complete and return the testing packet. If they had misplaced the packet, instructions were included on how to receive a new packet. A sample of this letter is found in Appendix D.

Prior to the mailing, 175 names were eliminated from the original sample pool. The current local address of these 175 individuals was listed as out of state. Of the 309 students who were mailed a letter inviting them to participate in the study, 67 responded. Of the 67 who sent back the consent form, 53 returned a completed packet. The response rate of those who were mailed a letter was 22%, slightly lower than the 25% response rate most often observed in social science survey research (Sellitz, Wrightsman, & Cook, 1976). Of the students who received the packets, there was an

80% return rate. All non-user respondents were offered a copy of summary results, if so desired.

Selection of Users Group

Users of counseling center services were recruited from a large Southwestern university counseling center. This group reflected the usage of counseling center services: There was a 3:1 respondent ratio of female and male students. Users were at least 18 years of age and not over 50 years of age, enrolled as a full-time student for the fall or spring semester, had made an appointment for an intake interview at UCC, were U.S. citizens, and had a current local address. All UCC clients who met the above criteria beginning November 15, 1986 were included in the users subject pool until the sample size (N=50) was achieved.

When a student arrived at the counseling center for his/her appointment, s/he was asked either by the receptionist or the intaker to participate in a study to identify the physical and mental health issues of college students. It was important that the receiving of clinical services was not dependent upon the completion of the wellness inventories. Therefore, the receptionist/intaker informed the student that participation in the study was not a requirement for receiving service. If the student agreed to participate in the study, s/he was given a packet of testing materials. Included in the packet were the three wellness inventories; WI, LAQ, and LCI. Approximately one and one-half hours was required to complete the three inventories. To compensate for the fatigue factor that may have occurred, the sequence of the inventories were rotated prior to

their placement within the packet. A cover letter was included that provided the participant with general information concerning the purpose of the study, and the assurance of the results being confidential. In the cover letter, there was a place for the student to indicate if s/he wished to receive feedback concerning the tests results. See Appendix B for a sample of Questionnaire Packet for Respondents.

After a two week return period, a follow-up letter was sent to encourage the users to complete and return the testing packet. If they misplaced the packet, instructions were included on how to receive a new packet. See Appendix D for a sample of the Follow-Up Letter.

Every student who came in for an intake was asked to participate in the study. 238 UCC clients were asked to participate. 86 users received a packet; 57 packets were completed and returned to the counseling center. This was a 66% return rate for packets. All users respondents were offered a copy of summary results, if so desired.

To assure a high return rate for both user and non-user groups a lottery of $100.00 was used as an incentive. A ticket to participate in the drawing for $100.00 was included in the packet. Returning the packet placed the student's name in the lottery pool. Use of this incentive was approved by the University Committee for Research with Human Subjects at Michigan State University and the University Human Subjects Research Review Committee at Arizona State University.

After the completion of study, the $100.00 prize was awarded to the winning student.

Research Hypotheses

The purpose of this study was two fold: to determine whether the wellness inventories measure similar characteristics and report similar results and to investigate whether wellness inventories identify consistent differences between counseling centers' users and non-users.

Instrumentation Hypothesis

Hypothesis I (a): The internal consistency of the total items of the Wellness Index will be sufficiently high to infer homogeneity of the construct of wellness.

Hypothesis I (b): The internal consistency of the total items of the Lifestyle Assessment Questionnaire will be sufficiently high to infer homogeneity of the construct of wellness.

Hypothesis I (c): The internal consistency of the total items of the Lifestyle Coping Inventory will be sufficiently high to infer homogeneity of the construct of wellness.

Hypothesis II (a): The correlations between the total scales of the Wellness Index and the Lifestyle Assessment Questionnaire will be sufficiently high to infer that these instruments will be measuring the dimensions of wellness.

Hypothesis II (b): The correlations between the total scales of the Wellness Index and the Lifestyle Coping Inventory; and the Lifestyle Assessment Questionnaire and the Lifestyle Coping Inventory will be sufficiently high to infer that these instruments will be measuring the dimensions of wellness.

Null Hypothesis for Users and Non-users of Counseling Center Services

Hypothesis III (a): There will be no difference among the total scales of the Wellness Index, the Lifestyle Assessment Questionnaire, and the Lifestyle Coping Inventory for users and non-users of counseling center services ($p < .05$).

Hypothesis III (b): There will be no difference between the total scale scores on the Wellness Index for users and non-users of counseling center services ($p < .05$).

Hypothesis III (c): There will be no difference between the total scale scores of the Lifestyle Assessment Questionnaire for users and non-users of counseling center services ($p < .05$).

Hypothesis III (d): There will be no difference between the total scale scores of the Lifestyle Coping Inventory for users and non-users of counseling center services ($p < .05$).

Procedures for Quantitative and Supplementary Descriptive Data Analysis

The statistical procedures used to test the three research hypotheses included: MANOVA, ANOVA, t-tests, Pearson Product-Moment Correlations, and reliability (Cronbach's alpha) and descriptive analyses (means, standard deviations, and frequency). Additionally, t-tests were completed on each subscale to determine if there were differences between the user and non-user groups. The analytic procedures used are discussed below for each hypothesis.

Instrumentation Hypotheses

Hypothesis I (a, b, and c) refers to the reliability of the wellness inventories. Test reliability in its broadest sense provides an estimate on the extent to which individual differences in test scores are attributable to "true" differences in the characteristics under consideration and the extent to which they are attributable to chance errors (Anastasi, 1982). In other words, reliability is an index of the degree to which a test can discriminate and is thereby a measure of the test's potential effectiveness (Guilford, 1954). A number of means to estimate reliability are available. Some of the estimates require data from

two testing situations with the same individual. In the present study, two testing sessions were not feasible, due to a testing effect, so a reliability estimate was made from one administration of the instruments.

A measure of internal consistency was used to estimate the reliability of the wellness inventories and their sub-scales. The internal consistency of a test is a statement about the homogeneity of test items. It is the degree to which each item correlates with the total test score and the degree to which each item is tapping a similar construct. Cronbach's coefficient alpha was used as a measure of internal consistency for the wellness inventories' total scale scores. The coefficient is determined by computing all the possible means of the split-half coefficients resulting from all possible random pairings (Cronbach, 1971). A value of at least .75 is considered necessary to judge a scale internally consistent and to infer homogeneity of test items. For research purposes an alpha coefficient of .65 is acceptable (Mehrens & Lehmann, 1984).

Hypothesis II (a) tests the relationship between the two most well known wellness inventories: the Lifestyle Assessment Questionnaire and the Wellness Index, total scores. In order to test this hypothesis, a Pearson Product-Moment Correlation was computed. A product-moment correlation is used when both variables to be correlated are expressed as continuous scores. The product-moment correlation is the most stable correlation, with the smallest standard error of the correlation techniques, which provides a measure of the magnitude and significance of the relationship between

two variables. In order to infer that the wellness inventories are measuring a a similar construct, a significant level ($p < .05$) of correlation between the total scale and sub-scales needs to be observed.

Hypothesis II (b) relates to the construct validity of the wellness inventories. The construct validity of a test is the extent to which the test measures a theoretical construct or trait and as such requires the gradual accumulation of information from a number of sources (Anastasi, 1982). A method for obtaining construct validity is to show that the test correlates with other variables with which it is supposed to theoretically (Mehrens & Lehmann, 1984). In the present study, it is hypothesized that a linear correlation will be observed between a subject's score on the WI and LAQ with LCI. Following an analysis of subjects' wellness scores on the inventories, a Pearson Product-Moment Correlation was computed for LCI with the other two wellness inventories scores to determine if there was a statistically significant ($p < .05$) relationship.

Hypothesis for Users and Non-users of Counseling Center Services

Hypothesis III (a, b, and c) was concerned with identifying the differences between counseling center users and non-users. Prior to the testing of the hypothesis, the mean, standard deviation, and frequencies were observed for both the users scores and the non-users scores on the three wellness inventories. A Multiple Analysis of Variance (MANOVA) was performed on the three scales, WI, LAQ, and LCI, to simultaneously compare users and non-users of counseling center services. MANOVA enables the user to analyze a large class of

repeated measures designs (Hull & Nie, 1981). Univariate Analysis of Variance (ANOVA) were performed for each scale subsequent to the MANOVA. An univariate analysis of variance is an inferential technique used to determine if two or more sample means differ significantly from one another. It is the appropriate test statistic to use when comparing two or more groups, because of its power and flexibility. Analysis of variance determines if the variability between groups is large enough to justify the inference that the means of the populations from which the different groups are sampled are not the same. If the variability between groups is large enough, it is inferred that individuals in these groups came from different populations and that there is a statistically significant difference between the two populations (Isaac & Michael, 1971). In this testing situation there were two sets of means that were compared with each other, users and non-users of counseling center services and their wellness scores. For research purposes a Hotelling's T statistic with significance level of .05 was used.

Summary

The purpose of the present study was twofold. The first purpose was to determine if the Wellness Inventory (WI), Lifestyle Assessment Questionnaire (LAQ), and Lifestyle Coping Inventory (LCI) were reliable measures of wellness for college student populations. The second purpose was to see if users of counseling center services and non-users of counseling center services differ in wellness levels as measured by the WI, LAQ, and LCI.

Using a survey approach for data collection, a sample of 53 non-users and 57 users from a large Southwestern university completed the Wellness Inventory, Lifestyle Assessment Questionnaire, and Lifestyle Coping Inventory. The results of these scales were used to test the construct validity of wellness. Three hypotheses related to whether wellness inventories measure similar characteristics and report similar results and the differences between users and non-users of counseling center services were developed and tested. The statistical procedures used to test the three research hypotheses included: MANOVA, ANOVA, t-tests, Pearson Product-Moment Correlations, reliability (Cronbach's alpha) and descriptive analysis (means, standard deviations, and frequency). Additionally, t-tests were completed on each subscale to determine if there were differences between the user and non-user groups.

CHAPTER 4

RESULTS OF THE STUDY

Chapter 4 contains the results related to instrumentation and the results specifically related to the differences between users and non-users of counseling center services and their level of wellness.

Instrumentation

As demonstrated by the comprehensive review of literature, current psychometric data are limited concerning the three wellness instruments. Three studies have been completed that do report reliability and validity estimates for the LAQ and the LCI (Jeney, 1985; The National Wellness Institute, 1983; Richter, 1985). The relationship between the three inventories, WI, LAQ, and LCI, has not been studied before. No studies have been completed that address alternate form reliability. Therefore the construct validity of wellness through the use of these instruments has not been addressed. For the purpose of this study, two major hypotheses were developed and tested to address the question of construct validity.

Tests of the Research Hypotheses

Instrumentation Hypotheses

Hypothesis I (a): The internal consistency of the total items of the Wellness Index will be sufficiently high to infer homogeneity of the construct of wellness.

The internal consistency of the Wellness Index (WI) was determined by computing Cronbach's coefficient alpha. The total scale alpha coefficient was .93. A coefficient alpha of .93 is a high coefficient, especially for a self-report instrument (Anastasi, 1982).

Any reliability coefficient may be interpreted directly in terms of the percent of score variance attributed to different sources. Thus a reliability coefficient of .93 signifies that 93% of the variance in the tests scores depend on true variance in the trait being measured, and 7% depends on error variance (Anastasi, 1982). This can be interpreted as the percentage of the true variance. The square root of the correlation coefficient, known as the index of reliability, represents the portion of the common total variance (Anastasi, 1982).

The correlations between the WI and twelve subscales were determined by computing a Pearson Product Moment Correlation Matrix. The inter-scale correlations ranged from .50 to .69. All interscale correlations were significant at a .001 alpha level, suggesting that the WI is measuring a unidimensional construct. In light of the fact the the total scale has good reliability and measuring a unidimensional construct, all further analyses were performed on the total scale.

Hypothesis I (b): The internal consistency of the total items of the Lifestyle Assessment Questionnaire will be sufficiently high to infer homogeneity of the construct of wellness.

The internal consistency of the Lifestyle Assessment Questionnaire (LAQ) was determined by computing Cronbach's

coefficient alpha. The total scale alpha coefficient was .93. A coefficient alpha of .93 is a high coefficient, especially for a self-report instrument (Anastasi, 1982). An inference can be made that the LAQ is measuring a homogeneous construct, that of wellness.

The correlations between the LAQ and ten subscales were determined by computing a Pearson Product Moment Correlation Matrix. The inter-scale correlations ranged from .42 to .68. All interscale correlations were significant at a .001 alpha level, suggesting that the LAQ is measuring a unidimensional construct. In light of the fact the the total scale has good reliability and measuring a unidimensional construct, all further analyses were performed on the total scale.

Hypothesis I (c): The internal consistency of the total items of the Lifestyle Coping Inventory will be sufficiently high to infer homogeneity of the construct of wellness.

The internal consistency of the Lifestyle Coping Inventory (LCI) was determined by computing Cronbach's coefficient alpha. The total scale alpha coefficient was .93. A coefficient alpha of .93 is a high coefficient, especially for a self-report instrument (Anastasi, 1982). An inference can be made that the LCI is measuring a homogeneous construct, that of wellness.

The correlations between the LCI and seven subscales were determined by computing a Pearson Product Moment Correlation Matrix. The inter-scale correlations ranged from .38 to .83. All interscale correlations were significant at a .001 alpha level, suggesting that the LCI is measuring a unidimensional construct. In light of the fact the the total scale has good reliability and measuring a

unidimensional construct, all further analyses were performed on the total scale.

Hypothesis II (a): The correlation between the total scale of the Wellness Index and the Lifestyle Assessment Questionnaire will be sufficiently high to infer that these instruments will be measuring the dimension of wellness ($p < .05$).

The correlation between the Lifestyle Assessment Questionnaire and the Wellness Index was determined by computing a Pearson Product-Moment Correlation Matrix. The between-test correlation was .79 ($p < .001$). Any correlation coefficient may be interpreted directly in terms of the percent of score variance attributed to different sources. The square of the correlation coefficient represents the portion of the total variance on one of the distributions that can be predicted from the other (Magnussen, 1967). The square of the correlation coefficient is known as the coefficient of determination. The coefficient of determination gives the amount of variance which is determined by the relationship with some other variable. In other words, 62% of the variance in the LAQ is explained by the variance in the WI.

Hypothesis II (b): The correlations between the total scale of the Lifestyle Assessment Questionnaire and the Lifestyle Coping Inventory; and the Wellness Index and the Lifestyle Coping Inventory will be sufficiently high to infer that these instruments will be measuring the dimension of wellness ($p < .05$).

The correlation between the Lifestyle Assessment Questionnaire, and the Lifestyle Coping Inventory was determined by computing the Pearson Product-Moment Correlation. A correlation expresses the degree of correspondence or relationship between two sets of scores (Anastasi, 1982). The correlation coefficient between the LAQ and

the LCI was .70 ($p < .01$). The correlation coefficient between the WI and the LCI was .82 ($p < .001$). Students who scored high or low on the LCI, scored in a similar direction on the LAQ and the WI.

