ABSTRACT

Janowiak, J. J. Changes in subjective well-being with brief intervention meditation practice on college students. M.S. in Health Education, 1989. 82 pp. (J. Schindler).

This study was designed to determine the relationships between changes in self-reported General Well-Being (GWB) scores with brief intervention meditation training among college students. Data was collected from 227 students enrolled in Personal Health classes at the University of Wisconsin-La Crosse. Two intact classes were used, with members from both classes deciding to either volunteer for a treatment condition, (meditation group), or stay in a no-treatment condition as the comparison group. Treatment was conducted over a four-week period. A quasi-experimental design was employed, using the GWB as the dependent variable. Each subject completed the GWB as a pre-test and post-test. Methodological control was established by using a form of meditation that was relatively unknown; training time was reduced to a minimal intervention that still allowed subjects to learn the technique. Application of a stepwise multiple regression analysis revealed significant changes in perceived subjective levels of stress in the experimental group. However, testing revealed no significant differences between the meditation group and the comparison group on the GWB measure. The study suggests that brief intervention meditation provides a reduction in self-reported stress levels, yet was not able to produce any measurable group changes in self-reported subjective well-being. Based on this observation, a recommendation was made that meditation instruction may be better implemented through longer intervention training, and better explored through in-depth objective and subjective styles of inquiry.

Changes in Subjective Well-Being With Brief Intervention Meditation Training on College Students

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A Thesis Presented

to

The Graduate Faculty

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In Partial Fulfillment

of the Requirements for the

Master of Science Degree

By

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DEDICATED

To My Mother

Valentina L. Janowiak

1916 - 1988

Who taught me about life

love and compassion

To My Spiritual Preceptor

Paramahansa Yogananda

Whose presence reveals

unceasing blessings

and

divine love

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CHAPTER I

INTRODUCTION

In recent years a number of investigators have reported data indicating profound physiological changes resulting from the practice of meditation. Research has clarified some of the questions concerning the states of consciousness and their corresponding effects on one's mental health. Physiologists and psychologists, as cited in Kanellakos (1969), speak in terms of the three major states of consciousness (the waking, dreaming, and deep sleep states) possessing distinct physiological and biochemical values (Kleitman, 1963). Wallace (1970) suggests an additional state of consciousness that is quantitatively and qualitatively different from these other three states called transcendental consciousness. During this fourth major state of consciousness he found oxygen consumption, carbon dioxide elimination, cardiac output, heart rate, and respiration decreased significantly during the practice of meditation. The mean decrease (17%) of oxygen consumption was greater than most of the values reported for the mean decrease over a full night's sleep. Skin resistance, a measure of nervous system stability, significantly increased during meditation. Electroencephalogram recordings detected specific changes in brain wave activity during meditation: there was an increase in the intensity of slow alpha waves in the central and frontal regions, and an occasional occurrence of theta-wave trains in the frontal region.

Arterial blood pressure, blood acidity concentration, and carbon dioxide pressure decreased during meditation also. A marked decrease in arterial lactate during meditation was recorded and remained low for some time after the subjects stopped meditating. Numerous research reports indicate that the unique "restful alertness" provided from the practice of meditation effectively promotes improved physical and psychological functioning and imply that this state may be just as essential for fully normal functioning as the other three states of consciousness (Banquet, 1972).

Measurements of skin resistance, brain wave patterns, blood chemistry, cardiac output, metabolic rate, respiratory quotient, heart rate, and other psychophysiological variables indicate that during the practice of meditation an individual gains a deep state of physiological rest (deeper than sleep), while the mind remains awake and is capable of responding to stimuli (Orme-Johnson, 1973).

Meditation also appears to have several distinct advantages as an aid to personal change and well-being. It is a natural, easily learned skill that requires only occasional supervision, which has potential for implementation within the health education curriculum.

The focus of this study concerns the general well-being of college students and the efficacy of meditation in relation to improved general well-being.

Well-being may be defined in different ways. Society may define it through its rewards and sanctions, tending to emphasize the individual's stability, predictability, and conformity to social codes (Campbell, 1981).

Psychiatry often defines well-being (referred to as mental health) in terms of personality theories. However, when college students evaluate their well-being, they are less likely to measure themselves on the basis of standards from society or psychiatrists.

They may judge their own status of well-being on the quality of their own perceptions of happiness and sense of satisfaction with themselves and their environment. This definition of well-being thus becomes subjective, and can be determined through the individual's self-report.

Historically, Americans have viewed education as a vehicle to success and happiness, especially those who were unable to formally progress beyond either grade school or high school. In the pursuit of higher education many students have noted and ranked the relative amount of stress experienced in meeting educational requirements that require behavioral adjustments (Rahe, 1972).

Holmes and Rahe (1972) have developed a scale of stressful events identifying the relative amount of adjustment required to meet certain events of life. Among the series of events precipitating a stress response which may affect college students are: death of a family member, change in financial state, beginning or ending school, change in residence, change in schools, exams, etc.

Since practitioners of meditation reported acquiring greater emotional stability and a reduction of stress as benefits (Seeman, 1972), it would seem appropriate and beneficial to include the instruction of meditation within Health Education courses at the university level.

This study is an attempt to determine what specific factors involved in the practice of meditation are most responsible for observed changes in subjective well-being and distress.

Need for the Study

The theme that man is capable of altered states of consciousness, and the fact that practices exist to develop such states, are common in the lore of almost every society. In particular, this type of knowledge has been associated with India, where the word meditation has long been a common yet vague symbol of inner development. Meditation was believed to involve an attempt to concentrate or control the mind and senses. It was considered to be difficult to master even after many years of practice. The acquisition of a meditation technique was also thought to include acceptance and membership of a philosophical system or religion. And the notion of expansion of consciousness was considered a metaphysical journey outside the prescribed realm of scientific research and methodology.

Against this background, Herbert Benson, Robert Wallace, and others have caused the reversal of misunderstandings in the scientific literature and in the mindset of the educated public as it relates to the concept of meditation (Benson & Wallace, 1972).

In an attempt to improve the quality of life, society and education has placed in its priorities upon the improvement of external elements and factors. In the management of the issue of stress in society, it has become apparent that internal factors within individuals may be a more important factor in the problem than the external elements. Through the daily practice of meditation one may adjust internal

physiological response mechanisms, providing a reduction of stressful responses to environmental influences. Lowering of anxiety through meditation may lead to increased energy, self-sufficiency, and flexibility in dealing with an increasingly complex environment (Nidich, Seeman, & Dreskin, 1973).

As a result, this study was designed to implement and assess a brief meditation technique within the curricular framework of an already established stress managment unit in a university's introductory Personal Health class. It is the contention of this author that the practice of meditation, and its inclusion in college health classes, may provide an increase in consciousness, along with better perceived health.

If results show a significant enhancement in well-being due to brief meditation intervention, the implications may warrant inclusion into a Personal Health curriculum at the university level.