As previously discussed, any correlation coefficient may be interpreted directly in terms of the percent of score variance attributed to different sources. The square of the correlation coefficient represents the portion of the total variance on one of the distributions which can be predicted from the other (Magnussen, 1967). The square of the correlation coefficient is known as the coefficient of determination. The coefficient of determination gives the amount of variance which is determined by the relationship with some other variable. In other words, 67% of the variance in the LCI is explained by the variance in the WI while 49% of the variance of the LCI is accounted for by the LAQ. Due to the high reliability coefficient for all three instruments, WI, LAQ, and LCI, the reliability of all three scales is established. The Pearson Correlation Coefficients and coefficients of determination for Hypothesis II (a and b) are presented in Table 4.1.

Table 4.1
Pearson Correlation Coefficients* Between Inventories
and Coefficients of Determination (r^2)

	LCI Total	LAQ Total	WI Total
LCI Total	1.00	.70 r^2=.49	.82 r^2=.67
LAQ Total	.70	1.00	.79 r^2=.62
WI Total			1.00

*p <.001

Subscale Analysis - Content Validity

One purpose of a test is to make an inference about a property or behavioral domain of a person (Mehrens & Lehmann, 1984). A test serves as a sample of the domain if the items are drawn from a clearly defined universe. Content validity is related to how adequately the content of, and responses to the test samples the domain about which inferences are to be made. In content validity we are interested in how adequately we can infer from a particular score to a larger domain (Mehrens and Lehmann, 1984). Thus, building three tests (wellness inventories) over the same content (wellness), giving them to the same set of students (users and non-users), and correlating the results tells us something about both equivalent form reliability and content validity.

Since the alpha coefficient of each instrument was .93 and the correlations between tests ranged from .70 - .82, it was important to determine if the subscales of the instruments also supported the initial finding indicating content validity. The interscale correlations of the LAQ and WI subscales ranged from -.12 (not signifcant) between Drugs and Driving (LAQ) and Play/Work (WI) to .65 between Emotional Awareness (LAQ) and Feelings (WI). Out of 120 correlations between the WI and LAQ subscales (refer to Table 4.2), 101 of the subscales indicated statistical significance; 21 were significant at (p <.05), 21 were significant at (p <.01), and 59 were significant (p <.001).

The interscale correlations of the subscales of the WI and LCI ranged from -.01 (not significant) between Feelings (WI) and Nutrition (LCI) to .66 between Feelings (WI) and Coping Style (LCI). Out of 84 correlations between WI and LCI subscales (refer to Table 4.3), 72 of the subscales indicated statistical significance; 9 were significant at (p <.05), 11 were significant at (p <.01), and 52 were significant (p <.001).

The interscale correlations of the LAQ and LCI subscales ranged from -.03 (not significant) between Emotional Awareness (LAQ) and Nutrition (LCI) to .63 between Physical Fitness (LAQ) and Physical Care (LCI). Though the correlation coefficient between the LAQ and LCI was not as strong as the other pairing (refer to Table 4.4), out of 70 correlations, 42 of the subscales indicated statisical significance; 9 were significant at (p <.05), 11 were significant at (p <.01), and 22 were significant (p <.001).

In addition, the distribution of the responses to each question of the subscales was examined. The distribution for most of the subscales was reasonably normal rather than bimodal or skewed. The exception to this was the LCI's Low Risk subscale.

Table 4.2
Pearson Product-Moment Correlation Coefficient
and the Probability Value
Lifestyle Assessment Questionnaire and Wellness Index

	Lifestyle Assessment Questionnaire									
r p	Phys Fitness	Nutri-tion	Self Care	Drug/ Drive	Social	Emot Aware	Emot Cogn	Intell utual	Occup-ation	Spirit
Wellness Index										
Self	.20 .020	.26 .003	.35 .001	.33 .001	.57 .001	.50 .001	.37 .001	.38 .001	.40 .001	.45 .001
Breath-ing	.31 .001	.23 .008	.25 .004	.13 .093	.37 .001	.51 .001	.34 .001	.28 .002	.30 .001	.48 .001
Sens-ing	.40 .001	.22 .011	.30 .001	.08 .193	.39 .001	.23 .009	.18 .027	.32 .001	.22 .012	.26 .003
Eating	.42 .001	.60 .001	.37 .001	.40 .001	.45 .001	.20 .020	.20 .016	.13 .094	.24 .005	.19 .023
Moving	.56 .001	.34 .001	.35 .001	.03 .385	.16 .050	.10 .161	-.07 .258	.17 .037	.21 .013	.21 .014
Feel-ing	.17 .039	.09 .183	.26 .003	.08 .220	.46 .001	.65 .001	.55 .001	.24 .006	.36 .001	.41 .001
Think-ing	.25 .004	.18 .032	.23 .007	.07 .246	.32 .001	.55 .001	.43 .001	.32 .001	.44 .001	.38 .001
Play/ Work	.25 .004	.15 .060	.19 .025	-.12 .104	.31 .001	.51 .001	.35 .001	.26 .003	.23 .008	.22 .010
Communi-cation	.24 .006	.16 .050	.23 .008	-.06 .281	.21 .013	.32 .001	.31 .001	.19 .022	.19 .024	.22 .012
Sex	.07 .246	.22 .012	.26 .004	-.01 .447	.27 .002	.44 .001	.47 .001	.42 .001	.30 .001	.21 .013
Find Mean	.12 .100	.29 .001	.27 .002	.14 .067	.47 .001	.55 .001	.59 .001	.43 .001	.32 .001	.52 .001
Trans-cend	.35 .001	.23 .007	.35 .001	.03 .383	.34 .001	.35 .001	.26 .004	.44 .001	.20 .019	.53 .001

Table 4.3
Pearson Product-Moment Correlation Coefficient
and the Probability Value
Lifestyle Coping Inventory and Wellness Index

	Lifestyle Coping Inventory						
r p	Nutrition	Physical Care	Cognitive Emotional	Low Risk	Environment	Social Support	Coping Style
Wellness Index							
Self	.17 .040	.34 .001	.47 .001	.40 .001	.31 .001	.31 .001	.45 .001
Breathing	.22 .010	.43 .001	.47 .001	.24 .007	.33 .001	.35 .001	.36 .001
Sensing	.30 .001	.50 .001	.30 .001	.25 .005	.40 .001	.27 .003	.34 .001
Eating	.62 .001	.44 .001	.17 .040	.35 .001	.39 .001	.10 .154	.23 .009
Moving	.31 .001	.57 .001	.11 .125	.13 .088	.25 .004	.27 .003	.19 .023
Feeling	-.01 .478	.24 .006	.70 .001	.19 .023	.28 .001	.58 .001	.66 .001
Thinking	.08 .211	.35 .001	.51 .001	.19 .022	.28 .002	.38 .001	.47 .001
Play/ Work	.01 .453	.38 .001	.57 .001	.08 .199	.27 .002	.51 .001	.60 .001
Communication	.20 .019	.32 .001	.54 .001	.08 .204	.38 .001	.39 .001	.57 .001
Sex	.13 .087	.28 .002	.41 .001	.06 .274	.18 .032	.30 .001	.47 .001
Find Meaning	.23 .007	.31 .001	.64 .001	.13 .095	.30 .001	.42 .001	.55 .001
Transcend	.20 .021	.34 .001	.43 .001	.09 .183	.37 .001	.36 .001	.46 .001

Table 4.4
Pearson Product-Moment Correlation Coefficient
and the Probability Value
Lifestyle Assessment Questionnaire and Lifestyle Coping Inventory

	Lifestyle Assessment Questionnaire									
r p	Phys Fitness	Nutri-tion	Self Care	Drug/ Drive	Social	Emot Aware	Emot Cogn	Intell utual	Occup-ation	Spirit
Lifestyle Coping Inventory										
Nutri-	.37	.71	.25	.20	.22	-.03	.06	.09	.05	.17
tion	.001	.001	.004	.021	.010	.367	.268	.172	.298	.043
Physical	.63	.40	.50	.14	.28	.28	.28	.28	.25	.26
Care	.001	.001	.001	.072	.002	.001	.001	.002	.005	.003
Cog/	.19	.24	.29	.01	.45	.70	.60	.28	.32	.52
Emotion	.024	.007	.001	.446	.001	.001	.001	.002	.001	.001
Low	.17	.34	.35	.62	.30	.14	.13	.10	.10	.18
Risk	.036	.001	.001	.001	.001	.070	.082	.159	.160	.034
Envir-	.31	.38	.31	.17	.49	.18	.13	.23	.17	.29
onment	.001	.001	.001	.042	.001	.030	.085	.008	.041	.001
Social	.31	.17	.17	.09	.27	.54	.28	.12	.21	.37
Support	.001	.042	.038	.175	.002	.001	.002	.104	.015	.001
Coping	.26	.25	.28	.01	.36	.59	.51	.28	.39	.38
Style	.003	.004	.002	.460	.001	.001	.001	.002	.001	.001

Subscale Analysis - Intercorrelations

The data analysis has shown that the intercorrelations with the overall scales were high. Based on the face validity of the individual scales, subscales were selected based on similar domains (i.e. subscales that refer to similar domains such as nutrition and eating). Prior to the data analysis the following subscales were matched to determine if the inventories reflected a representative sample of the domain (refer to Table 4.5). Some subscales were matched with more than one subscale. Likewise, some tests had subscales that did not correspond with any other subscales on another test (e.g. Sex-WI, Breathing-WI, and Environment-LCI). All subscale intercorrelations were significant at (p <.01) except for four scales in which the probability of statistical significance ranged from p =.013 to p =.02. The scales are being displayed in tables 4.5 in terms of rank order, based upon the correlation coefficient.

Table 4.5
Subscales That May Possibly Correlate
and The Subsequently Determined Pearson Correlations

Lifestyle Assessment Questionnaire and Wellness Index

LAQ	r	WI
Emotional Awareness	.65*	Feeling
Nutrition	.60*	Eating
Physical Fitness	.56*	Moving
Spiritual	.53*	Transcending
Spiritual	.52*	Finding Meaning
Emotional Cognition	.43*	Thinking
Self Care	.35*	Self
Intellectual	.32*	Thinking
Occupation	.23	Work/Play
Social	.21	Communication

* p < .001

Wellness Index and Lifestyle Coping Inventory

WI	r	LCI
Feeling	.70*	Cognitive/Emotional
Eating	.62*	Nutrition
Moving	.57*	Physical Care
Thinking	.51*	Cognitive/Emotional
Thinking	.47*	Coping
Communication	.39*	Social Support
Self	.34*	Physical Care
Self	.31*	Social Support

* $p < .001$

Lifestyle Assessment Questionnaire and Lifestyle Coping Inventory

LAQ	r	LCI
Nutrition	.71*	Nutrition
Emotional Awareness	.70*	Cognitive/Emotional
Physical Fitness	.63*	Physical Care
Drugs and Driving	.62*	Low Risk Actions
Self Care	.50*	Physical Care
Intellectual	.28	Coping
Social	.27	Social Support

* $p < .001$

Out of the twenty-five matched pairs of subscales, 8 pairs had an intercorrelation of .60 and above; seven pairs had an intercorrelation of .40-.59; and nine pairs had an intercorrelation below .40. Ten pairs were formed from the combined subscales of the LAQ and the WI: two pairs had a high intercorrelation of .60 and above (Emotional Awareness and Feeling, Nutrition and Eating) four pairs had an intercorrelation of .40-.59 (Physical Fitness and Moving, Spiritual and Finding Meaning, Spiritual and Transcending, Emotional Cognition and Thinking); and four pairs had a low

intercorrelation below .40 (Self Care and Self, Intellectual and Thinking, Occupation and Work/Play, and Social and Communication). Comparing the WI and the LCI, eight pairs were formed from the combined subscales: 2 pairs had a high intercorrelation of .60 and above (Feeling and Cognitive/Emotional, Eating and Nutrition); three pairs had an intercorrelation of .40-.59 (Thinking and Cognitive/Emotional, Thinking and Coping); and three pairs had a low intercorrelation below .40 (Communication and Social Support, Self and Physical Care, and Self and Social Support). Comparing the LAQ and the LCI, seven pairs were formed from the combined subscales: four pairs had a high intercorrelation of .60 and above (Nutrition and Nutrition, Emotional Awareness and Cognitive/Emotional, Physical Fitness and Physical Care, Drugs and Driving and Low Risk Actions); one pair had an intercorrelation of .40-.59 (Self Care and Physical Care); and two pairs had a low intercorrelation below .40 (Intellectual and Coping, Social and Social Support).

The higher correlations may indicate a higher level of content validity, while a low correlation coefficient such as between Intellectual (LAQ) and Thinking (WI) may indicate a lack of content validity or a difference in conceptualizing of the concept among the test authors.

Expectation for Users and Non-Users Concerning Level of Wellness

Health is frequently seen as a consequence--the result of avoiding illness-producing circumstances or behaviors (Bruhn et al., 1977). In actuality, good health is a continual process that can

evolve into wellness. Good health thus becomes one point along the health continuum; it is one point in the process of being or becoming well. There are several differences between wellness and good health. First, wellness is a process that continues through time, whereas good health is a state of being or a stage along the health continuum. We can lose good health, we can be ill, but the potential for wellness is always present in some degree. According to numerous authors in the field of wellness (Ardell,1977; Jourard, 1971; Maslow, 1968; Travis, 1981) one can be ill and still achieve wellness. One indication of striving for wellness is learning when to seek assistance (Travis, 1981). In this section the hypothesis will ask if there is any difference between users and non-users of counseling center services and also will note the direction of the wellness scores within the inventories. As previously discussed in Chapter 3 (refer to Table 3.1), there are no statistically significant differences ($p < .05$) between the users and non-users of counseling center services on the 18 demographic characteristics reported.

Null Hypothesis for Users and Non-users of Counseling Center Services

Hypothesis III (a): There will be no differences among the total scales of the Wellness Index, the Lifestyle Assessment Questionnaire, and the Lifestyle Coping Inventory for users and non-users of counseling center services ($p < .05$).

A Hotelling's Multivariate T with (3, 105) degrees of freedom was computed for all three instruments. The resulting coefficient was 0.064 ($p > .05$). Therefore, looking at all three tests simultaneously, there is no difference between the users and non-

users of counseling center services. The null hypothesis is retained (refer to Table 4.6. for means and standard deviations of the user and non-user groups).

Table 4.6
Total Test Scores of
Users and Non-users of Counseling Center Services

Test	N of Cases	Mean	Standard Deviation
LAQ			
Non-users	53	219.1	39.5
Users	57	234.0	39.4
WI			
Non-users	53	274.4	43.2
Users	57	290.4	39.6
LCI			
Non-users	53	460.6	54.3
Users	57	454.2	34.5

Hypothesis III (b): There will be no difference between the total scale scores on the Wellness Index for users and non-users of counseling center services ($p < .05$).

A univariate F test was conducted on the Wellness Index with (1, 107) degrees of freedom. The resulting F-value was 3.87 ($p > .05$) which indicated that there were no differences between users and non-users of counseling services using the Wellness Index. The null hypothesis is retained.

Hypothesis III (c): There will be no difference between the total scale scores of the Lifestyle Assessment Questionnaire for users and non-users of counseling center services ($p < .05$).

A univariate F test was conducted on the Lifestyle Assessment Questionnaire with (1, 107) degrees of freedom. The resulting

coefficient was 3.91 ($p > .05$), which indicated that there were no differences between users and non-users of counseling services using the Lifestyle Assessment Questionnaire. The null hypothesis is retained.