Statement of the Problem

The major problem of this study is to examine if there exists any changes in self-reported General Well-Being scores and subjective perceptions of distress associated with a brief intervention meditation practice in college students enrolled in Personal Health classes at the University of Wisconsin-La Crosse.

Research Hypotheses

The following three research hypotheses were analyzed in this study. The researcher established a .05 level of significance as the criterion for rejection of statistical tests.

(1) Change in the General Well-Being Schedule score is associated with one or more of the following variables: GWB pre-test, membership in the meditation group, compliance score with meditation training, sex of the subject, age of the subject, and change in stress levels with meditation training.

(2) There is a relationship between age of the subject and compliance scores for meditation training.

(3) There is a significant difference between males and females on compliance scores for meditation training.

Assumptions

The following assumptions concerning the study were made:

(1) Subjects would be cooperative and accurate in responding to the GWB instrument.

(2) Subjects would accurately log their meditation experiences on the weekly log forms.

(3) The participants practiced the meditation technique as instructed.

(4) Those participants who volunteered from HED 101 Personal Health classes from the University of Wisconsin-La Crosse were actually interested in meditation and their general well-being in contract to extra credit gained through participation in the study.

Delimitations

The study had the following delimitations:

(1) The study was conducted for a period of four weeks. The time frame of the total study was decided upon through readings about various

meditation programs and consultation with published professors in the area of meditation and stress management.

(2) The General Well-Being Schedule (GWB) is a self-report instrument. Subjects respond to it based upon their own perceptions of their well-being.

(3) The study's meditation technique has had no formal presentation in the Personal Health classes for the experimental and comparison groups prior to this research.

Limitations

This study had the following limitations:

(1) A time constraint was placed on the study. Because of limited availability of Personal Health sessions during the Spring semester, 1989, it was decided through consultation with the course instructors that a brief intervention in meditation training would be the most practical method of implementation.

(2) The experimental group was asked to practice the meditation technique outside of regularly scheduled class times. The objective assessment and correctness of meditation techniques practiced became the responsibility of the subjects.

(3) Motivational factors from one subject to another, and from pre-test to post-test times, may have varied.

(4) The investigator was not the instructor-of-record for the course. This may have affected the subjects' acceptance and cooperation regarding the meditation technique and protocols.

(5) Subjects were comprised of students who volunteered from personal Health classes at the University of Wisconsin-La Crosse.

(6) There may have been a possible interaction of experimental and comparison group members with each other.

Definition of Terms

For the purpose of this study, the following terms were defined:

(1) Clinically Standardized Meditation (CSM) - An alternative form of meditation developed by modifying classical Indian mantra meditation along with a standardized set of instructions to form a relaxation technique suitable for Western use. CSM is similar to Transcendental Meditation. Trainees select their own mantra from a list of sixteen Sanskrit mantras or invent their own by following simple guidelines. The course of instruction is shorter than TM and can be taught in one lesson. CSM has been successfully used in schools, clinics, hospital settings and private practice. Its advantages include standardization, flexibility, and sensitivity to the needs of the practitioner (Carrington, 1977).

(2) Mantra - A sanskrit word meaning "thought form" included in traditional meditation techniques. The repetition of the mantra is believed to vibrate the various energy centers of the body if intoned correctly, promoting beneficial meditation effects (Carrington, 1977).

(3) Well-being - The state of being healthy, happy, or prosperous on a subjective level. Known directly to the individual person and known to others only through that person's behavior or verbal report (Campbell, 1981).

(4) Comply 1 Scores: Quantitative - The average number of times subjects meditated per day, week, and month for a total of twenty-eight days.

(5) Comply 2 Scores: Qualitative - The average number of minutes spent in meditation per day for a total of 28 days.

(6) Comply total - The compliance total score obtained by multiplying comply 1 times comply 2.

(7) Comparison group - A self-selected population comprised of non-meditating subjects whose scores on the General Well-Being Schedule were statistically compared to those of the experimental group of meditators.

(8) Experimental group - A self-selected population comprised of students instructed in a meditation technique which was the focus of this study.

(9) Stress level scores - Change scores derived from a subjective stress rating scale (1-9, with higher numbers indicating higher perceived stress) taken prior to and immediately after each meditation session. Refer to Appendix J for stress rating scale.

CHAPTER II

REVIEW OF LITERATURE

Introduction

For nearly 2,500 years meditation has been practiced as a way to bring inner repose and calm (West, 1979). Meditation makes reference to a group of techniques that commonly attempt to focus attention in a non-analytical way to avoid dwelling on ruminating thought (Shapiro, 1980). It may include the absence of activity, such as sitting quietly, or include physical activity such as in Tai Chi. It can result in a state of quiescence or produce a state of arousal, however researchers involved in studying meditation have generally focused on the former state of hypoarousal.

As civilization moves into the twenty-first century, one of our greatest causes for optimism is the emerging recognition of the underlying interconnectedness of life. Humanity's loftiest spiritual traditions have taught for centuries that individual life is an integral part of a universal whole. In today's age metaphysicians are being joined by physicists, the new visionaires, in stating that a singular cord of unity links the farthest galaxies with the smallest cells of our bodies. And as these findings begin to link with other scientific domains such as medicine, biology, psychology, and ecology, we may begin to witness a new revolution in human consciousness and understanding.

Capra (1985), a contemporary physicist, clearly states this relationship as follows:

> For those who have experienced this harmony, the significance of the parallels between the world views of physicists and mystics is beyond doubt. The interesting question, then, is not whether these parallels exist, but why; and, furthermore, what their existence implies.
>
> One of the strongest parallels to Eastern mysticism has been the realization that the constituents of matter and the basic phenomena involving them are all interconnected; that they cannot be understood as isolated entities but only as integral parts of a unified whole. The notion of a basic quantum interconnectedness, which I have discussed in great detail, was emphasized by Bohr and Heisenberg throughout the history of quantum theory (p. 303).

In the face of the many challenges confronting our world today this new vision offers a deep sense of reassurance. We have begun to see that we are not the helpless victims of a randomly chaotic universe. Diseases of body and mind, and the equally threatening "diseases" affecting family, social, and economic balance, may be attributed strongly to a lack of harmony with the essential unity of the person, community, nation, and planet. By learning to integrate our lives with universal harmony, we may be better able to meet the demanding challenges to our well-being.

Well-being

A sense of well-being is not a simplistic experience. Campbell (1981) defines the components of well-being as containing affective feelings of happiness, misery, and strain and cognitive impressions of satisfaction and dissatisfaction. The state of well-being can be said to relate to life as a whole and to the specific domains of life. Well-being may have a short-term reference to life in the present, or

a long-term reference to life as the collective experiences of the past up to the present.

Over the last 20 years income has lost its force in this country as an indicator of subjective well-being, especially among people with a college education (Barnes, 1974). Looking at the validity of this statement, can one assume that people have lost interest in the acquisition of material needs or other benefits of income? It is not likely to be the case, however, the needs for relating and being, described by Maslow and Allardt, appear to take on higher priorities in countries where increasing economic prosperity and affluence are common (Atkinson, 1979).

While research has indicated a positive relationship between self-actualization and meditation (Dick, 1974; Hjelle, 1974; Nidich, Seeman, and Banta, 1972) the relationship between subjective well-being and meditation within the literature remains scant.

Dick (1974) investigated effects of meditation on university counselees' experiences of well-being through the Adult Nowicki-Strickland Internal-External Locus of Control Scale and the time competence and inner-directed scales of the Shostrom Personal Orientation Inventory (POI). The experimental group was comprised of randomly assigned counseling clients instructed in Transcendental Meditation. A self-selected meditation control group, of non-clients, began meditation within one week of the experimental group. A second control group was instructed to simply rest 15 minutes, twice daily. The hypothesis that increases in self-actualization would be greatest for the meditation groups was supported on both major POI scales. No

significant difference was found in locus of control between the experimental and control groups.

The era in which we live has been the recipient of an incredible number of theories and methods of achieving well-being. Medicine, psychology, and a staggering number of metaphysical approaches all offer solutions from their specialized perspectives. The resulting avalanche of information, some which seems contradictory, often leaves one unable to choose a technique that gives focus to our efforts to help ourselves and others. We may find ourselves looking for a larger perspective, that will harmonize and explain the partial views resulting from our era's overspecialization. That larger prespective anciently discovered by the founders of the world's great spiritual traditions and recently glimpsed by today's scientists reveals that underlying both science and religion are universal principles that permeate creation.

Modern science is increasingly confirming the efficacy of India's ancient techniques of meditation as a method of raising human consciousness and promoting general well-being.

Meditation Research

During the long cultural history of China, Japan and India, a variety of techniques which may be called meditation have been developed and practiced as a way of developing inner tranquility. The basic aim of these techniques have centered on the silencing of the mind and the transition of awareness from the rational to the intuitive mode of consciousness. Many forms of meditation involve concentration upon the breath, the sound of a mantra, or visual images such as a mandala.

Other schools focus attention on body movements performed spontaneously without thought interference. Examples include Hindu Yoga and the Taoist T'ai Chi Ch'uan (Capra, 1985).

When the rational mind is silenced, the intuitive mode can produce states of altered awareness, allowing one to experience the environment in a more direct way. For most individuals, especially for intellectuals, this mode of consciousness can be a completely novel experience; one which requires the absence of conceptual thinking.

In deep meditation, one finds that the mind is very alert while taking in sounds, and impressions of the surrounding environment without holding the sensory images for analysis or interpretation (Wallace & Benson, 1971).

Numerous benefits are claimed to result from the practice of meditation; among them have been positive changes in psychological inventories (Hjelle, 1974; Seeman, Nidich, and Banta, 1972; Ferguson and Gowen, 1979; Ballou, 1973) that when considered together, can be regarded as support towards the development of a healthy adult personality.

In reviewing meditation research, Smith (1975) concluded that the regular practice of meditation is associated with decrements in psychopathology, particularly anxiety, over a period of time usually ranging from 4-10 weeks.

A number of studies have investigated the relationship of meditation to indices of psychological adjustment and functioning; such as the impact on long-term behavioral and personality changes.

One such study, by Hjelle (1974), compared long-term meditators to beginning meditators on Bendig's Anxiety Scale and Rotter's Locus of Control Scale. The long-term meditators proved to have significantly lower anxiety and greater internal locus of control than beginning meditators.

Ferguson and Gowen (1979) completed a similar study comparing new meditators to long-term meditators, utilizing the Northridge Developmental Scale, a measure of self-actualization with subscales of Agression, Depression, and Neuroticism.

Significant increases in self-actualization and decreases in depression and neuroticism were observed among people who had been practicing meditation for only six and one-half weeks. Also, the long-term meditators scored significantly higher on the Northridge Self-Actualization Scale and lower on the Northridge Depression and Neuroticism Scales than those who had only been meditating for six and one-half weeks.

Seeman, Nidich, and Banta (1972) administered Shostrom's Personal Orientation Inventory to eight males and seven females two days prior to their instruction in meditation. A control group of nonmeditators were tested at the same time. The two groups did not differ significantly on any of the test scales. On a post-test two months later, significant differences between the experimental and control groups were found on six of the 12 scales, all in the predicted direction of "self-actualization". Differences were most significant on the Self-regard, Acceptance of Agression, and Spontaneity scales.

Ballou (1973) compared a control group of nonmeditators to an experimental group of meditators with regard to anxiety levels. The two groups did not differ significantly on measures of transitory and general anxiety at pre-test. Scores on a series of post-tests, administered after experimental subjects had been instructed in meditation, showed that meditation practice significantly reduced anxiety levels and that they remained low over time.

Most of the investigations on the influence of meditation on personality and behavior did not attempt to control for possible differences in motivational variables between meditators and nonmeditators. It is possible that prospective meditators, though exhibiting the same behavior as control subjects, were a highly motivated group looking for a technique that would bring about personal change. Further, the reliability, validity, and comprehensiveness of the test criteria selected to measure personality and behavior changes may not have been, in many cases, the best available (Buros, 1972). Additional investigations may be needed to obtain fully reliable measures of the ways in which meditation influences personality and behavior.

Methods of Meditation

A considerable portion of the research testing the efficacy of meditation have used a technique which involves sitting quietly with the eyes closed and focusing on a repetitive word called a mantra (Benson, 1975). The bulk of research has used Transcendental Meditation, where the initiate is given a "secret" mantra with instructions involving its repetition for two 20-minute periods each day. This is a passive technique which results in relaxation.

While the Transcendental Meditation technique prescribes to the belief that the mantra is imbued with special powers, other researchers have used a nonsense word or phrase, or simply the word "one" as a mantra, and found it effective in producing the desired result of relaxation (Benson, 1975).

The research appears to indicate that this simplified version of mantra meditation taught as a technique will result in relaxation effects that are effective, but no more effective, than other relaxation techniques such as autogenic training, progressive relaxation, and biofeedback (Shapiro, 1980).

Some research has indicated no significant differences in physiological changes to various relaxation techniques yet there does exist significant differences in the subjects' evaluations of these techniques. Specifically, those subjective positive changes reported by the meditation groups are common and numerous within the literature (Morse, Martin, & Furst, 1977; Curtis & Wessberg, 1975/1976).

Brief Meditation Intervention

Recent studies have indicated that the practice of meditation produces a physiologically quiescent condition opposite to that of the anxiety response. Nidich, Seeman, and Seibert (1973) examined the influence of meditation on a psychological measure of anxiety (State-Trait Anxiety Inventory A-State scale).

The anxiety scale was initially administered to eight experimental subjects and nine control subjects two days before the experimental subjects began the meditation technique. Six weeks later subjects were

requested to carry out a demanding task; immediately thereafter the control group was instructed to sit with eyes closed and the experimental group to meditate for 15 minutes. The anxiety scale was then readministered. Mean anxiety scores for the two groups were not significantly different on the first administration of the test; however, the reduction in anxiety between the two tests was significantly greater for the meditators than for the nonmeditators.