Hypothesis III (d): There will be no difference between the total scale scores of the Lifestyle Coping Inventory for users and non-users of counseling center services ($p < .05$).

A univariate F test was conducted on the Lifestyle Coping Inventory with (1, 107) degrees of freedom. The resulting F coefficient was .654 ($p > .05$), which indicated that there were no differences between users and non-users of counseling services using the Lifestyle Coping Inventory. The null hypothesis is retained.

Supplementary Descriptive Analyses

Although no statistically significant differences among the three tests were found and post hoc tests are not indicated, nonetheless, they were performed with the caveat that these tests should **not** be viewed as true post hoc tests. The reason for these additional statistics is to determine whether the subscales identify differences between users and non-users of counseling center services.

Although no global differences for the tests as a whole were found, the subscale analysis seems to indicate a trend toward differences on some subscales between users and non-users. In particular, one of the subscales, Cognitive Emotional (LCI), shows a higher level of wellness ($p < .05$) for the non-user group than for the user group. In contrast, the following eight subscales show a higher level of wellness ($p < .05$) for the user group: Emotional Awareness

(LAQ), Social (LAQ), Emotional Cognition (LAQ), Self (WI), Feeling (WI), Thinking (WI), Play/Work (WI), and Finding Meaning (WI). See Table 4.7 for complete means, standard deviations, and *t* values for significant subscales of the LAQ; see Table 4.8 for complete means, standard deviations, and *t* values for significant subscales of the WI; and see Table 4.9 for complete means, standard deviations, and *t* values for significant subscales of the LCI.

The supplemental descriptive analyses indicate that the subscales which differentiate between users and non-users have reasonably high correlations among themselves ($p < .05$). Refer to Tables 4.2, 4.3, and 4.4 for these correlations. The nine subscales that differentiate seem to measure a construct of the self rather than a more behavioral construct such as nutrition or physical fitness. In eight of the subscales that emphasize personal perceptions, users have a higher level of wellness than non-users, but in the subscale that emphasizes Cognitive Emotional Action (LCI), the non-users have a higher level of wellness than users.

Summary

All three scales, WI, LAQ, and LCI have high alphas (.93), which infer high reliability. Therefore, construct validity can be inferred. The high intercorrelation of the subscales infers content validity. The analysis of the tests concerning users and non-users of counseling center services show no differences between the two groups. All null hypotheses concerning users and non-users are retained.

The supplemental descriptive analyses indicate that the subscales which differentiate between users and non-users have reasonably high correlations among themselves ($p < .05$). These nine subscales measure a construct that may be more difficult to operationalize, those that emphasize personal perceptions of self, affect, the meaning of life (e.g. Finding Meaning-WI and Emotional Awareness-LAQ), rather than subscales that specify behaviors that are more easily identified and measured (e. g. Nutrition). In eight of the nine subscales that emphasize personal perceptions, users have a higher level of wellness than non-users, but in the subscale that emphasizes Cognitive Emotional Action (LCI), the non-users have a higher level of wellness than users.

Table 4. 7
Users and Non-users Group t-test Results for the
Lifestyle Assessment Questionnaire Subscales

Subscale	N	Mean	Standard Deviation	Probability of t value between groups
Nutrition				
Non-Users	53	26.8	7.9	.147
Users	57	24.6	8.1	
Physical Fitness				
Non-Users	53	29.9	7.2	.050
Users	57	27.3	6.3	
Self Care				
Non-Users	53	25.9	6.2	.455
Users	57	26.9	6.7	
Drug/Driving				
Non-Users	53	16.9	5.9	.752
Users	57	17.3	6.1	
Social				
Non-Users	53	18.6	5.0	.007*
Users	57	21.3	5.4	
Emotional Awareness				
Non-Users	53	18.9	6.7	.001*
Users	57	25.1	7.1	
Emotional Cognitive				
Non-Users	53	20.2	5.6	.001*
Users	57	24.3	6.3	
Intellectual				
Non-Users	53	19.4	5.8	.205
Users	57	20.8	6.1	
Occupational				
Non-Users	53	21.3	8.0	.205
Users	57	24.1	7.6	
Spiritual				
Non-Users	53	21.4	5.9	.406
Users	57	22.4	6.3	

* $p < .05$

Table 4.8
Users and Nonusers Group t-test Results for the Wellness Index Subscales

Subscale	N	Mean	Standard Deviation	Probability of t Value between groups
Self				
Non-Users	53	21.7	5.7	.015*
Users	57	24.3	5.3	
Breathing				
Non-Users	53	28.7	4.8	.079
Users	57	30.3	4.7	
Sensing				
Non-Users	53	20.8	4.7	.978
Users	57	20.8	3.8	
Eating				
Non-Users	53	24.0	5.2	.442
Users	57	25.0	7.1	
Moving				
Non-Users	53	30.9	8.7	.113
Users	57	28.4	7.4	
Feeling				
Non-Users	53	21.4	5.1	.030*
Users	57	23.8	6.3	
Thinking				
Non-Users	53	21.9	4.7	.011*
Users	57	24.1	4.2	
Play/Work				
Non-Users	53	21.2	5.4	.020*
Users	57	23.9	6.6	
Communication				
Non-Users	53	21.3	4.9	.323
Users	57	22.2	5.1	
Sex				
Non-Users	53	19.1	4.9	.127
Users	57	20.6	5.2	

* $p < .05$

Table 4.8 continue
Users and Nonusers Group t-test Results for the
Wellness Index Subscales

Subscale	N	Mean	Standard Deviation	Probability of t Value between groups
Finding Meaning				
Non-Users	53	20.0	6.1	.003*
Users	57	23.6	6.2	
Transcending				
Non-Users	53	23.4	6.4	.948
Users	57	23.4	5.8	

* $p < .05$

Table 4.9
Users and Nonusers Group t-test Results for the Lifestyle Coping Inventory Subscales

Subscales	N	Mean	Standard Deviation	Probability of t Value between groups
Nutrition				
Non-Users	53	46.2	12.1	.05
Users	57	50.7	11.9	
Physical Care				
Non-Users	53	40.4	10.8	.81
Users	57	40.8	8.1	
Cognitive/Emotional				
Non-Users	53	90.9	16.1	.008*
Users	57	83.3	13.2	
Low Risk				
Non-Users	53	13.7	3.3	.861
Users	57	13.6	2.7	
Environment				
Non-Users	53	25.2	5.3	.713
Users	57	24.8	4.5	
Social Support				
Non-Users	53	29.1	9.7	.917
Users	57	28.9	8.5	
Coping				
Non-Users	53	79.0	12.2	.147
Users	57	75.8	10.7	

* $p < .05$

CHAPTER 5

SUMMARY, DISCUSSION, AND IMPLICATIONS

This chapter summarizes the research study. The findings of the study are presented along with a discussion of the results related to wellness instruments and users and non-users of counseling center services and their level of wellness. Implications of the findings are discussed, along with directions for future research.

Summary

The purpose of the present study was twofold. The first purpose was to determine if the Wellness Inventory (WI), Lifestyle Assessment Questionnaire (LAQ), and Lifestyle Coping Inventory (LCI) were reliable measures of wellness for college student populations. The second purpose was to see if users of counseling center services and non-users of counseling center services differ in wellness levels as measured by the WI, LAQ, and LCI.

Using a survey approach for data collection, a sample of 53 non-users and 57 users from a large Southwestern university completed the WI, LAQ and LCI. The data collected from the survey were used to address the construct validity of wellness and if differences between users and non-users of counseling center services could be detected through the use of a wholistic approach such as wellness.

Two hypotheses regarding the reliability and initial validation of the three wellness inventories were developed and tested. The results regarding the two hypotheses are as follows:

1. The Wellness Index (WI), Lifestyle Assessment Questionnaire (LAQ), and Lifestyle Coping Inventory (LCI) were demonstrated to be internally consistent and reliable instruments. A coefficient alpha of .93 was obtained for all three of the instruments total scales.

2. The construct of wellness is assumed to be a unidimensional construct. Statistically significant correlations were observed between the WI and the LAQ, .79; between the LAQ and the LCI .70; and between the WI and the LCI .82.

3. Construct validation of wellness has been established by the high intercorrelations between the WI, LAQ, and LCI.

A hypothesis related to users and non-users of counseling center services and their level of wellness was developed and tested. The results regarding this hypothesis is as follows:

4. There were no differences between the users and non-users of counseling center services in terms of total wellness scores. Both groups exhibited a similar level of wellness.

Supplementary descriptive analyses were performed to determine whether the subscales identified differences between users and non-users of counseling center services. The results related to the supplementary descriptive analyses are as follows:

5. Users of counseling center services have a higher level of wellness in the areas of finding meaning in life, issues pertaining to self-exploration, emotional awareness, emotional cognitions, attitudes toward work/play, and spirituality.

6. Non-users of counseling center services have higher level of wellness in areas that pertain to emotional and cognitive coping skills.

7. Users and non-users of counseling center services have similar behavioral patterns in terms of nutrition, physical fitness, and high risk activities.

Discussion

Though the major hypothesis of this research study did not show differences between the two groups, it was found that users of counseling centers have a higher level of wellness on eight of nine significant subscales. Therapists, who ascribe to the medical model, have made the assumption that seeking counseling services is a sign of pathology. The subscale finding indicate that students who seek therapy may have a higher level of personal wellness in some areas. The finding of the subscale differences would encourage psychologists to move away from the assumption that students who a use counseling center services have some degree of pathology present. The dimensions of mind, body, intellect, and spirit can assist mental health professionals in understanding college student concerns and in the development of a wholistic approach to treatment. Treatment can then serve as a vehicle for personal growth as well as a means for correcting behavioral problems (Papenfuss & Beier, 1984).

The following is an in depth discussion of the findings of this study. Included in the discussion are issues concerned with the reliability and validity of the instruments and wellness variables that identify differences between users and non-users.

Instrument Development - Reliability of the Instruments

One type of reliability, that of internal consistency, was tested for the three inventories (WI, LAQ, and LCI) and their subscales. A reliability coefficient of .93 was obtained for all three inventories. This reliability coefficient suggests a relatively high level of internal consistency, especially for a

self-report measure. An understanding of the factors that contribute to the reliability of a scale provides some explanation for the high level of internal consistency observed. Factors contributing to an instrument's reliability that are particularly relevant to the reliability of the WI, LAQ, and LCI are: the length of the test, the heterogeneity of the sample, and whether the items are scored dichotomously or on a Likert-type scale (Mehrens & Lehmann, 1984).

The reliability for the total scales were based on 120 items for the WI, 100 items for the LAQ, and 142 items for the LCI. The number of items is relatively high and is assumed to have significantly contributed to the overall reliability of the inventories. Additionally, the sample of subjects was heterogeneous with respect to gender, age, class standing, college major, marital status, and 15 other demographic variables. Refer to Table 3.1 for complete demographic information. The heterogeneity of the sample positively influenced the overall reliability. Similarly, the use of a Likert-type rather than a dichotomous scoring system appeared to aid reliability by providing for more heterogeneity in responses.

In addition to test construction theory another possible explanation for the adequate reliability obtained on the three tests is that each item was based on a set of objectives that were supported by theories relevant to wellness. It is likely that the development of items around stated objectives, reflective of a clear and consistent definition of that which constitutes wellness, aided in the measurement of a homogenous construct and high internal consistency of the measure.

Wellness Inventory (WI)

It is likely that the WI is measuring a single construct with a number of different dimensions. The same core theme is reflected in all items, but in a number of different ways. The high inter-scale correlations between the WI and the twelve subscales, (all correlations were significant at .001 alpha level) provide evidence that the WI is measuring a unidimensional construct.

The internal consistency of the twelve subscales was acceptably high for research purposes. Coefficient alphas of above .74 were obtained for eight of the twelve subscales (Eating, Moving, Feeling, Thinking, Play/Work, Communicating, Finding Meaning, and Transcending). The exceptions to this are the subscales concerning Self Responsibility (.59), Breathing (.52), Sensing (.57) and Sex (.63) which, although having statistically significant correlations with the other scales, demonstrated observably lower interscale reliability.

The Self Responsibility subscale contains a variety of questions such as an interest in community events, financial security, wasting of energy, oral hygiene, smoking, and wearing seatbelts. A respondent may have marked that s/he never smoked and always used seatbelts. Both responses indicate a high level of wellness, but the scores are reported in the opposite direction. The inconsistency in the direction of the scoring may have affected the reliability of the scale. Another explanation for the lower reliability coefficient of the scale is due to the lack of homogeneity within the scale. The

lack of homogeneity is evident by the number of unrelated topics incorporated into the scale.

The Breathing subscale combines physiological factors associated with breathing and relaxation such as temperature of fingertips, meditation, touching one's hands to toes, plus questions concerning personal stressors such as work, personal relationships, feeling tried and rundown, and biting fingernails. An explanation for the low reliability may be due to the incorporation of questions dealing with behaviors that signify high levels of stress with questions dealing with personal perceptions. The respondent may be aware of many of the personal stressors in his/her life, yet be unaware of how the physiological factors of stress contribute to one's ability or inability to relax.

The Sensing subscale also combines numerous concepts including taking walks, giving presents to self, receiving backrubs, touching and being touched, spending time alone, type of lighting in one's place of work, and avoiding noisy areas. The nature of the scale makes it difficult to have high internal consistency since the principle of homogeneity has been violated (Anastasi, 1981).

The Sex subscale appears to be homogenous in content yet has low internal reliability. The Sex subscale includes questions on sex education, body image, and type and degree of intimacy. The appearance of homogeneity fails at this point and may make it difficult for the scale to have high internal consistency. Although the operational explanation may explain the lower intercorrelation, a more cogent explanation may be that it is difficult for college

students to answer in a consistent manner due to developmental differences. The scale may reflect responses to the individual stages of development concerning intimacy and sexuality (Erikson, 1963). Some students are working on the issues associated with developing close relationships with members of their own sex, while other students may have completed that developmental stage and are now addressing issues dealing with members of the opposite sex. The scale may need to be modified for use with college students to reflect the developmental differences of students.

Out of twelve WI subscales, eight indicated high internal consistency above .74. According to Mehrens & Lehmann (1984) a high intercorrelation of subscales is an indicator of high content reliability. These results also indicate that the author is measuring a unidimensional concept since the distribution is reasonably normal rather than a bimodal or skewed distribution.

Lifestyle Assessment Questionnaire (LAQ)

It is likely that the LAQ is measuring a single construct with a number of different dimensions. The same core theme is reflected in all items, but in a number of different ways. The high inter-scale correlations between the LAQ and the ten subscales, (all correlations were significant at .001 alpha level) provide evidence that the LAQ is measuring a unidimensional construct.

The internal consistency of the ten subscales was acceptably high for research purposes. Coefficient alphas of above .74 were obtained for eight of the ten subscales (Nutrition, Drugs and Driving, Emotional Awareness, Emotional Control, Intellectual,

Occupational, Social, and Spiritual) provide evidence that the LAQ is measuring a unidimensional construct. The authors of the LAQ were consistent in the content for the eight subscales. The exceptions to this are the scales concerning Physical Fitness (.64) and Self Care (.68) which, although having statistically significant correlations with the other scales, demonstrated observably lower interscale reliability.