In another study designed to determine whether positive personality changes occur in subjects who have practiced meditation for a brief time; Van Den Berg (1973) found that meditation improves self-esteem, ego-strength, satisfaction, and self-actualization.

The experiment compared short-term meditators (mean time of practice = nine weeks) with nonmeditating controls on the Netherlands Personality Inventory (NPI). Significant reductions in physical and social inadequacy, neuroticism, depression, and rigidity were found in short-term meditators, whereas no change occurred in the control group. After nine weeks meditators had changed on eight of the nine scales of the NPI in the expected direction of positive personality development. The results indicated that the practice of meditation allows development of a more harmonious personality in the direction of self-actualization.

Maslow (1968) states that a healthy person is primarily motivated by the desire for self-actualization, that being the full development of one's talents and capacities. Among the objectively describable and measurable characteristics of the healthy person, Maslow mentions the following notable qualities: increased clarity of thought, greater efficiency in perception of reality, increased integrity and wholeness,

increased sponaneity and liveliness, a firm self-identity, autonomy, and the ability to love.

The significant differences between meditators and nonmeditators in measures of ego-strength, self-esteem, self-actualization, anxiety, and well-being are therefore indicative of a broad based improvement in mental health. These differences involve not only the reduction of negative qualities such as neuroticism and depression, but also an increase in the more fundamental qualities of an integrated and satisfying life.

In order for meditation research to make further advancements in the twentieth century, Western scientists may need to change the direction of their research from focusing on simplistic phychophysiological changes such as blood pressure, and anxiety, to a more fundamental examination of the subtler states of consciousness. The deeper understanding gained from such research will perhaps result in more relevant studies in which the subject would be a participant experimenter or "yogi-scientist" trained in both the behavioral sciences and the Eastern consciousness disciplines (Walsh, 1980).

Instead of extending the already saturated concern with what meditation does or doesn't produce from the Western perspective, research consideration needs to answer the more basic questions: What is meditation and what happens during meditation to affect the subtler states of consciousness? While Western philosophy searches for understanding; the Eastern disciplines already encompass the answers to that search.

If meditation is a unique technique, its uniqueness may not be as a self-regulation strategy, and therefore it will not differ from other self-regulation strategies clinically or psychologically. Its uniqueness may be seen, however, in the way the individual experiences it. The phenomenological or subjective experiences of meditation--meditation as an altered state of consciousness,--may be an important and critical area for future scientific examination (Shapiro, 1982, p. 274).

CHAPTER III

METHODS

Introduction

The area of concern addressed by this research was to determine the effectiveness of meditation practice upon the self-reports of subjective well-being and distress as measured by the General Well-Being Schedule. This chapter examines the methods utilized in order to complete the study and obtain empirical data.

Subjects

The researcher sought a population of male and female undergraduate student volunteers from H.E.D. 101 (Personal Health) classes at the University of Wisconsin-La Crosse. Students enrolled in H.E.D. 101 represent a diverse sampling of the various colleges at the University of Wisconsin-La Crosse. This introductory Health Education course allows students to obtain required credits to complete a program of basic studies at the University of Wisconsin-La Crosse.

The research sample was comprised of 227 student volunteers, 107 males and 120 females, from H.E.D. 101 during the Spring Semester of 1989. The experimental group was comprised of 198 subjects, 87 males and 111 females. The comparison group was composed of 29 subjects, 20 males and 9 females. The subjects participating in the study were initially asked to rate their current state of health as either excellent, good, fair, or poor. The results of this subjective health

rating along with a breakdown of the subjects' majors can be found in Appendix E.

Instrumentation

The General Well-Being Survey (GWB), as developed by Dupuy, was selected to collect data for this study and is presented in Appendices C and D. This instrument was chosen for several reasons. "First, the GWB consists of 18 total scale items designed to assess selected aspects of self-representations of subjective well-being and distress" (Dupuy, 1975, p. 3). The questions and response options were formulated to provide indications of the presence, severity, and frequency of selected symptoms that are relevant in clinical assessments of subjective well-being and distress. "Second, there exists a high level of internal consistency of the GWB items, providing a homogeneous scale that measures a particular aspect of the general psychological state" (Dupuy, 1975, p. 3).

Third, the GWB is a brief and well written instrument which serves in a variety of settings as a "quality-of-life index, a mental health status appraisal, and a social indicator for measuring population changes in well-being over time" (Dupuy, 1975, p. 3).

In the development of the GWB, over 6,900 adults were administered the schedule as part of the national study of the Health and Nutrition Examination Survey, begun in April 1971 and completed in October 1975.

The realiability of the GWB was determined through a study conducted on a student population at the University of Wisconsin-Milwaukee (116 females, 79 males) in 1973. A battery of tests were used measuring depression, anxiety, and mental health measures. The

tests included the Minnesota Multiphasic Personality Inventory, a Psychiatric Symptoms Scale, and the GWB. The test-retest correlation was 0.851 for the total GWB scale, allowing a 3-month period between testings. The internal consistency coefficients for the total scale ranged from a 0.912 scored by males to a 0.945 for females.

> In summary, the GWB test provides a useful and versatile instrument for the measurement of well-being and distress. The high correlations of the GWB items with other measures of depression and anxiety indicate that the multiple response options of these items are properly ordered and form mini-scales in their own right (Dupuy, 1975, p. 8).

Procedures

In this study the researcher was interested in determining how meditating subjects' pre- and post-test responses to the subscales of the General Well-Being Schedule would compare with a normative sample's responses on the subscales of the same well-being test.

A request was made of 227 students enrolled in HED Personal Health classes at the University of Wisconsin-La Crosse. The subjects could earn up to 5 points of extra credit toward their total grade points for experimental work time spent in the program. There was no obligation for any subject to participate in the study, and non-participation would not lower their course grade.

All subjects were asked to complete the General Well-Being Schedule under control conditions and again four weeks later. An experimental group of 198 subjects (meditators) completed the questionnaire for the first time on the day of instruction in the meditation technique. The comparison group of 29 subjects (nonmeditators) completed the questionnaire at the same time under identical conditions, but did not receive

instruction in meditation. Comparison subjects were also students enrolled in the same H.E.D. 101 Personal Health classes. The Personal Health course covered in three consecutive sessions the topic of Stress Management and Relaxation, but the actual practice of meditation was not included prior to this study.

The nonmeditation comparison group heard the introductory lecture along with the experimental group but did not remain for actual instruction of the meditation technique. Refer to Appendix F for an outline of the meditation lecture.

The meditation group was then given instruction in the meditation technique along with general meditation guidelines outlining the points of emphasis regarding the practice of meditation. Four log sheets were distributed for recording the frequency, duration and quality of the subject's practice of meditation on a daily/weekly basis. The log sheets were designed to assess specific aspects of the subject's compliance and practice of meditation.