The Physical Fitness subscale asks about behaviors dealing with exercise except for two questions that request specific physiological information concerning the respondent's resting pulse and the amount of sleep. In reviewing the data concerning the reliability of the scale, if these two items were removed, the scale's reliability would be increased. This is an indication that these two questions do not meet the criteria of homogeneity.

The subscale concerning Self Care addresses many issues that may lead to the prevention of major illnesses including heart disease, lung disease, cancer, and oral health disease. These diseases may have some common contributing factors, yet the etiologies of these diseases may be different. The etiologies of disease may have been too large of an area to cover within one subscale of ten questions. It is difficult to have a scale that is internally consistent when dealing with four major societal health problems of the 1980s.

Out of ten subscales of the LAQ, eight of them indicated high internal consistency above .74. According to Mehrens & Lehmann (1984) a high intercorrelation of subscales is an indicator of high content reliability. These results also indicate that the authors

are measuring a unidimensional concept since the distribution was reasonably normal rather than a negatively or positively skewed distribution.

Lifestyle Coping Inventory (LCI)

It is likely that the LCI is measuring a single construct with a number of different dimensions. The same core theme is reflected in all items, but in a number of different ways. The high inter-scale correlations between the LCI and the seven subscales, (all correlations were significant at .001 alpha level) provide evidence that the LCI is measuring a unidimensional construct.

The internal consistency of the ten subscales was acceptably high for research purposes. Coefficient alphas of above .74 were obtained for five out of the seven subscales (Nutrition, Physical Care, Cognitive and Emotional Actions, Environmental Actions, Coping Style and Social Support) provide evidence that the LCI is measuring a unidimensional construct. The exceptions to this are the scales concerning Physical Fitness (.64) and Low Risk Actions (.13) which, although having statistically significant correlations with the other scales, demonstrated observably low interscale reliability.

The Physical Fitness subscale combines several topics within the scale: exercise, relaxation, drinking, oral hygiene, sleep patterns, and eating habits. Though these concepts may contribute to one's overall physical fitness, it may have been difficult to respond in a consistent manner to all of these dimensions. Since the principle of homogeneity has been violated, the scale is not internally consistent (Anastasi, 1982).

The Low Risk subscale had two major deficits: the scale consisted of only five questions and dealt with five different issues--highway speed limit, smoking, seatbelt usage, drinking, and physical examinations. This subscale violated two principles of reliability, homogeneity and length (number of questions in subscale). Looking at the response patterns to this subscale also indicated that this subscale did not measure a unidimensional construct. For example, a group of respondents reported that they never smoked, yet consistently exceeded the speed limit. The test author could improve the reliability of the subscale by adding additional questions and/or addressing the issues that are the most interrelated.

Out of seven subscales of the LCI, five of them indicated high internal consistency above .74. According to Mehrens & Lehmann (1984) a high intercorrelation of subscales is an indicator of content reliability. These results also indicate that the author is measuring a unidimensional concept since the distribution was reasonably normal rather than a bimodal or skewed distribution, except for the Low Risk subscale which showed a bimodal distribution.

Equivalent Form Reliability

Another means of addressing the issue of reliability is through the use of equivalent form reliability. The equivalent form estimate of reliability is obtained by giving two or more forms (with equal content, means and variances) of a test to the same group on the same day and correlating these results (Mehrens & Lehmann, 1984). With this procedure we are determining how confidently one can generalize

a person's score to what s/he would receive if s/he took a test composed of similar but different questions.

One of the questions this research study was interested in determining was whether these three instruments, WI, LAQ and LCI, could be classified as equivalent forms. The high intercorrelation coefficients between the three inventories indicate that all three inventories are sampling a similar domain of knowledge (Anastasi, 1982).

Reliability Summary

In the three tests, the majority of the subscales showed high internal reliability (.74 and above). Lower correlation coefficients were primarily due to lack of homogeneity in the subscale items, too few test questions within a scale, and the overlooking of developmental issues. The high intercorrelation between tests support equivalent form reliability. One may conclude that there is sufficient evidence to support the premise that the WI, LAQ, and LCI are reliable measures of wellness.

Validity of the Instrument

Another important dimension of a test is the validity of the instrument. Validity can be defined as the extend to which certain inferences can be made from test scores or other measurement (Mehrens and Lehmann, 1984). Validity is the overall degree of justification of test interpretations and use. In this research study, content and construct validity were addressed.

Content Validity

Content validity involves the systematic examination of the test content to determine whether it covers a representative sample of the behavior domain to be measured (Anastasi, 1982). One difficulty in establishing content validity is that of adequately sampling the item universe. The domain under consideration should be fully described in advance. Content validity is built into a test from the outset through the choice of appropriate items.

Content validity for the three wellness inventories, WI, LAQ, and LCI, was established by basing the inventories' questions on a theoretical orientation, that of wellness. The authors of the WI (Travis, 1981), LAQ (The National Wellness Institute, 1983), and LCI (Hinds, 1983) each agreed that the standard instruments to access health, such as Health Risk Appraisals (HRA), were based on mortality statistics, and therefore, inappropriate. Each of the authors decided to focus on well being and the root causes of the high risk behaviors as quantified by the HRAs. Each of the authors sampled a similar domain of information that included lifestyle, nutrition, drug use, exercise, environment, problem solving, psychosocial habits, life purpose, emotional well being, cognitive processes, work/play, and the spiritual dimension. Because of the similar theoretical background and domain of information, the premise of content validity can be supported. Further support for content validity was provided by the high intercorrelations among the instruments (refer to Table 4.1 for additional statistics). The establishment of content validity for the wellness instruments helps

to operationalize the definition of wellness, and as such, is an important contribution to the field of research in wellness.

Construct Validity

Steps for construct validation of the concept of wellness and the WI, LAQ, and LCI were also undertaken in the present study. The term wellness has been attributed to Dr. Alfred Dunn, who in the 1950s began lecturing and writing articles about an idea he called "high level wellness" (Ardell, 1984). Since that time, other theorists have taken Dunn's concept and further expanded upon it (Ardell, 1977; Hinds, 1983; Jourard, 1963; Travis, 1981). Beginning in 1979, several instruments were developed to access wellness (Pelletier, 1979). Since then, various studies have been completed using wellness instruments (Jeney, 1985; The National Wellness Institute, 1983; Richter, 1985), but none of these studies have addressed the issue of construct validity from either a theoretical or statistical point of view. This research study was the first initial attempt to address the question of whether instruments measuring wellness have construct validity.

Construct validity, defined as the extent to which an instrument measures a theoretical construct or trait, is not as easy to establish as is content validity. Construct validation of an instrument requires the gradual accumulation of information from a number of sources (Anastasi, 1982). There are several different techniques that contribute to construct validation. The following methods were used in this research study: correlations with other tests and internal consistency.

Correlations with other tests. Correlations between a new test and similar earlier tests are sometimes cited as evidence that the new test measures approximately the same general area of behavior as other tests designated by the same name. These correlations should be moderately high, but not too near unity, $\underline{r} = 1.00$ (Anastasi, 1982). In this research study the three wellness instruments were correlated with each other. This was the first time that all three instruments had been given simultaneously to the same research population. The correlation coefficients ranged from .70 between the LAQ and LCI, to .79 between the WI and LAQ, and .82 between the WI and LCI.

The observation that two variables tend to simultaneously vary in a certain direction does not always imply the presence of a direct relationship between them. It may be possible that a third variable, sometimes called a lurking variable, is actually causing the observed correlation between the inventories. The false correlation that it produces is called spurious correlation (Bhattacharyya & Johnson, 1977).

Since the study has used three instruments, correlation with a third unknown (lurking) variable is unlikely. The reasonably normal distribution of the subscales, also indicate that the instruments are measuring a unidimensional trait. These two observations discount the existence of a spurious correlation. From the results of the data analysis and examining what factors might be a lurking variable, it is possible to say that these three instruments are measuring a similar construct.

Internal Consistency. Internal consistency validity is essentially a measure of homogeneity. Because it helps to characterize the behavior domain or trait sampled by the test, the degree of homogeneity of a test has some relevance to its construct validity (Anastasi, 1982). One way of determining internal consistency involves the correlation of subtest scores with the total score. In the construction of tests, the scores on each subtest are often correlated with the total score, and any subtest whose correlation with total score is too low is eliminated. The correlations of the remaining subtests with the total score are then reported as evidence of the internal consistency of the entire instrument. As discussed in the section on content reliability, the subscales of the three inventories were correlated with the total test scores. Because of the high number of subscales that correlated with the total scores, it can be said that these instruments are internally consistent and therefore support internal consistency validity.

Clearly, the present study has just begun the task of establishing construct validity for instruments measuring the concept of wellness. At this point there is evidence to point to the premise that the WI, LAQ, and LCI are measuring a unidimensional construct called wellness. Therefore, there is evidence to support the validity of the trait labeled wellness.

Validity Summary

An important dimension of a test is the validity of the instrument. In this research study, content and construct validity

were addressed. The premise of content validity can be supported because of the similar theoretical background and domain of information and by the high intercorrelations among the instruments. At this point there is evidence to point to the premise that the WI, LAQ, and LCI are measuring a unidimensional construct called wellness. From the results of the data analysis, it is possible to say that these three instruments are measuring a similar construct. The high number of subscales that correlated with the total scores, support the premise that these instruments are internally consistent and have internal consistency validity.

The establishment of content and construct validity for the wellness instruments helps to operationalize the definition of wellness. Also, there is evidence to support the validity of the trait labeled wellness. As such, this is an important contribution to the field of research in wellness.

Differences Between Users and Non-users

In comparing the two groups, users and non-users of counseling center services, it was found that there were no differences between the groups in terms of total wellness scores. There are several possible explanations for this outcome.

In the studies using Health Risk Appraisals (the behavioral counterparts of the wellness inventories) to assess health behaviors of college students, one of the problems encountered is that college-age students are already healthy (Cottrell & St. Pierre, 1983; Dunton & Rasmussen, 1977; Nagelberg, 1981). A major component of a wellness instrument addresses students' health behaviors. Since college

students as a group are already healthy individuals, this may be a possible explanation why there were no differences between users and non-users.

Another possible explanation for no differences between users and non-users on the major hypothesis, is that health behaviors are not good measures of differences between users and non-users. In the research studies using HRAs as the assessment instruments in pre- and post-treatment studies of college students enrolled in health classes, it was found that health behaviors did not change with treatment (Cottrell & St. Pierre, 1983; McClaran & Sarris, 1985). This indicates that health behaviors may be homogenous for various groups of college students. In the current study, there were no statically significant differences between the user and non-user groups in subscales measuring specific physical health behaviors (physical fitness, eating, high/low risk activities) as opposed to those subscales which measured the psychological and spiritual dimensions of wellness. If the subscales dealing with physical health behaviors (physical fitness, nutrition, high/low risk activities) were eliminated, the trend of the data would lean more toward significant differences between users and non-users. Overall, the user group showed a higher level of wellness than the non-user group. This would support the explanation that physical health behaviors are not the variable that differentiate users and non-users of counseling center services.

Supplementary Descriptive Analyses

Supplementary descriptive analyses were performed to determine whether the subscales identified differences between users and non-users of counseling center services. In this study, the following nine subscales, Cognitive Emotional (LCI), Emotional Awareness (LAQ), Social (LAQ), Emotional Cognition (LAQ), Self (WI), Feeling (WI), Thinking (WI), Play/Work (WI), and Finding Meaning (WI) showed significant differences between the two groups. Though the major hypothesis did not show differences between the two groups, it was found that users of counseling centers have a higher level of wellness on eight of the significant subscales.

Wellness level of users. The first finding of the descriptive analyses showed users of counseling center services to have a higher level of wellness in the areas of finding meaning in life, self exploration, emotional awareness, emotional cognitions, play/work, thinking and feelings. In the previous section, it was noted that issues pertaining to specific physical health behaviors did not differentiate between the two groups. The subscales that do differentiate are those that address the development of attitudes, communication skills, psychological attributes, and lifestyles, which foster an enhanced sense of personal well-being (Travis, 1981).

A possible explanation for these results is that users are more aware of their internal thoughts and processes and therefore score higher on these subscales. As Travis (1981) described in his model of the illness-wellness continuum, the step that separated illness from health was awareness. Awareness is an opportunity for the

individual to see how s/he is presently conducting his/her life. Awareness leads to education, which is a time to explore options; looking within oneself as well as receiving from others. The final phase of the wellness continuum is growth--trying out some of the options. The underlying constant of the model is re-evaluation which leads to new awareness, education, and growth. As the users become aware of their internal processes and parts of themselves they wish to develop and/or change, they begin to search for places that can enhance this stage of wellness. One possible alternative is using the services offered by the university's counseling center. This may be one of the reasons that users are now seeking therapy because of their heightened level of awareness.

Counseling Readiness. Wellness may be another term for counseling readiness; people are able to acknowledge and identify psychological discomfort. Since both groups have similar health skills, what differentiates users and non-users is the ability to admit that one needs assistance (Doleys, 1964). For example, the WI asks questions about issues that contribute to counseling readiness including: It is OK for me to ask for help; I allow myself to experience a full range of emotions--anger, fear, sadness, and joy--and find constructive ways to express them; I feel OK about crying and allow myself to do so. The user group may have a higher level of psychological sophistication. When they experience psychological discomfort and are having difficulty coping, they are more willing to respond and seek assistance. In general, students who seek counseling may have a lower level of denial, are more introspective,

are able to ask for and accept assistance, and are looking for a meaning or purpose to life. If help-seeking is illustrative of wellness, the higher degree of wellness and awareness, the more likely there will be an increased usage of mental health services rather than a decrease. Since the two groups are not different demographically, the users may be more aware of their mental health needs.

Lifestyle Coping Inventory (LCI). Of the three wellness instruments, the LCI is the only one which emphasized coping behaviors. The primary purpose of the LCI is to assist clients in identifying personal health care behaviors and stress reduction strategies that would lead to a wellness lifestyle (Hinds, 1983). The supplementary data analysis found that non-users of counseling center services had a higher level of wellness in emotional and cognitive coping skills as identified by the LCI. This was the only subscale that was statistical significant for the non-users group. These results would support Doleys' findings (1964) who found that the non-users of counseling center expressed significantly fewer total problems on the Mooney Problem List in the areas of: Health and Physical Development; Living Conditions and Employment; Social-Psychological Relations; Personal-Psychological Relations; and Adjustment to College Work. If this trend was true, it would seem that the user group would have a higher level of wellness in similar areas as measured by the LAQ and WI.

Since the primary purpose of the LCI is to assist clients in identifying personal health care behaviors and stress reduction

strategies that would lead to a wellness lifestyle (Hinds, 1983), a possible explanation for the higher level of wellness among non-users is that the LCI may be assessing personal health care behaviors which are only a part of the variables that contribute to wellness. This would support the findings of Mendelsohn and Kirk's study (1962) using the Myers-Briggs Type Indicator. Mendelsohn and Kirk found that non-users of counseling center services relied on overt, concrete stimuli to order their world. The Cognitive Emotional (LCI) subscale measures concrete personal health care behaviors and stress reduction strategies, an aspect of wellness. These findings indicate that non-users have a higher need for ways to structure their environment and thinking patterns. The LCI will show a high level of wellness for non-users because of its use of concrete behaviors to assess wellness.