Subjects were then instructed to meditate once daily (10-20 minutes) for the duration of the study. The General Well-Being Schedule was administered to both groups after four weeks of meditation practice.

The protocols of instruction, and the meditation technique used by the investigator can be found in Appendices G through J.

Statistical Procedures

Basic descriptive statistics were conducted on all major variables. Means, standard deviations, and sample size were generated for the total group; experimental and comparison groups, and male and female groups.

The following inferential statistical procedures were used to analyze the data:

(1) Step-wise Regression was used to test the dependent variable, change in the General Well-Being scores, with the following independent variables: membership in the meditation group, compliance score, sex, age, GWB pre-test score, and meditation training practice.

(2) In an attempt to determine if the age of the subject and compliance scores for meditation training correlated, a t-test was performed comparing age with compliance scores.

(3) A t-test was performed to determine if the sex of the subject and compliance scores for meditation training correlated.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter presents and discusses the data collected from the General Well-Being Schedule and the meditation data logs. The presentation of the statistical data and discussion are arranged according to the sequence of hypotheses presented in Chapter I. The .05 level of significance was established as criterion for rejection of hypotheses.

The data were analyzed using parametric statistics in order to identify demographic, behavioral, and statistical indicators associated with brief intervention meditation practice on college students.

Demographic Data of Subjects

Two hundred twenty-seven subjects participated in the study. The experimental group (meditation) and the comparison group (no-treatment) were comprised of 198 and 39 subjects respectively. The experimental group consisted of 87 male and 111 female subjects, while the comparison group of 29 subjects had 20 males and 9 females. Where data was complete 227 subjects were included in the research analysis; 172 subjects comprised the meditation group due to incomplete data logs. The experimental group volunteered for meditation intervention, while the comparison group did not. Both groups, experimental (meditation) and comparison (non-meditation), attended a lecture on meditation, and completed the General Well-Being Schedule. All were enrolled in Personal Health classes during the 1989 Spring Semester at the University of Wisconsin-La Crosse. The experimental and comparison groups ranged

in age from 18 to 29, with a mean age of 19.2 years. A majority of both groups (85.5%) indicated their health was either excellent or good. A summary of group composition by current health along with composition by college major can be found in Appendix E.

General Well-Being Results

Scores on the GWB Schedule reflected the subjects' perceived general well-being prior to, and after, the four week period of the meditation study. The GWB measured changes in subjective well-being through the differential subscale scores within the following categories: health concern, energy level, satisfying interesting life, cheerful/ depressed, relaxed/tense, and emotional control. On the average, subjects in the experimental group increased in their total GWB scores by 4.39 points, while the comparison group increased their total GWB scores by 0.86 points. The largest change in subscale GWB change scores for the experimental (meditation) group were seen in the health concern, energy level, and relaxed versus tense subscales. The smallest changes were found in the statisfied interesting life, cheerful versus depressed, and emotional control subscales. The largest change in the GWB change score for the comparison group was seen in the energy level subscale, while the smallest changes were noted in health concern, and the emotional control subscales. Refer to Table 1 for results.

In conclusion, the General Well-Being change scores for the meditation group (mean = 4.39) appear to be larger than the GWB change score for the comparison group (mean = 0.086). However, since the variablility is so large (SD ranged from 14.3 to 15.3) statistical significance will have to be tested via a t-test.

Table 1 contains means, and standard deviations for GWB scores on the pre-test and post-test, to illustrate the change.

Table 1

Means and Standard Deviations for Scores on the GWB on Pre-test and Post-test

	Experimental				Comparison			
GWB Score	Pre-test		Post-test		Pre-test		Post-test	
	X	SD	X	SD	X	SD	X	SD
Subscale 1	8.8	3.3	9.8	3.3	10.4	2.8	10.3	3.0
Subscale 2	12.0	3.1	13.0	3.0	12.1	3.1	12.6	3.1
Subscale 3	5.8	1.8	6.3	1.9	5.7	1.9	6.0	1.7
Subscale 4	16.5	4.1	17.3	3.7	17.2	3.8	17.5	3.9
Subscale 5	14.0	4.3	15.0	3.8	15.4	3.7	15.5	4.1
Subscale 6	11.1	2.5	11.2	2.7	11.6	2.7	11.3	2.9
Total Score	68.4	14.3	72.8	14.6	72.6	15.0	73.4	15.3
	N = 198				N = 29			

Note: Subscale Code: 1 = health concern; 2 = energy level; 3 = satisfied interesting life; 4 = cheerful/depressed; 5 = relaxed/tense; 6 = emotional control

Compliance Data

Implementation of the meditation technique taught was measured by the following:

Total number of times meditated per week (7 maximum if meditated once a day for one week). This was called Comply 1 score.

Total number of minutes meditated per week (140 maximum if meditated 20 minutes/day for one week). This was called Comply 2 score.

Pre-meditation stress rating (average for the four weeks on a scale of 1 - 9, with higher numbers indicating higher preceived stress).

Post-meditation stress rating (average for the four weeks on a scale of 1 - 9, with higher numbers indicating higher perceived stress).

Stress change score (average for four weeks; pre-stress rating minus post-stress rating).

Based on the research data obtained from the experimental group, the average number of meditation sessions per week was five times, the average number of minutes in meditation was 73.7 minutes per week, and the mean stress change score was a reduction of 2.5 for the four-week period. Refer to Table 2 for results.

Table 2

Compliance Data for Meditation in Experimental Group

Compliance Criterion	N/cases	Mean	SD
Total number times meditated per week: Comply 1	172	5.0	1.19
Total number of minutes meditated per week: Comply 2	172	73.7	25.80
Compliance total: Comply 1 x Comply 2	172	395.0	194.00
Stress change score	172	2.5	3.94

Correlation Coefficient Analysis

Pearson correlation coefficients were computed for the following variables within the experimental group in order to examine linear relationships between the following variables: stress change score, GWB change scores, compliance scores, sex, and age. Table 3 shows the correlation coefficients for the paired variables.

Table 3

Person Correlation Coefficients for Implementation Measures in Meditation Group

	Comply 1	Comply 2	GWBCH	COMPLTOT	STRESSCH
Age	- .06	.06	.02	.07	.02
Comply 1		.76	.06	.85	.46
Comply 2			- .03	.97	.47
GWBCH				- .02	.09
COMPLTOT					.46

The correlations between Comply 1 (frequency of meditation as measured by the average number of times one meditated per week for four weeks) and Comply 2 (total time spent in meditation as measured by the average total meditation time per week) are positive and significant. Comply 1 and Comply 2 ($r = .76$; $p < .01$).

Of particular interest are the significant correlations between the change in stress rating: STRESSCH (stress rating before meditation -

stress rating after meditation) with Comply 1 ($r = .46$; $p < .01$), Comply 2 ($r = .47$; $p < .01$), and compliance total score, Comply 1 x Comply 2 ($r = .46$; $p < .01$).

Null-Hypotheses Analyses

For Null-Hypotheses One, Two and Three; N equaled 227 (experimental group N = 198, comparison group N = 29.

Null Hypothesis 1

Change in the General Well-Being Schedule score is not associated with any of the following variables: General Well-Being pre-test score, membership in the meditation group, compliance score with meditation training, sex of the subject, age of the subject, and change in stress levels with meditation training.

In order to determine if membership (meditation group versus comparison group) was a significant predictor of General Well-Being change scores, a t-test was performed. The t-test compared the change in General Well-Being Scores (GWBCH) for both groups.

Table 4 reflects the result of the t-test.

Table 4

T-test of Change in GWB Scores Between Experimental and Comparison Groups

Group	N	Mean	SD	T Value	DF	P
Meditation	196	4.39	14.6	1.22	225	0.22
Comparison	29	0.86	13.6			

As seen in Table 4, the mean GWBCH for the meditation group was 4.39, while the mean GWBCH for the comparison group was 0.86. The t-test result was not statistically significant ($t = 1.22$, $df = 225$, $p = 0.22$) indicating that the mean change in General Well-Being scores, post-test-pre-test, was not significantly different for the two groups.

As a result of the t-test, the researcher was unable to relate change in General Well-Being scores (GWBCH) with membership in the meditation group.

In order to determine if GWBCH was associated with the remaining variables - compliance score with meditation training, GWB pre-test scores, sex of the subject, age of the subject, and change in stress levels - a stepwise multiple regression analysis was done. The comparison group had no compliance scores, therefore the regression analysis was done on the experimental group only. Two variables were statistically significant based upon the regression analysis: change in subjective perceptions of stress level prior to, and after, meditation training, and scores on the GWB pre-test. The remaining variables were not statistically significant in predicting GWB change scores: sex of the subject, membership in the meditation group, and age of the subject.

Table 5

Variables in the Stepwise Regression Equation
in Predicting GWB Change Scores

Variable	B Value	Beta Weight
GWB Pre-test	- .549594	- .538757
Stress Change	.481271	.132466

As reflected in Table 5, the most significant variables were change in GWB pre-test scores and change in stress scores with meditation training.

Table 6 shows the analysis of variance of the regression equation. The equation is significant ($p < .0001$) and the adjusted R Square is .28848, which means the approximately 29% of the variability in GWB change scores can be explained by the regression equation. The regression equation which predicts GWB change = -.54 x Individual GWB Pre-test Score + .48 X Stress Change Score + 37.51 (constant).

Table 6

Analysis of Variance of
Final Stepwise Regression Equation

Source	DF	Sum of Squares	Mean Square
Regression	2	10414.10335	5207.05168
Redisudal	168	24668.08378	146.83383

F = 35.46221 Significant F < .0001 Adjusted R Square = .28848

Null-Hypothesis 2

There is no correlation between age of the subject and compliance scores for meditation training. In an attempt to discern if the age of the subject and compliance scores for meditation training related, a t-test was performed comparing two age groups (group 1 = 18-19 years; group 2 = 20-29 years) with compliance scores. Table 7 reflects the results of the t-tests.

Table 7.

Relation Between Age and Compliance Scores for Meditation Training

Variable	Age	N	Mean	SD	T Value	DF	P
Comply 1	18-19	129	5.10	1.10	1.37	169	0.17
	20-29	42	4.81	1.44			
Comply 1	18-19	129	74.75	24.40	0.94	169	0.35
	20-29	42	70.45	29.97			
Total Compliance Score	18-19	129	402.30	186.47	0.88	169	0.38
	20-29	42	371.99	215.77			

As reflected in Table 7, the mean number of meditation sessions for one week (Comply 1) for the 18-19 age group was 5.1 sessions/week compared to the 20-29 age group with a mean of 4.81 sessions/week. A t-test was performed to compare the two age groups and their compliance scores for meditation. The t-test result was not statistically significant ($t = 1.37$, $df = 169$, $p = 0.17$) indicating the mean number of meditation sessions was not significantly different for the two age groups.

Also reflected in Table 7, the mean number of minutes in meditation for one week (Comply 2) for the 18-19 age group was 74.75 minutes compared to the 20-29 age group with a mean of 70.45 minutes. The t-test result was not statistically significant ($t = 0.94$, $df = 169$,

p = 0.35) indicating that the mean number of minutes in meditation was not significantly different for the two age groups.

The third t-test, comparing the compliance totals (Comply 1 x Comply 2) for both age groups was not statistically significant (t = 0.88, df = 169, p = 0.38).

As a result of the three t-tests, the researcher was unable to relate age of the subject with compliance scores for meditation training. Therefore, the author failed to reject the null hypothesis that there is no relation between age of the subject and compliance scores for meditation training.

Null-Hypothesis 3

There is no significant difference between males and females on compliance scores for meditation training.

A t-test was performed to determine if the sex of the subject and compliance scores for meditation training related.

The mean compliance score total (average number of meditation sessions for each week times average number minutes of meditation for each week) for males was 382.80 compared to the female population with a mean of 404.28. The t-test result was not statistically significant (t = 0.72, df = 169, p = 0.474) indicating that the mean number of meditation minutes/week was not significantly different for males and females. Results of the t-test can be found in Table 8.

As evidences in Table 8, no significant differences were discovered between the sex of the subject and compliance scores for meditation training. The author failed to reject the null hypothesis.

Table 8

Relation Between Sex and Total Compliance Score for Meditation Training

Sex	N	Mean	SD	T Value	DF	P
Male	75	382.80	192.06	- 0.72	169	0.474
Female	96	404.28	195.72			

Discussion

The first research hypothesis states that a change in GWB score is associated with at least one of the following variables: GWB pre-test, membership in the meditation group, compliance score with meditation training, sex and age of the subject, and change in subjective perceptions of stress levels with meditation training. Support for the hypothesis was provided by a stepwise regression analysis which indicated that the two variables, change in subjective stress levels and GWB pre-test scores, were significant predictors of change in GWB scores. The variable, subjective perception of stress levels, was a significant predictor of change in GWB scores from pre-test to post-test in the meditation group. Careful implementation and construction of this experiment attempted to limit the influence of the subject's expectation of change from meditation practice. The form of meditation used was brief and not known to the subjects, while the training procedure was reduced to a minimal intervention necessary to teach the technique. In

view of the above imposed controls, results of the study seem to indicate the possibility that the change in subjective stress levels, for the experimental group may be attributable to the inherent qualities of the treatment rather than the subjects' expectation of change. GWB pre-test scores are significant, but that can be expected since the lower the pre-test score, the greater the chance for improvement or change at post-test time. Membership in the meditation group was not shown to be a significant predictor of GWB change scores as assessed by t-test analysis. GWB change scores, as measured by the GWB schedule, is a rather stable and generic measurement of well-being. Brief meditation training, on the other hand, may be too specific to alter an individual's general well-being. The General Well-Being Schedule, with its corresponding subscales, measures a broad range of psychophysiological parameters including satisfying and interesting life, and health concern which may not be measurably affected by brief meditation intervention. Also, the scores on the GWB reflects the students' general well-bring during the past month, which in the case of this study, occurred during the later portion of the Spring Semester prior to final exams and due dates of course projects and reports. Spring parties, which included the customary social lubricants, did appear in meditation log entries and may have adversely affected the quality of meditation as well as compliance data. Also, the type of meditation technique used in the study, which employed the use of a mantra, may not have been preferable for use by certain subject and this may have had an impact on compliance scores.