One of the difficulties in using non-cognitive tests is that they are susceptible to response set, i.e., to the tendency of an individual to reply in a particular direction, almost independent of content (Mehrens & Lehmann, 1984). An individual exhibiting response set will answer identical questions (but presented in different formats) differently. For example, s/he may be predisposed to select the neutral category if a disagree-agree continuum is used. The response set that has been of most concern in noncognitive measurement is social desirability. This is the tendency for an individual to respond favorably to the items that s/he feels are socially acceptable. Here, the subject may answer not on the basis of how s/he truly feels but on the basis of what s/he thinks is a

socially acceptable or desirable answer. This type of response pattern would shift the response scale towards the middle range.

In reviewing the data, the non-users scored lower than the user group on other subscales asking similar questions in the area of emotional and cognitive wellness except for the LCI. This may indicate that the non-user group were responding to the questions in a socially acceptable or desirable answer. The non-users may be more apt to mark a middle (score of 3) response rather than a below average response to the instruments. When the scores are totaled, the non-users group would have a higher level of wellness due to the need to present themselves in a socially desirable manner.

Another difference between the LCI and the other two inventories is that a portion of the responses of the LCI were scored in the reverse direction. In the Cognitive Emotional subscale these items could be considered "confessional" in nature (i.e. I maintain perfectionistic self-standards; I use "should" and "should nots" in my self-statements; I make negative generalizations about myself, e. g., I'm dumb, ugly, a failure, etc.; I make negative statements about others). These "R" scored responses may have the effect of lowering the wellness total scores by building in a suppressor scale that was measuring quasi-neurotic behaviors.

If users are more aware and are more honest about their negative thoughts and feelings, the LCI suppressor scale has a negative effect on the wellness levels of users. For example, if a person seeks feedback on his/her behavior, s/he is probably aware of some of the negative consequences such as, using "shoulds," making negative

generalizations, and taking things personally. The WI presents similar questions in the feeling and thinking dimensions (for example, I dwell on the past; I think in terms of absolutes, e.g. rights and wrongs, good and bad; I am aware that I make judgments where I believe I am "right" and others are "wrong") as does the LCI. If the respondent admits that s/he is having problems with emotional concerns or negative perceptions of the self, this awareness contributes to a higher wellness score. This discrepancy in scoring may attribute to the non-users' higher level of wellness on the LCI subscale.

Summary

Carskadon (1975) in reviewing the literature concerning help-seeking behaviors found that helpseekers are more psychologically minded than non-helpseekers, more questioning, and more introspective (p. 132). Though there were no statistical significant differences between the user and non-user groups in this study, however the subscales of the test tend to support the findings that users are more aware of their internal processes and issues, seek ways to enhance their psychological well being, and use therapy as one of the means to do so.

The results of this research study challenge the assumption of the medical model that the seeking of counseling services is a sign of ill health. It may be true that these individuals are in need of assistance, yet awareness of the signs and symptoms of psychological discomfort is the first step to enhancing one's sense of wellness (Travis, 1981). Therapy not only increases the client's level of

wellness on the psychological dimension, but also in the physical realm (Dunn, 1961; Ferguson, 1980; Flynn, 1981; Gross, 1980; Kysar, 1966; Ryan & Travis, 1981; Travis, 1981; Van Ness, 1981). Due to their heightened level of psychological awareness, clients will readily respond to psychological and educational interventions. This would again support the conclusion that wellness is a multidimensional approach that incorporates personal growth, internal control, and health-related activities and habits (Ardell, 1979; Bruhn, et al., 1977; Hettler, Elsenrath, & Leafgren, 1980; Hinds, 1983; Travis, 1981).

In the wellness community, there has been an emphasis on health behaviors (Montgomery & Dalton, 1986). The results of the study indicates that health behaviors are a constant variable within the college age population. The issues that need to be addressed during the college experience are those that transcend health. It is important that the mental health issues of college students be addressed in a proactive manner. Increasing the college student's level of awareness about feelings and self perceptions, may, over time, prevent major illness (Kysar, 1966). These findings also show the importance in having mental health professionals involved in the wellness movement and as part of the university community.

Limitations of the Study

The sample for this study was taken from a single Southwestern university. With this unique characteristic of the sample noted, generalization to a larger client population can be made using the

Tukey-Cornfield Bridge argument (Glass & Stanley, 1970). This is a logical argument allowing for inferences to be made from non-randomized samples to populations of interest, provided that the characteristics of the sample are described in detail. Use of this argument allows for the generalization of these results to the larger college student population. Generalizations beyond this population, however, need to be made with caution. The results of the study may not be generalizable to noncollege students.

In addition to sampling limitations, there are possible limitations in the measures used and the method of data collection. The self-report instruments in this study are accurate to the extent that self-perceptions are accurate and to the extent that the individual is willing to honestly express them (Sellitz, et. al., 1976). The contents of the instruments used in this study were not designed to be embarrassing, threatening, or sensitive to social desirability. The effect of social desirability on these inventories has been mentioned in previous research (Cottrel & St. Pierre, 1983). Therefore, the inventories were rotated in the packet presentation to moderate the effect that social desirability may have on student responses.

In this study there were no controls of the testing environment. Each student responded to the inventories in a variety of environments. The only test taking variables that were controlled were the testing instruments and the presentation of the inventories in the testing packet. Though there were no controls of the testing environment, the reliability of all three instruments was high

(.93). This indicates that the variety of testing environment had little influence on the reliability of the instruments.

The data collection process for this study was carried out during a five month period (November, 1986 - March, 1987). The data collection for the non-users groups was completed at the end of January. An analysis of the two groups indicated that there were no differences between the two groups on 18 demographic characteristics. Statistically, users and non-users do not differ though the data collection extended over two semesters.

Another potential limitation of the study was a theoretical consideration. An issue addressed in this study was whether wellness was a concept, and if so, can it be measured. The instruments used to measure wellness did not have an extensive history of previous research. Outcomes of the study indicated that the instruments (WI, LAQ, and LCI) were found to be appropriate means of measuring wellness. The results of the study support the findings that the instruments are reliable and have content and construct validity. Though construct validity is not something established in one attempt, minimal construct validity was established in this initial validation study, which needs to be considered in the interpretation of the results.

Finally, this study is assessing wellness through the use of paper and pencil instruments. The test itself is a subjective measure versus an unobtrusive observation of each student to determine his/her level of wellness through an actual behavioral analysis. The results of the study indicate that the differences

between users and non-users are based on an internal process rather than observable behaviors.

There are limitations to any research study, but the potential ones here were not thought to be serious and may seem small when considering the complex area under investigation.

Implications of the Research

The results of this research have several implications for the field of counseling psychology. A major finding of the study reported no differences between users and non-users of counseling center services. This finding calls for major changes in the field of counseling psychology including reassessing the assumptions about those who use clinical services. The implications of the research center around the use of wellness instruments in the field of psychology, determining which variables influence students to use counseling services, redefining how signs and symptoms of pathology are viewed, developing psychoeducational programs as part of counseling center services, and providing appropriate mental health models for the field of counseling psychology.

Instrumentation

A clear implication of the research findings is that wellness instruments are both reliable and valid when used with the college population. Therefore, wellness instruments would provide the mental health professional with a means to assess college students' concerns from a wholistic perspective. The use of these instruments would

also add to the psychological research on users and non-users of counseling center services.

Of the three wellness instruments, the WI and the LAQ have the greatest potential to differentiate between users and non-users of counseling center services. Both of these instruments had high internal consistency and equivalent form reliability. The instruments also showed promise of content and construct validity. Eight of the subscales, Emotional Awareness (LAQ), Social (LAQ), Emotional Cognition (LAQ), Self (WI), Feeling (WI), Thinking (WI), Play/Work (WI), and Finding Meaning (WI), were able to differentiate between users and non-users of counseling center services and showed that users had a higher level of wellness in these dimensions.

The third instrument, the LCI, also shows potential to differentiate between users and non-users due to its high inter-correlation coefficient with the other two instruments. The author of the LCI needs to establish stronger reliability for several of the subscales and further research the consequence of reverse scoring of questions within the subscales.

Users and Non-Users of Counseling Center Services

The most significant finding of this study is that, using a wholistic model, users and non-users of counseling center services are similar groups. Of the nine subscales that differentiated between the two groups, users had a higher level of wellness on eight subscales. Previous studies had supported the premise that the non-users group was more psychologically healthy (Cooke & Kiesler, 1967; Danet, 1965; Doleys, 1964; Kleinmuntz, 1960; Palladino & Domino,

1978; Parker, 1961). This new finding challenges the assumption that users of counseling services exhibit a more extensive degree of pathology and is a departure from the majority of research concerning users and non-users. These results provide a new direction in the research literature concerning users and non-users, both in terms of assessment instruments and the conclusion that users possess a higher level of wellness.

The primary thrust of the wellness movement on campus has been largely in the area of lifestyle issues such as fitness, diet, and stress management (Montgomery & Dalton, 1986). This study found that health behaviors are a homogenous variable among the college student population and are not the variable that differentiates users and non-users. This finding indicates that professionals in the fields of counseling psychology and health education need to work together to develop programs that have a wider range of emphasis. It is especially important to develop programs that address psychological awareness since this was the variable that increased the well being of college students. Psychoeducational programs need to be based on the premise that changes in attitudes and self-awareness precede any possible long-term lifestyle adjustments, i.e. improved physical and mental health (Klippel & Dejoy, 1984).

In order to accomplish this task, it is imperative that counseling center professionals have skills in the area of program development, preventative education, and consultation (Bosmajian & Mattson, 1980). This also implies that counseling centers need to include as an integral part of their services, consultation and

outreach efforts. Counseling psychology's heritage of psychoeducational strategies, assumptions about the interactions between people and their personal/social environments, and the respected position of the individual as the actual change agent have prepared the field for important work in the "promotion and maintenance of health" (Klippel & Dejoy, 1984, p. 225). These types of programs will increase the students' psychological awareness and therefore, well being.

The model used to look at signs and symptoms of psychological discomfort influences the way they are interpreted. Psychological concerns can either be viewed as an indicator of pathology or as a means to increase psychological well being (Ardell, 1979; Ferguson, 1982; Hosler & Fadely, 1981; Papenfuss & Beier, 1984; Travis, 1981). This study shows that a wholistic model, such as wellness, provides a broader spectrum of behaviors which assist in the development of positive mental health. The particular strengths of counseling psychology as a scientific discipline include a focus on the healthy, functioning aspects of an individual's personality, and the use of interventions tailored to the individual. The opportunity is at hand for counseling psychology to move away from conventional medical approaches and to move toward broad-based quality of life approaches that are found in the wellness movement (Klippel & Dejoy, 1984).

Finally, the field of counseling psychology needs to address which psychological model better represents its approach to mental health. Since the wellness model may be a better fit, the wellness

philosophy needs to be incorporated into the training of counseling psychologists.

Directions for Future Research

Inventory Revision Studies

Throughout this discussion section possibilities for the revision of wellness instruments have been identified. Lower correlation coefficients were primarily due to the lack of homogeneity of the subscale items, an inadequate number of test questions within a subscale, and the overlooking of developmental issues of college students. Further research on the consequence of reverse scoring of questions within the subscales is also needed. In addition to possible test revisions, additional research is need to further establish the initial construct validity of wellness.

Other Test Instrument Studies

The current wellness instruments have a strong emphasis on health dimensions. Since these areas do not differentiate between users and non-users, it is important to see what variables would clarify psychological awareness. One possible study would be to eliminate the three health scales of nutrition, physical fitness, and low risk activities from the inventories. This type of a study may provide a clearer distinction between users and non-users.

Within the psychological literature there are also a variety of personality tests that, used together with the wellness instruments, may clarify which specific variables differentiate between users and non-users. Some of the possible subject areas that may be effective

in this type of research are: self actualization, helpseeking behaviors, internal/external locus of control, life changes, cognitive styles, self concept, and developmental stages.

Long Range Studies

College students as a group are in prime health. The maintenance of this health for future years is contingent on the degree to which students take responsibility for themselves physically, emotionally, and spiritually. Previous research data show that ill health is one of the precipitators for seeking treatment in the later years of life (Pelletier, 1977 & 1979; Travis, 1981). The lifestyle habits that students develop during their college years will affect the length and quality of their lives (Krivoski & Warner, 1986). A proposed longitudinal research study is to follow users and non-users as a comparison group. According to Kysar (1966), preventative measures are particularly effective at crucial stages in the life cycle when the stresses on the person may be great and vulnerability to breakdown high. Either the student's personality will crystallize in ways which promote future health and productivity, or in ways that are maladaptive and set him/her on the road to trouble. A longitudinal study between users and non-users will assist counseling psychologists in determining if psychological interventions in the college years not only continue to enhance personal wellness, but also prevent other psychological and physical illness from occurring.

Studies Based on Student Development Theories

Sandford (1962) emphasized that the development of the student as a person is the central aim of education and that all of our resources in higher education should be put into the service of that aim. This has been a powerful foundation for student development philosophy. The ultimate goal of student development is the optimum human functioning of the individual.

The definition of wellness takes into consideration the whole person and meets Sandford's goals for developing the student. The wellness model is consistent with student development philosophy, and defines it operationally in a manner that contributes to students' awareness and understanding (Leafgren & Elsenrath, 1986). The premises of the student development model is to improve the overall health of students. These two models have not been studied concurrently. Such a study would assist student personnel professionals in implementing the student development model in a concrete manner though addressing wellness behaviors.

Conclusion

The wellness instruments were found to be both reliable as measured by coefficient alpha and valid with this college student population. There were no statistically significant differences as measured by MANOVA between users' and non-users' level of wellness. In addition, supplementary descriptive analyses were performed with the subscales of the inventories. Nine of the twenty-nine wellness inventories subscales did showed statistically significant

differences. On eight of these subscales, the users had a higher level of wellness than non-users. These subscales showed users of counseling center services to have a higher level of wellness in the areas of finding meaning in life, self exploration, attitudes towards play/work, cognitions and emotions. Users are more aware of their internal processes and issues, seek ways to enhance their psychological well being, and use therapy as one of the means to do so. The subscale results indicate that certain aspects of wellness may be related to the utilization of counseling center services which are counter to the traditional interpretation of pathology as assumed by the medical model.

APPENDICES

APPENDIX A

NON-USERS REQUEST TO PARTICIPATE LETTER

AND CONSENT FORM

Arizona State University

Counseling and Consultation
Tempe, Arizona 85287
602/965-6146

Dear Friend:

I received your name from a list of students who are currently enrolled at Arizona State University. I am conducting a research study on the mental and physical health of college students. The results of this research study will provide Counseling and Consultation with additional information to assist in the development of psycho-educational programs for the coming academic year.

I am looking for 70 students to complete three inventories. By volunteering to participate in this study and returning a packet of completed inventories to me within one week, you will have A CHANCE TO WIN $100.00. When you return the packet, you will be entered in a cash drawing with a prize of $100.00 which I will provide.

Your responses to the inventories will be kept strictly confidential. I will keep separate the inventories from your Consent Form so that your name will not be attached to the inventories. You are under no obligation to participate in this study and may withdraw your consent to participate by contacting me.

The inventories should take you about 90-120 minutes to complete. If you decide to participate, you can obtain the testing packet from either the receptionist at the Student Life Office (lower level of the Memorial Union) or by requesting the packet to be mailed to you directly. If you would like the packet to be mailed directly to you, please read and sign the attached Consent Form. Return the signed form to me in the enclosed envelope. When I receive your signed consent form, I will mail a packet of inventories to you.