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General well-being is a subjective evaluation that could be affected by a student's psychosocial make-up for a given period. It is likely that students having a "rainy day", during either the pre- or post-test periods, may have recorded scores reflecting their present emotional status and not their well-being during the past month.

The second research hypothesis states that there is a relationship between age of the subject and compliance scores for meditation training. A t-test relating age of the subject and compliance scores for meditation training found no significant statistical differences between age groups (18-19; 20-29 years). However, of the 227 subjects involved in the study, 167 subjects comprised the 18-19 age group, while only 60 subjects were in the 20-29 age group. The majority of subjects in this research project were within the 18-20 group (age 18, N = 77; age 19, N = 90; age 20, N = 30; ages 21-29, N = 30). The higher age group was not well represented; 73.6% of the subjects were in the 18-19 age group, while only 26.4% were in the 20-29 age group. Perhaps because the age groups were so similar, a comparison between the subject age groups and their compliance scores for meditation training were not significant. Compliance may not be a function of age per se, but rather a function of personality which was not assessed in this study.

The third research hypothesis states that there is a significant difference between males and females on compliance scores for meditation training. The t-test comparing sex and compliance scores for meditation training revealed no significant differences between males and females. The mean of the total compliance score for the two groups were remarkably similar (males: mean = 382.8; females: mean = 404.3). One may conclude

that meditation has no difference in affinity towards the male culture or the female culture. The practice of meditation, or its attractiveness, may in fact rise above culturally defined roles.

In conclusion, each of the two groups, experimental versus comparison, males versus females, and 18-19 versus 20-29 year olds were not, in fact, significantly different from each other regarding change in General Well-Being scores. Signficance was found, however, when attempting to predict GWB change scores from GWB pre-test scores and change in subjective perceptions of stress levels prior to, and after meditation in the experimental group.

Another explanation for the failure of the meditation group to improve significantly more than the comparison groups on the GWB might be found in a low regularity of performance and total time spent in meditation per week. The mean regularity of performance was 5 meditations and a total of 73.7 minutes per week which may lack significance when coupled with a very high level of variability (SD = 25.83). Values for Comply 2 (average time spent in meditation for one week) ranged from 9.75 minutes to 149.75 minutes. This might suggest that a number of students were only concerned with the extra credit grade for participating in the study in lieu of the practice of meditation.

Also, a brief, 10 to 20 minute meditation/day was used in an attempt to reduce the high attrition rate so common in meditation research. One may question the efficacy of meditation when 82.4% of the experimental group meditated less than five times per week.

It was anticipated from the beginning that this type of design might have compliance problems, since the meditation practice and

completion of the log were done out of class and on a voluntary basis (subjects were encouraged not to falsify logs, as extra credit in HED 101 would be awarded upon return of the log even though there were deficits of meditation entries). Although lacking in documentation, it is the contention of the researcher to question the reliability and validity of self-report instruments, such as a meditation/stress change log, among predominately college freshman in an introductory health course.

Due to the curricular and time constraints of the study, involving students enrolled in Personal Health classes during the Spring Semester, only one class period could be reserved for meditation instruction with a maximum of five extra credit points awarded for participation in the study. Meditation training does not generally consist of a singular instructional session without a follow-up meeting. The study's brief meditation intervention may not have been a sufficient motivator for the regular practice of meditation among novice students. One may also conclude that five grade points were not enough of an external motivator for the requested twenty-eight days of meditation practice within the study.

In general, the implementation measures (number of times meditated, etc.) were correlated with change in the GWB scores in a fashion consistent with other meditation research. There were significant, although small, correlations between change in subjective stress levels, and compliance scores with GWB change, as would be predicted if meditation has a positive effect on well-being.

CHAPTER V

SUMMARY

This study was an attempt to determine if changes in self-reported general well being scores are associated with brief intervention meditation practices in college students.

Two-hundred twenty seven students enrolled in Personal Health classes at the University of Wisconsin-La Crosse participated in the study. The research sample consisted of an experimental group of 198 volunteers (all of whom received meditation training) and a comparison group, comprised of 29 subjects (who received no meditation training).

Treatment was carried out over a four-week period. A quasi-experimental design was employed using the General Well-Being Schedule (GWB) as a measurement for change in subjective well-being. The experimental group's treatment consisted of instruction in a meditation technique based upon the following parameters: subjects were encouraged to meditate once daily for 10-20 minutes for the four-week period and record their time and frequency of meditation along with perceived changes in stress level. The comparison group was given information regarding meditation during a lecture along with the experimental group, but did not receive instruction in meditation training. The GWB was administered to both groups prior to, and immediately after, completion of the four week study.

Application of a stepwise multiple regression analysis on the experimental group demonstrated that the variables, change in subjective

perceptions of stress and GWB pre-test score, were significant predictors of change scores on the GWB. Changes in subjective perceptions of stress were change scores derived from a stress rating scale (the scale ranked stress levels from 1 to 9) taken prior to and immediately after each meditation session for a four week period.

The study indicates that brief intervention meditation does demonstrate a subjective reduction of stress levels, prior to, and after meditation, but not measurable changes in self-reported subjective well-being.

Based on this observation, a recommendation was made that the phenomenon of meditation may be better implemented through longer intervention training, and better explored through more objective styles of inquiry, rather than a subjective approach only.

Conclusions

Research analysis indicated that a change in GWB scores within groups (experimental and comparison) did not reveal any statistical differences. However, subjects within the experimental group who meditated consistently, reported significant changes in their subjective stress levels after meditation.

Data analysis indicated that change in GWB scores were significantly correlated with reduced stress levels within the meditation group. These correlations support the efficacy of meditation practice in affecting perceived stress levels, which may be related to a reduction in psychophysiological stress. This supports other research which has found more subjective and positive changes reported by meditation groups

than by control groups (Morse et al., 1977). Morse and associates cite Charles Tart's remark regarding meditation research: "In [the] subject's own estimate of his behavior, an internal state is a rich and promising source of data which some experimenters tend to ignore in their passionate search for objectivity."

When the subjects' age and sex were correlated with compliance scores for meditation training, no significant comparisons were revealed. In a review of the literature on meditation research, there appeared to be an absence of data regarding the subjects' age and sex in relation to change scores in well-being and stress levels. Although not reaching significance, compliance scores for meditation with age and sex of subjects, there may be other demographic correlations of interest for further meditation research which measures change in well-being with meditation intervention for various age groups and sex.