In the packet will be a Background Information Sheet, the inventories, and a return envelope for the completed inventories. Please include your completed Background Information Sheet along with the completed inventories. When I receive the completed inventories, your name will be entered in the $100.00 cash drawing.

Your help is very much needed, and I hope you can find the time to complete the inventories. If you have any questions, please feel free to call me at 965-6146. I thank you for your time and energy.

Sincerely,

Barbara Palombi

Barbara Palombi, M.A.

CONSENT FORM

I _____ have read the explanation of the purpose
(please print name)
and procedure for this study and agree to participate. I understand that my participation is voluntary, that my results will be kept confidential and that I may withdraw my participation at any time by contacting the researcher.

_____
Your Signature

I agree to participate in this research study by picking up the packet of inventories at the Student Life Office, Lower Level of the Memorial Union.

PLEASE RETURN THIS FORM IN PERSON TO:

THE STUDENT LIFE OFFICE
LOWER LEVEL OF THE MEMORIAL UNION
ARIZONA STATE UNIVERSITY

OR

I agree to participate in this research study by having the test packet sent to me by mail. YES____ NO____

ADDRESS: _____

_____

_____

RETURN BY MAIL TO:

BARBARA PALOMBI
% COUNSELING AND CONSULTATION
112 AGRICULTURE BUILDING
ARIZONA STATE UNIVERSITY

I would like feedback on the inventories. YES___ NO___

APPENDIX B

RESPONDENT'S QUESTIONNAIRE PACKET

Arizona State University

Counseling and Consultation
Tempe, Arizona 85287
602/965-6146

Dear Friend:

Thank you for being willing to participate in this study. Your response will help Counseling and Consultation to provide psycho-educational programs that will meet the needs of the ASU student.

Enclosed in your packet are three inventories. You will need to complete each of them. There is no time limit. Answer each of the inventories according to the directions attached to each inventory. All responses to the inventories will be confidential.

Please make sure that you complete the Demographic Information Sheet that is included in the packet. This sheet will provide us with additional information concerning the needs of ASU students.

After you have completed the three inventories and the Demographic Information Sheet, place them and the Lottery Card in the enclosed postage paid envelope. If the three inventories or the Demographic Information Sheet is not completed and returned within four working days, I will be unable to include your name in the $100 lottery.

If you have any questions concerning the inventories or the Demographic Information Sheet, please feel free to call me at 965-6146. Again, I want to thank you for your time and energy.

Sincerely,

Barbara Palombi

Barbara Palombi, M.A.

ASU

Demographic Information

Instructions

This section of questions are asked so that we can compare the opinions and experiences of people of different backgrounds; i.e., younger people with older people and people with different educational levels. Please circle the alternative that best describes you.

1. What is your sex?
   (1) male
   (2) female

2. What is your age?
   (1) 18-20
   (2) 21-24
   (3) 25-30)
   (4) 31-40
   (5) 41-50

3. What is your current marital status?
   (1) single, never married
   (2) married
   (3) divorced, widowed or separated

4. Do you have dependents under the age of 18 years old living with you?
   (1) No
   (2) Yes

5. What is your current living arrangement?
   (1) Live in residence hall
   (2) Live in fraternity/sorority
   (3) Rent apartment/house with roommate (s) or family
   (4) Rent apartment/house alone
   (5) Own home & live with roommate or family
   (6) own home & live along

6. How far is your current residence from the main campus of ASU?
   (1) live on campus
   (2) less than a mile from campus
   (3) 1-3 miles
   (4) 4-5 miles
   (5) 6-10 miles
   (6) 11-15 miles
   (7) more than 15 miles

7. What is your current class rank at ASU?
   (1) Freshman
   (2) Sophomore
   (3) Junior
   (4) Senior
   (5) Unclassified Undergraduate

7.b Social Security No.

_____

8. What college/school are you currently enrolled in at ASU?
   (1) Architecture and Environmental Design
   (2) Business
   (3) Education
   (4) Engineering & Applied Sciences
   (5) Fine Arts
   (6) Law
   (7) Liberal Arts & Sciences
   (8) Nursing
   (9) Public Programs
   (10) Social Work

9. What is your current enrollment status at ASU?
   (1) less than 9 hours
   (2) 9-11 hours
   (3) 12 or more hours

During the last 12 months, have you participated regularly in any of the following activities?

	YES	NO
10. Student organizations or advocacy groups	1	1
11. Student government	1	2
12. A regular fitness program	1	2
13. Patronage of bars or nightclubs	1	2
14. Religious affiliation or spiritual discipline	1	2
15. "Partying"	1	2
16. Membership in a Greek organization	1	2
17. Outdoor recreational activities or intramural programs	1	2
18. Played intercollegiate athletics	1	2
19. Performing arts (bands, choral groups, dance, etc.)	1	2

20. Have you ever used the following Mental Health Services?

_____ASU's Counseling center

_____Psychiatrist/Psychologist at ASU's Student Health Center

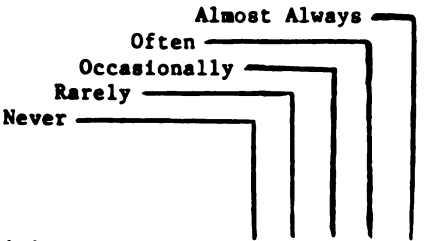
_____Off campus mental health agency

BY JOHN TRAVIS

DIRECTIONS:

Set aside time for yourself to complete this inventory. Using the five headings of the columns on the right side of each page as a guide, circle the number alongside which best indicates how true the statement is for you at this time.

Choice 1 = Never (0% of the Time)
Choice 2 = Rarely (0-25% of the Time)
Choice 3 = Occasionally (25% - 50 % of the Time
Choice 4 = Often (50% - 75% of the Time)
Choice 5 = Very Often (75% - 100% of the Time)



SECTION 1—SELF RESPONSIBILITY AND LOVE

1. How I live my life is an important factor in determining my state of health.	1	2	3	4	5
2. I take an active interest in community, national and world events.	1	2	3	4	5
3. I feel financially secure.	1	2	3	4	5
4. I don't waste energy and materials at home or at work.	1	2	3	4	5
5. I take measures to protect my living area from fire and safety hazards (such as improper sized fuses and storage of volatile chemicals).	1	2	3	4	5
6. I use dental floss and a soft toothbrush, and have been instructed in their proper use.	1	2	3	4	5
7. I don't smoke.	1	2	3	4	5
8. I wear a safety belt when I ride in a car.	1	2	3	4	5
9. I see a big difference between blaming myself for a problem and simply being responsible for that problem.	1	2	3	4	5
10. I experience love for many people and things around me.	1	2	3	4	5

SECTION 2—BREATHING

1. I stop during the day to become aware of the way I am breathing.	1	2	3	4	5
2. I meditate or relax myself for at least 15 to 20 minutes each day.	1	2	3	4	5
3. I can touch my hands to my toes easily when standing with knees straight.	1	2	3	4	5

	Never	Rarely	Occasionally	Often	Almost Always
4. In temperatures of over 70 degrees F., my fingertips feel warm when I touch my lips.	1	2	3	4	5
5. I am at peace with myself.	1	2	3	4	5
6. My work is not overly stressful.	1	2	3	4	5
7. My personal relationships are satisfying.	1	2	3	4	5
8. I take time out for deep breathing several times a day.	1	2	3	4	5
9. I don't bite or pick my nails.	1	2	3	4	5
10. I don't feel tired and rundown (except after strenuous work).	1	2	3	4	5

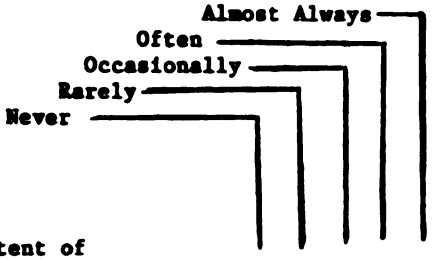
SECTION 3--SENSING

1. I take long walks, hikes and/or outings to actively explore my surroundings.	1	2	3	4	5
2. I give myself presents, treats, or nurture myself in other ways.	1	2	3	4	5
3. I enjoy getting backrubs or massages.	1	2	3	4	5
4. I enjoy touching and hugging other people.	1	2	3	4	5
5. I enjoy being touched and hugged by others.	1	2	3	4	5
6. At times I like to be alone.	1	2	3	4	5
7. I like getting compliments and recognition from other people.	1	2	3	4	5
8. It is easy for me to give other people sincere compliments and recognition.	1	2	3	4	5
9. My place of work has largely natural lighting or full-spectrum lights.	1	2	3	4	5
10. I avoid extremely noisy areas (or wear protective earplugs.)	1	2	3	4	5

SECTION 4--EATING

1. I am aware of the difference between refined carbohydrates (white flour, sugar, Etc.) and complex (natural) carbohydrates.	1	2	3	4	5
2. I am satisfied with my diet.	1	2	3	4	5
3. I have fewer than five alcoholic beverages per week and fewer than three cups of coffee or tea per day (except of herbal teas).	1	2	3	4	5
4. I don't take medications, including prescription drugs.	1	2	3	4	5
5. I drink fewer than five soft drinks per week.	1	2	3	4	5
6. I all little or no salt to my food.	1	2	3	4	5
7. I read the labels for the ingredients of the foods I buy.	1	2	3	4	5
8. I eat at least two raw fruits or vegetables each day.	1	2	3	4	5
9. I have a good appetite and maintain a weight within 15% of my ideal weight.	1	2	3	4	5
10. I know and feel the difference between "stomach hunger" and "mouth hunger."	1	2	3	4	5

	Never	Rarely	Occasionally	Often	Almost Always
SECTION 5--MOVING					
1. I climb stairs rather than ride elevators.	1	2	3	4	5
2. My daily activities include moderate physical effort (such as rearing young children, gardening, scrubbing floors, or work which involves being on my feet, etc.).	1	2	3	4	5
3. My daily activities include vigorous physical effort (such as heavy construction work, farming, moving heavy objects by hand, etc.).	1	2	3	4	5
4. I run a least one mile five times a week (or equivalent aerobic exercise).	1	2	3	4	5
5. I run at least three miles four times a week or equivalent (if this statement is true, mark the item above true as well).	1	2	3	4	5
6. I do some form of stretching/limbering exercise for 10 to 20 minutes at least three times per week.	1	2	3	4	5
7. I do yoga or some form of stretching exercise for 15 to 20 minutes at least four times a week (if this statement is true, mark the statement above true as well).	1	2	3	4	5
8. I enjoy exploring new and effective ways of caring for myself through movement of my body.	1	2	3	4	5
9. I enjoy stretching, moving, and exerting my body.	1	2	3	4	5
10. I am aware of and respond to messages from my body about it needs for movement.	1	2	3	4	5
SECTION 6--FEELING					
1. I allow myself to experience a full range of emotions-- anger, fear, sadness, and joy-- and find constructive ways to express them.	1	2	3	4	5
2. I am able to say "no" to people without feeling guilty.	1	2	3	4	5
3. It is easy for me to laugh.	1	2	3	4	5
4. I feel OK about crying and allow myself to do so.	1	2	3	4	5
5. I listen to and think about criticism of me by others rather than react defensively.	1	2	3	4	5
6. I have at least five close friends.	1	2	3	4	5
7. I like myself and look forward to the future.	1	2	3	4	5
8. I find it easy to express concern, love, and warmth to those I care about.	1	2	3	4	5
9. It is OK for me to ask for help.	1	2	3	4	5
10. I don't swallow or store my anger; I express it in a way which solves problems.	1	2	3	4	5

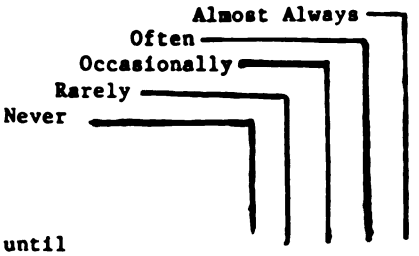


SECTION 7—THINKING

1.	I am aware of the subject matter and emotional content of my thoughts.	1	2	3	4	5
2.	I am aware that I make judgements where I believe I am "right" and others are wrong."	1	2	3	4	5
3.	It is easy for me to concentrate.	1	2	3	4	5
4.	I am aware of changes in my body (breathing, muscle tension, skin moisture, etc.) in response to certain thoughts.	1	2	3	4	5
5.	I notice that my perceptions of the world are colored by my thoughts at any given time.	1	2	3	4	5
6.	I notice that my thoughts are influenced by my environment at any given time.	1	2	3	4	5
7.	I use positive attitudes and thoughts to make things happen the way I want them to.	1	2	3	4	5
8.	Rather than worry about a problem I can temporarily shelve it and enjoy myself.	1	2	3	4	5
9.	I approach life with the attitude that no problem is too big to solve.	1	2	3	4	5
10.	I am creative.	1	2	3	4	5

SECTION 8—PLAYING AND WORKING

1.	I enjoy expressing myself through art, dance, music, drama, sports, etc., and make time to do it.	1	2	3	4	5
2.	I enjoy spending time without planned or structured activities and make time to do it.	1	2	3	4	5
3.	I am aware of the value of play for adults.	1	2	3	4	5
4.	I can approach tasks from a playful point of view.	1	2	3	4	5
5.	At times, I allow myself to do "nothing."	1	2	3	4	5
6.	The work I do for income is rewarding to me.	1	2	3	4	5
7.	I have people around me who support my playfulness.	1	2	3	4	5
8.	I have at least one hobby or area of interest which makes no demands on me.	1	2	3	4	5
9.	I am satisfied with my abilities to work.	1	2	3	4	5
10.	I am satisfied with my abilities to play.	1	2	3	4	5



SECTION 9--COMMUNICATING

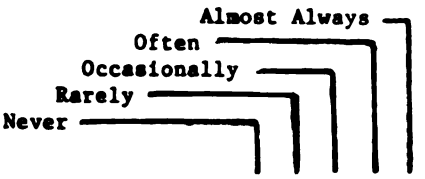
1.	I can introduce a difficult topic and stay with it until I've received a satisfactory response from the other person.	1	2	3	4	5
2.	I enjoy silence.	1	2	3	4	5
3.	I consider my thoughts and feelings with care before responding to others.	1	2	3	4	5
4.	I communicate clearly with friends and family.	1	2	3	4	5
5.	I assert myself to get what I need rather than feel resentment towards others for taking advantage of me.	1	2	3	4	5
6.	I admit my mistakes to others when I am aware of them.	1	2	3	4	5
7.	I am a good listener.	1	2	3	4	5
8.	I don't interrupt or finish others' sentences for them.	1	2	3	4	5
9.	I let go of mental labels and judgments I attach to persons and things in my environment, and instead see them for what they are.	1	2	3	4	5
10.	I am aware of the psychological "games" I play with others.	1	2	3	4	5

SECTION 10--SEX

1.	I feel comfortable touching and exploring my body.	1	2	3	4	5
2.	I think it's OK to masturbate if one chooses to do so.	1	2	3	4	5
3.	My sexual education is adequate.	1	2	3	4	5
4.	I feel good about the degree of closeness I have with men in my life.	1	2	3	4	5
5.	I feel good about the degree of closeness I have with women in my life.	1	2	3	4	5
6.	I am content with my level of sexual activity.	1	2	3	4	5
7.	I fully experience the various stages of lovemaking rather than focus on an orgasm.	1	2	3	4	5
8.	I experience a desire to grow closer to other people.	1	2	3	4	5
9.	I am aware of the difference between loving someone and needing someone's love.	1	2	3	4	5
10.	I am able to love others without dominating or being dominated by them.	1	2	3	4	5

SECTION 11--FINDING MEANING

1.	I thing that my life has meaning and direction, thought I may not always see it clearly.	1	2	3	4	5
2.	I think my life is challenging and exciting.	1	2	3	4	5



3.	I have goals and objectives in my life.	1	2	3	4	5
4.	I think I am achieving my goals.	1	2	3	4	5
5.	I am able to talk about the death of someone close to me with family and friends.	1	2	3	4	5
6.	I am able to talk about my death with family and friends.	1	2	3	4	5
7.	I am prepared for and unafraid of death.	1	2	3	4	5
8.	I see my death as a step in my evolution.	1	2	3	4	5
9.	I look forward to the future as an opportunity for further growth.	1	2	3	4	5
10.	I live in the "here and now" rather than in the past or future.	1	2	3	4	5

SECTION 12—TRANSCENDING

1.	I perceive problems as opportunities for growth.	1	2	3	4	5
2.	I experience synchronistic events in my life (coincidences which appear to have no cause-effect relationship but happen more often than chance would dictate).	1	2	3	4	5
3.	I believe there are dimensions of reality beyond verbal description or human comprehension.	1	2	3	4	5
4.	Confusion and paradox seem a necessary part of my growth though I may at times not be comfortable with them.	1	2	3	4	5
5.	The concept of "god" has a personal definition and meaning to me.	1	2	3	4	5
6.	I experience a sense of wonder and awe when I contemplate the universe.	1	2	3	4	5
7.	I have abundant expectancy rather than specific expectations.	1	2	3	4	5
8.	I do not pressure others to accept my beliefs.	1	2	3	4	5
9.	I use the messages interpreted from my dreams to better live my waking life.	1	2	3	4	5
10.	I enjoy practicing a spiritual discipline or allowing time to sense the presence of a greater force in guiding my passage through life.	1	2	3	4	5

TestWell
A Self-Scoring

Physical Fitness

1. I exercise aerobically (continuous, vigorous exercise producing sweat for a minimum of thirty minutes) at least ____ per week.
   1 = five times 2 = four times 3 = three times
   4 = two times 5 = less than twice
   ANSWER = [ ] (1 2 3 4 5)

2. My resting pulse rate is ____ beats per minute.
   1 = 40 to 55 2 = 56 to 69 3 = 70 to 79
   4 = 80 or above 5 = don't know
   ANSWER = [ ] (1 2 3 4 5)

3. I avoid the extremes of too much or too little exercise.
   1 = strongly agree 2 = agree 3 = neutral/not sure
   4 = disagree 5 = strongly disagree
   ANSWER = [ ] (1 2 3 4 5)

4. I approach exercise in a relaxed manner.
   1 = almost always 2 = very frequently 3 = frequently
   4 = occasionally 5 = almost never
   ANSWER = [ ] (1 2 3 4 5)

5. I stretch before exercising.
   1 = almost always 2 = very frequently 3 = frequently
   4 = occasionally 5 = almost never
   ANSWER = [ ] (1 2 3 4 5)

6. I stretch after exercising.
   1 = almost always 2 = very frequently 3 = frequently
   4 = occasionally 5 = almost never
   ANSWER = [ ] (1 2 3 4 5)

7. I increase my exercise by walking or biking whenever possible.
   1 = strongly agree 2 = agree 3 = neutral/not sure
   4 = disagree 5 = strongly disagree
   ANSWER = [ ] (1 2 3 4 5)

8. I get an adequate amount of sleep.
   1 = almost always 2 = very frequently 3 = frequently
   4 = occasionally 5 = almost never
   ANSWER = [ ] (1 2 3 4 5)

9. My exercise program includes an adequate amount of each of the three major fitness components — endurance, strength, and flexibility.
   1 = almost always 2 = very frequently 3 = frequently
   4 = occasionally 5 = almost never
   ANSWER = [ ] (1 2 3 4 5)

10. If I am not in shape, I avoid sporadic (once a week or less) strenuous exercise.
    1 = almost always 2 = very frequently 3 = frequently
    4 = occasionally 5 = almost never
    ANSWER = [ ] (1 2 3 4 5)

Nutrition

Check. 1 = almost always 2 = very frequently 3 = frequently
4 = occasionally 5 = almost never
ANSWER = [ ] (1 2 3 4 5)

1. When choosing non-vegetable protein, I select lean cuts of meat, poultry, and fish
   ANSWER = [ ] (1 2 3 4 5)

2. I minimize salt intake
   ANSWER = [ ] (1 2 3 4 5)

3. I eat fruit and vegetables fresh and uncooked
   ANSWER = [ ] (1 2 3 4 5)

4. I eat breakfast
   ANSWER = [ ] (1 2 3 4 5)

5. I intentionally include fiber in my diet on a daily basis
   ANSWER = [ ] (1 2 3 4 5)

6. I drink enough fluid to keep my urine light yellow
   ANSWER = [ ] (1 2 3 4 5)

7. I plan my diet to insure an adequate amount of vitamins and minerals.
   ANSWER = [ ] (1 2 3 4 5)

8. I minimize foods in my diet that contain large amounts of refined flour (bleached white flour, typical store bread, cakes, etc.)
   ANSWER = [ ] (1 2 3 4 5)

9. I minimize my intake of fats and oils including margarine and animal fats.
   ANSWER = [ ] (1 2 3 4 5)

10. I avoid adding sugar to my food and I minimize my intake of presweetened foods such as sugar-coated cereals, syrups, chocolate milk, and most processed and fast foods.
    ANSWER = [ ] (1 2 3 4 5)

Self Care

Check. 1 = almost always 2 = very frequently 3 = frequently
4 = occasionally 5 = almost never
ANSWER = [ ] (1 2 3 4 5)

1. I maintain an up-to-date immunization record
   ANSWER = [ ] (1 2 3 4 5)

2. I examine my breasts or testes on a monthly basis
   ANSWER = [ ] (1 2 3 4 5)

Self Care (continued)

Check. 1 = almost always 2 = very frequently 3 = frequently
4 = occasionally 5 = almost never

3. I take action to minimize my exposure to tobacco smoke.
ANSWER = 1 2 3 4 5
4. When I'm experiencing illness or injury, I take necessary steps to correct the problem.
ANSWER = 1 2 3 4 5
5. I brush my teeth after eating.
ANSWER = 1 2 3 4 5
6. I floss my teeth after eating.
ANSWER = 1 2 3 4 5
7. My resting pulse is 60 or less.
ANSWER = 1 2 3 4 5
8. I get an adequate amount of sleep.
ANSWER = 1 2 3 4 5
9. I keep my blood pressure in a range that minimizes my chances of disease. (e.g. stroke, heart attack and kidney disease)
ANSWER = 1 2 3 4 5
10. I keep my cholesterol level, high density lipids and triglycerides in a range that minimizes my chances of disease.
ANSWER = 1 2 3 4 5

Drugs and Driving

Questions 1 through 9.
Check. 1 = strongly agree 2 = agree 3 = neutral/not sure
4 = disagree 5 = strongly disagree

1. I do not operate vehicles under the influence of alcohol or other drugs.
ANSWER = 1 2 3 4 5
2. I do not ride with vehicle operators who are under the influence of alcohol or other drugs.
ANSWER = 1 2 3 4 5
3. I stay within the speed limit.
ANSWER = 1 2 3 4 5
4. I maintain a safe driving distance between cars based on speed.
ANSWER = 1 2 3 4 5
5. Vehicles which I drive are maintained to assure safety.
ANSWER = 1 2 3 4 5
6. I avoid the use of tobacco.
ANSWER = 1 2 3 4 5
7. I do not consume more than two alcoholic drinks per day.
ANSWER = 1 2 3 4 5
8. I avoid using drugs obtained from unlicensed sources.
ANSWER = 1 2 3 4 5
9. I consider alternatives to drugs.
ANSWER = 1 2 3 4 5
10. I follow the instructions provided with any drug I take.
1 = almost always 2 = very frequently 3 = frequently
4 = occasionally 5 = almost never
ANSWER = 1 2 3 4 5

Social

Check. 1 = strongly agree 2 = agree 3 = neutral/not sure
4 = disagree 5 = strongly disagree

1. I take steps to conserve energy in my place of residence.
ANSWER = 1 2 3 4 5
2. I contribute to the feeling of acceptance within my family.
ANSWER = 1 2 3 4 5
3. When I see a safety hazard, I take action (warn others or correct the problem).
ANSWER = 1 2 3 4 5
4. I avoid unnecessary radiation.
ANSWER = 1 2 3 4 5
5. I contribute time and/or money to community projects.
ANSWER = 1 2 3 4 5
6. I use my creativity in constructive ways.
ANSWER = 1 2 3 4 5
7. My behavior reflects fairness and justice.
ANSWER = 1 2 3 4 5
8. When possible, I choose an environment which is free of noise pollution.
ANSWER = 1 2 3 4 5
9. When possible, I choose an environment which is free of air pollution.
ANSWER = 1 2 3 4 5
10. I do my part to promote clean air.
ANSWER = 1 2 3 4 5

Emotional Awareness

1. I am comfortable in my relationships with others.
1 = strongly agree 2 = agree 3 = neutral/not sure
4 = disagree 5 = strongly disagree
ANSWER = 1 2 3 4 5

Emotional Awareness (continued)

Questions 1 through 8.
Check. 1 = strongly agree 2 = agree 3 = neutral/not sure
4 = disagree 5 = strongly disagree

2. I feel positive about myself.
ANSWER = 1 2 3 4 5

3. I feel there is an appropriate amount of excitement in my life.
ANSWER = 1 2 3 4 5

4. My emotional life is stable
ANSWER = 1 2 3 4 5

5. When I make mistakes, I learn from them.
ANSWER = 1 2 3 4 5

6. I feel enthusiastic about my life.
ANSWER = 1 2 3 4 5

7. I find it easy to laugh.
ANSWER = 1 2 3 4 5

8. I enjoy my life.
ANSWER = 1 2 3 4 5

9. I have plenty of energy.
1 = almost always 2 = very frequently 3 = frequently
4 = occasionally 5 = almost never
ANSWER = 1 2 3 4 5

10. My sleep is restful.
1 = almost always 2 = very frequently 3 = frequently
4 = occasionally 5 = almost never
ANSWER = 1 2 3 4 5

Emotional Control

Questions 1 through 5.
Check. 1 = strongly agree 2 = agree 3 = neutral/not sure
4 = disagree 5 = strongly disagree

1. I can express my feelings of anger.
ANSWER = 1 2 3 4 5

2. I can say 'NO' without feeling guilty.
ANSWER = 1 2 3 4 5

3. I make decisions with a minimum of stress and worry.
ANSWER = 1 2 3 4 5

4. There is an appropriate amount of time urgency in my daily routine.
ANSWER = 1 2 3 4 5

5. I include relaxation time as part of my daily routine.
ANSWER = 1 2 3 4 5

Questions 6 through 10.
Check. 1 = almost always 2 = very frequently 3 = frequently
4 = occasionally 5 = almost never

6. I am able to develop close, intimate relationships
ANSWER = 1 2 3 4 5

7. I set realistic objectives for myself.
ANSWER = 1 2 3 4 5

8. I can relax my body and mind (without using drugs)
ANSWER = 1 2 3 4 5

9. I accept responsibility for my actions.
ANSWER = 1 2 3 4 5

10. I accept the responsibility for creating my own feelings
ANSWER = 1 2 3 4 5

Intellectual

Check. 1 = strongly agree 2 = agree 3 = neutral/not sure
4 = disagree 5 = strongly disagree

1. I keep abreast of social and political issues
ANSWER = 1 2 3 4 5

2. I am interested in learning about scientific discoveries
ANSWER = 1 2 3 4 5

3. I make an effort to maintain and improve my verbal skills
ANSWER = 1 2 3 4 5

4. I make an effort to maintain and improve my writing skills
ANSWER = 1 2 3 4 5

5. I am satisfied with the entertainment choices I make
ANSWER = 1 2 3 4 5

6. I carefully select my movies and television choices
ANSWER = 1 2 3 4 5

7. I maintain a continuing education program relative to my career
ANSWER = 1 2 3 4 5

8. I am satisfied with the amount and variety I read
ANSWER = 1 2 3 4 5

9. It's easy for me to apply knowledge gained in one situation to a new situation.
ANSWER = 1 2 3 4 5

10. I am interested in understanding the view of others
ANSWER = 1 2 3 4 5

Occupational

Check. 1 = strongly agree 2 = agree 3 = neutral/not sure
4 = disagree 5 = strongly disagree

1. I enjoy my work.
ANSWER = 1 2 3 4 5
2. I take advantage of opportunities to learn new skills in my work.
ANSWER = 1 2 3 4 5
3. My work is challenging.
ANSWER = 1 2 3 4 5
4. I feel my job responsibilities are consistent with my values
ANSWER = 1 2 3 4 5
5. I look forward to doing my job.
ANSWER = 1 2 3 4 5
6. I am satisfied with the balance between my work time and leisure time.
ANSWER = 1 2 3 4 5
7. I am satisfied with my ability to plan my workload.
ANSWER = 1 2 3 4 5
8. I receive adequate feedback to judge my work performance.
ANSWER = 1 2 3 4 5
9. To the extent that I can, I create an environment which minimizes my stress.
ANSWER = 1 2 3 4 5
10. To the extent that I can, I create an environment which minimizes the stress at my organizational level or other levels.
ANSWER = 1 2 3 4 5

Spiritual

Check. 1 = strongly agree 2 = agree 3 = neutral/not sure
4 = disagree 5 = strongly disagree

1. I am satisfied with my spiritual life.
ANSWER = 1 2 3 4 5
2. Prayer, meditation, and/or quiet personal reflection is/are important part(s) of my life.
ANSWER = 1 2 3 4 5
3. My values guide my daily life.
ANSWER = 1 2 3 4 5
4. My spiritual growth is an important lifelong process.
ANSWER = 1 2 3 4 5
5. I am concerned about humanitarian issues.
ANSWER = 1 2 3 4 5
6. I participate in discussions about spiritual values
ANSWER = 1 2 3 4 5
7. Contemplating my purpose in life is an important issue for me
ANSWER = 1 2 3 4 5
8. I am satisfied with the degree to which my job is consistent with my values.
ANSWER = 1 2 3 4 5
9. I am satisfied with the degree to which my leisure time activities are consistent with my values.
ANSWER = 1 2 3 4 5
10. I am tolerant of the values and beliefs of others.
ANSWER = 1 2 3 4 5

• This questionnaire is also available on IBM Compatible Microcomputer Software.

INVENTORY BY WILLIAM C. HINDS

DIRECTIONS:

1) Please make your marks directly on this inventory.

2) Circle on the inventory one of the five possible choices.

Choice 1 = Never (0% of the Time)
Choice 2 = Rarely (0 - 25% of the Time)
Choice 3 = Occasionally (25% - 50% of the Time)
Choice 4 = Often (50% - 75% of the Time)
Choice 5 = Very Often (75% - 100% of the Time)

Example: Question One. I eat two servings of vegetables daily.
Answer: Choice 2 - 25% of the Time.

Question One 1 (2) 3 4 5

Please turn the page and begin.

		Never	Rarely	Occasionally	Often	Almost Always
1.	I keep my living environment calm.	1	2	3	4	5
2.	I eat two servings of vegetables daily.	1	2	3	4	5
3.	I follow my own values, rather than change them to make sure people like me.	1	2	3	4	5
4.	I let others make choices rather than try to get my own way.	1	2	3	4	5
5.	I let other people know when I'm sick.	1	2	3	4	5
6.	I salt my food at the table.	1	2	3	4	5
7.	I provide myself with rewards to keep myself motivated.	1	2	3	4	5
8.	I express my feelings of anger.	1	2	3	4	5
9.	I use "shoulds" and "should nots" in my self-statements.	1	2	3	4	5
10.	I engage in an active sport, e.g. racquetball, swimming, golf, touch football, tennis, etc. at least once a week.	1	2	3	4	5
11.	I eat fish and poultry instead of red meat.	1	2	3	4	5
12.	I avoid trying to control other people.	1	2	3	4	5
13.	I balance work and play, instead of working most of the time.	1	2	3	4	5
14.	I exceed the speed limit when I drive.	1	2	3	4	5
15.	I build in self-improvement actions in my schedule.	1	2	3	4	5
16.	I keep my weight within ten pounds of what I consider my ideal weight.	1	2	3	4	5
17.	I have brown rice rather than white rice.	1	2	3	4	5
18.	I make sure to include fiber in my diet.	1	2	3	4	5
19.	I choose environments which have an artisitic or esthetic value.	1	2	3	4	5
20.	I relax and get interested, rather than get angry with people who are slower than me.	1	2	3	4	5
21.	I seek out others for support at work or in the neighborhood.	1	2	3	4	5

		Never	Rarely	Occasionally	Often	Almost Always
22.	I avoid sugar and sweets (cookies, cakes, ice cream).	1	2	3	4	5
23.	I practice some form of relaxation at least fifteen minutes a day, e.g. progressive relaxation, yoga, biofeedback, meditation, imagery exercises or deep breathing exercises.	1	2	3	4	5
24.	I avoid drinking or eating a lot before going to bed.	1	2	3	4	5
25.	I make negative generalizations about myself, e.g. I'm dumb, ugly, a failure, etc.	1	2	3	4	5
26.	I engage in activities that give me a sense of competency, e.g. hobby, pasttime, avocation, etc.	1	2	3	4	5
27.	I visit or talk to a good friend.	1	2	3	4	5
28.	I keep my living environment clean.	1	2	3	4	5
29.	I avoid the use of tobacco.	1	2	3	4	5
30.	I make my own decisions, even though some people might not like them.	1	2	3	4	5
31.	I set my own standards, rather than worry about other's standards for me.	1	2	3	4	5
32.	I listen to advice from others.	1	2	3	4	5
33.	I share my experiences with other people.	1	2	3	4	5
34.	I get out and talk with groups of people.	1	2	3	4	5
35.	I engage in thoughts that relax my body.	1	2	3	4	5
36.	I wear a seat belt when I drive.	1	2	3	4	5
37.	I use coping strategies to avoid obsessing over events which I can't control.	1	2	3	4	5
38.	I stick up for my own rights.	1	2	3	4	5
39.	I invite people to my home for drinks or a meal.	1	2	3	4	5
40.	When waiting in lines, I amuse myself, rather than get angry.	1	2	3	4	5
41.	I take more than two alcoholic drinks a day.	1	2	3	4	5
42.	I seek feedback on my behavior.	1	2	3	4	5

		Never	Rarely	Occasionally	Often	Almost Always
43.	I get my teeth cleaned twice a year.	1	2	3	4	5
44.	I eat whole-grain bread instead of white bread.	1	2	3	4	5
45.	I use pepper and herbs to season my food instead of salt.	1	2	3	4	5
46.	I walk when possible rather than ride in an automobile.	1	2	3	4	5
47.	I let others express what they are feeling.	1	2	3	4	5
48.	I drink two cups or less of tea or coffee with caffeine a day.	1	2	3	4	5
49.	I let myself be dependent, rather than appear tough and strong most of the time.	1	2	3	4	5
50.	I believe that people are interested in what I say.	1	2	3	4	5
51.	I seek out others, rather than feel neglected or rejected.	1	2	3	4	5
52.	I accept my worthiness as a person, and express it to other people.	1	2	3	4	5
53.	I go out of my way to talk to strangers.	1	2	3	4	5
54.	I do activities with a social group.	1	2	3	4	5
55.	I make my living environment convenient, e.g. meals, laundry services, telephone, etc.	1	2	3	4	5
56.	I substitute low calorie drinks for high calorie drinks.	1	2	3	4	5
57.	I engage in exercise to tone and strengthen my muscles. For example: weights or isometric exercise.	1	2	3	4	5
58.	I express and share with others a wide range of emotions, e.g. anger, distress, fear, shame.	1	2	3	4	5
59.	I maintain perfectionistic self-standards.	1	2	3	4	5
60.	I let myself cry.	1	2	3	4	5
61.	I seek out experiences where I will be alone.	1	2	3	4	5
62.	I'm outgoing in new situations.	1	2	3	4	5
63.	I trust others, rather than acting like the world is full of hostile people.	1	2	3	4	5

		Never	Rarely	Occasionally	Often	Almost Always
64.	I use positive imagination to approach fearful events.	1	2	3	4	5
65.	I worry about events that are out of my control.	1	2	3	4	5
66.	I store up my negative feelings, e.g. anger, distress, etc.	1	2	3	4	5
67.	I take things personally.	1	2	3	4	5
68.	When I get into a stressed state, I take a break.	1	2	3	4	5
69.	I get an adequate amount of sleep.	1	2	3	4	5
70.	I eat high-sodium foods (for example, ketchup, hot dogs, bacon, dill pickles).	1	2	3	4	5
71.	I eat two servings of fruit daily.	1	2	3	4	5
72.	I climb stairs rather than ride an elevator.	1	2	3	4	5
73.	I compare myself to other people.	1	2	3	4	5
74.	I relax my body through my imagination.	1	2	3	4	5
75.	I choose environments free of air pollution.	1	2	3	4	5
76.	I relax rather than try to control most situations.	1	2	3	4	5
77.	I share my emotions with other people.	1	2	3	4	5
78.	I state my needs to others, even though it may not make me popular with them.	1	2	3	4	5
79.	I do things just for the enjoyment of doing them, even if I have to "waste" some time.	1	2	3	4	5
80.	I choose environments that are relaxing.	1	2	3	4	5
81.	I get together with my co-workers.	1	2	3	4	5
82.	I go to the park or visit a pleasant environment.	1	2	3	4	5
83.	I recognize what I'm feeling at the time I'm feeling it.	1	2	3	4	5
84.	I set reasonable behavioral standards for myself so I can meet my goals.	1	2	3	4	5

		Never	Rarely	Occasionally	Often	Almost Always
85.	I engage in active physical work, e.g. washing the car, housework, chopping wood, at least twice a week.	1	2	3	4	5
86.	I get physical exams at least once a year, e.g. heart, pap smear, breast exam, prostate gland, etc.	1	2	3	4	5
87.	I eat processed and convenience foods.	1	2	3	4	5
88.	I eat foods that are steamed, baked or boiled instead of pan fried or french fried.	1	2	3	4	5
89.	When I'm suffering from an illness or injury, I take time to renew my physical health.	1	2	3	4	5
90.	I share my feelings with others.	1	2	3	4	5
91.	Once I have decided on an action, I worry about whether people are going to criticize me.	1	2	3	4	5
92.	I get away for a relaxing weekend or vacation twice a year.	1	2	3	4	5
93.	I relax during meals and don't discuss business or stressful subjects.	1	2	3	4	5
94.	I eat low fat snacks.	1	2	3	4	5
95.	I choose environments with little noise pollution.	1	2	3	4	5
96.	I use polyunsaturated margarine instead of butter.	1	2	3	4	5
97.	I floss my teeth once a day.	1	2	3	4	5
98.	I let myself experience the distress of loss.	1	2	3	4	5
99.	I think negative thoughts about events in my life.	1	2	3	4	5
100.	I understand the beliefs that motivate me.	1	2	3	4	5
101.	I listen to others opinions, rather than arguing for my point of view most of the time.	1	2	3	4	5
102.	I get involved in group activities.	1	2	3	4	5
103.	I spontaneously express my feelings.	1	2	3	4	5
104.	I think about my strengths and skills, rather than worry about being weak and helpless.	1	2	3	4	5

	Never	Rarely	Occasionally	Often	Almost Always
105. I say twice as many positive statements to myself as negative.	1	2	3	4	5
106. I justify my actions and mistakes to myself and others.	1	2	3	4	5
107. I walk a half an hour daily.	1	2	3	4	5
108. I get together with a community group.	1	2	3	4	5
109. I keep my living environment organized.	1	2	3	4	5
110. I read labels on foods and beverages so I know about their nutritional contents.	1	2	3	4	5
111. I spend twenty minutes three times a week engaged in aerobic exercise, e.g. jogging, cycling, swimming, rebounding, etc.	1	2	3	4	5
112. I dwell on the past.	1	2	3	4	5
113. I accept the fact that others will not like me.	1	2	3	4	5
114. I confront people, rather than wondering if they secretly disapprove of me.	1	2	3	4	5
115. I laugh and feel joyful.	1	2	3	4	5
116. I reward myself for accomplishing tasks.	1	2	3	4	5
117. I make negative statements about others.	1	2	3	4	5
118. I engage in stretching or limbering exercises once a day.	1	2	3	4	5
119. I eat low fat cheese instead of high fat cheese.	1	2	3	4	5
120. I take time to play.	1	2	3	4	5
121. I drink beverages that contain little sugar.	1	2	3	4	5
122. I think of the future with positive expectations.	1	2	3	4	5
123. I think in terms of absolutes, e.g. rights and wrongs, good and bad.	1	2	3	4	5
124. I am assertive in a wide variety of situations.	1	2	3	4	5
125. I face conflicts head on, rather than avoid frictions and difficulties.	1	2	3	4	5

	Never	Rarely	Occasionally	Often	Almost Always
126. I take breaks, rather than try to hurry through everything.	1	2	3	4	5
127. I'll let things sit, rather than try to do more than one thing at once.	1	2	3	4	5
128. I admit my mistakes to others.	1	2	3	4	5
129. I get together with a political action group.	1	2	3	4	5
130. I make an effort to be around friends and associates.	1	2	3	4	5
131. I try to keep close relationships.	1	2	3	4	5
132. I buy processed foods that are high in salt and preservatives.	1	2	3	4	5
133. I accept my limitations and do not become discouraged when other people do things well.	1	2	3	4	5
134. I eat more than three eggs a week.	1	2	3	4	5
135. I get involved in friendships with many people.	1	2	3	4	5
136. I get together with a religious group.	1	2	3	4	5

List any other strategies you use to promote your own health.

137. _____	1	2	3	4	5
138. _____	1	2	3	4	5
139. _____	1	2	3	4	5

List your top three strategies for the relief of stress.

140. _____	1	2	3	4	5
141. _____	1	2	3	4	5
142. _____	1	2	3	4	5

_____

LOTTERY CARD

_____ I have completed and enclosed the three inventories.

_____ I have completed and enclosed the Demographic Information Sheet.

_____ I wish to receive information on the results of my inventories.

NAME: _____

ADDRESS: _____

_____

APPENDIX C

USERS REQUEST TO PARTICIPATE LETTER

AND CONSENT FORM

Arizona State University

Counseling and Consultation
Tempe, Arizona 85287
602/965-6146

Dear Friend:

I am conducting a research study on the physical and mental health of college students. The results of this research study will provide Counseling and Consultation with additional information to assist in the development of psycho-educational programs for the coming academic year. I am looking for 70 students to complete three inventories. By volunteering to participate in this study and returning the packet of completed inventories to within four days, you will have A CHANCE TO WIN $100.00. When you return the packet, you will be entered in a cash drawing with a prize of $100.00 which I will provide. The winner of the drawing will be notified confidentially.

Your responses to the inventories will be kept strictly confidential. I will separate the inventories from the Consent Form so that your name will not be attached to the inventories. Your responses will not be shared with your current counselor. You are under no obligation to participate in this study and may withdraw your consent to participate by contacting me.

The inventories should take you about 1/2-2 hours to complete. If you decide to participate, please read and sign the Consent Form below, and return the signed form to the receptionist. The receptionist will provide you with your packet of inventories. Please return your Background Information Sheet with the completed inventories. A return envelope is provided for the completed inventories. When I receive the completed inventories, your name will be entered in the $100.00 cash drawing. Your help is very much needed, and I hope you can find the time to complete the inventories. If you have any questions, please feel free to call me at 965-6146. I thank you for your time and energy.

Sincerely,

Barbara Palombi

Barbara Palombi, M.A.

APPENDIX D

PARTICIPANTS' FOLLOW-UP LETTER

CONSENT FORM

I _____ have read the explanation of the purpose
(please print name)
and procedure for this study and agree to participate. I understand that my participation is voluntary, that my results will be kept confidential and that I may withdraw my participation at any time by contacting the researcher.

_____
Your Signature

I agree to participate in this research study by picking up the packet of inventories at Counseling and Consultation, 112 Agriculture Building.

PLEASE RETURN THIS FORM IN PERSON TO:

COUNSELING AND CONSULTATION
112 AGRICULTURE BUILDING
ARIZONA STATE UNIVERSITY

OR

I agree to participate in this research study by having the test packet sent to me by mail. YES____ NO____

ADDRESS: _____

_____

_____

RETURN BY MAIL TO:

BARBARA PALOMBI
% COUNSELING AND CONSULTATION
112 AGRICULTURE BUILDING
ARIZONA STATE UNIVERSITY

I would like feedback on the inventories. YES___ NO___

Arizona State University

Counseling and Consultation
Tempe, Arizona 85287
602/965-6146

Dear Friend:

I recently sent you a letter asking you to participate in a study sponsored by Counseling and Consultation on the mental and physical health needs of college students. If you have completed your survey and returned it, let me express my sincere appreciation for your willingness to participate and your support of this important study!

If you have not completed and returned the letter to participate, please do so by January 24th. By completing the packet of the inventories and returning them to me you will have an opportunity to win $100.00. Some students who have already responded to the survey have said that it was an interesting and valuable experience.

Please remember that this study will be of value only if everyone who received a participation letter responds. You are one of only one percent of the students at ASU who were randomly selected to take part in this study. Therefore, your response is important for this study to be truly representative of ASU students!

Remember, your response is absolutely confidential. When your survey is returned, all records of any personally identifiable information about you will be destroyed, i.e., name, address, etc.

In case you have misplaced your letter of intent, please call me at 965-6146 and the intent letter along with a packet of inventories will be mailed to you directly. The results of the study will be made available as soon as possible after we receive your survey.

Thank you again for your participation.

Sincerely,

Barbara Palombi

Barbara J. Palombi, M.A.
Counselor
Counseling and Consultation

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