"The ultimate goal is that which you experience in meditation--not the spoken work; not the written word" (Mata, 1976, p. 130). Many researchers and meditators become so engrossed in an intellectual understanding of meditation that they fail to realize one of its greatest benefits, the experience of higher consciousness.

In order to obtain significant improvements from meditation, one must incorporate its practice on a daily and regular basis in a peaceful environment with a positive attitude, or mindset, conducive to meditation. The lack of impact on General Well-Being from meditation training in the experimental group, may in fact be a result of negative environmental influences, deficient motivation, psychophysiological restlessness, or any other barrier which prevents successful meditation.

> Remember, if you don't find God, you are not making enough effort in your meditation. Should you not find the pearl after one or two divings, don't blame the ocean. Blame your diving; you are not going deep enough (Yogananda, 1975, p. 49).

Recommendations

Based on the results of this study, the following recommendations for further research were made:

1. Future studies may benefit by increasing the time of treatment beyond the four weeks used in this study. Perhaps a one-month period of meditation intervention does not allow for the development of group differences.

2. A similar study could be designed using the Personal Orientation Inventory, and/or other instruments, to measure the construct of self-actualization, stress reduction, and well-being with meditation training.

3. A similar study should be conducted that compared meditation techniques to either relaxation or biofeedback interventions.

4. It is recommended that a replication study would be improved by a random drawing of the sample from other populations, outside the university, and by a larger sample size, to control for the fluctuation of variance that occurs with smaller samples or a group of small-sized classes.

5. It is recommended that the process of meditation be explored through an in-depth subjective exploration, rather than the self-report measures used in this study.

6. Future implementations should examine the value of cognitive material, given to participants to read as "homework" during the week, that will reinforce the practice of meditation.

7. It is recommended that subjects be encouraged to practice meditation through personal interviews, groups meditations, and frequent classroom intervention sessions in lieu of brief meditation intervention (incorporating only one instruction session in a large class) in order to improve efficacy.

8. Future studies may want to consider the selection and use of meditation techniques and compliance requirements with respect to personality factors in order to improve implementation and efficacy.

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APPENDICES

APPENDIX A

INFORMED CONSENT FORM

UNIVERSITY OF WISCONSIN-LA CROSSE

Meditation Research Project

Consent Form

John Janowiak
Graduate Student
Health Education
323-3561

Purpose of Study

Meditation practice has been shown to have positive benefits towards the development of physical and psychological well-being. The technique of meditation is a method for focusing the mind while one sits in a comfortable, relaxed position. The purpose of this study is to assess the efficacy of meditation on selected aspects of well-being and distress.

Procedures

Participants will complete two self-report inventories prior to and after the study. An experimental group will receive instruction and practice in meditation during one 50-minute class session. Participants will be encouraged to practice meditation on a daily basis (10"-20" per day), and keep a meditation log (3" per day). Total time required of participants excluding personal meditation time is approximately 1.4 hours. Personal meditation time which is recommended, but optional, will range from 0 to 9.3 hours over the period of four weeks.

Participants are free not to answer any item or question on any inventory, or questionnaire.

Risks, Stress, or Discomfort

The majority of people who meditate find the experience a pleasant and worthwhile one. There should be no physical discomfort as no set posture is required. On occasion, meditators report feelings of anxiety arising during meditation. These feelings tend to subside when the meditation session is shortened. The instruction of meditation within this study is not meant to be an alternative to psychotherapy, and persons seeking such therapy should not apply for the study.

Other Information

All data collected will be treated and handled confidentially and will be used in preparation of a Master's Thesis. Only the investigator and members of the thesis committee will have access to the raw data.

_____ _____
Investigator's Signature Date

The study described above has been explained to me, and I have had an opportunity to ask questions. I voluntarily consent to participate in this activity.

_____ _____
Subject's Signature Date

copies to: Subject
Investigator

APPENDIX B

APPLICATION FORM

MEDITATION RESEARCH PROJECT

APPLICATION FORM

Name: _____
(Last) (First)
(Please print on lines)

Social Security No: _____

Age: _____ Sex: ____Male
____Female

Major: _____

Do you currently meditate: ____Yes ____No

If you have meditated in the past and stopped, how long ago did you stop? _____

How long (months, years) did you meditate? _____

What type of meditation did you use? _____

Why did you stop? _____

How would you rate your current state of health?

____Excellent ____Good ____Fair ____Poor

APPENDIX C

GENERAL WELL-BEING SCHEDULE

GENERAL WELL-BEING SCHEDULE (GWB)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS
HEALTH AND NUTRITION EXAMINATION SURVEY

GENERAL WELL-BEING

a. Name (Last, first, middle)	b. Deck No.	c. Sample No.	d. Sex	e. Age
	171	— — — — —	1 ☐ Male 2 ☐ Female	— —

READ – This section of the examination contains questions about how you feel and how things have been going with you. For each question, mark (X) the answer which best applies to you.

1. How have you been feeling in general? *(DURING THE PAST MONTH)* — 1. (001)
1 ☐ In excellent spirits
2 ☐ In very good spirits
3 ☐ In good spirits mostly
4 ☐ I have been up and down in spirits a lot
5 ☐ In low spirits mostly
6 ☐ In very low spirits

2. Have you been bothered by nervousness or your "nerves"? *(DURING THE PAST MONTH)* — 2. (002)
1 ☐ Extremely so -- to the point where I could not work or take care of things
2 ☐ Very much so
3 ☐ Quite a bit
4 ☐ Some -- enough to bother me
5 ☐ A little
6 ☐ Not at all

3. Have you been in firm control of your behavior, thoughts, emotions OR feelings? *(DURING THE PAST MONTH)* — 3. (003)
1 ☐ Yes, definitely so
2 ☐ Yes, for the most part
3 ☐ Generally so
4 ☐ Not too well
5 ☐ No, and I am somewhat disturbed
6 ☐ No, and I am very disturbed

4. Have you felt so sad, discouraged, hopeless, or had so many problems that you wondered if anything was worthwhile? *(DURING THE PAST MONTH)* — 4. (004)
1 ☐ Extremely so -- to the point that I have just about given up
2 ☐ Very much so
3 ☐ Quite a bit
4 ☐ Some - - enough to bother me
5 ☐ A little bit
6 ☐ Not at all

5. Have you been under or felt you were under any strain, stress, or pressure? *(DURING THE PAST MONTH)* — 5. (005)
1 ☐ Yes -- almost more than I could bear or stand
2 ☐ Yes -- quite a bit of pressure
3 ☐ Yes -- some - more than usual
4 ☐ Yes -- some - but about usual
5 ☐ Yes - a little
6 ☐ Not at all

6. **How happy, satisfied, or pleased have you been with your personal life?** *(DURING THE PAST MONTH)* — 6. (006)
1 ☐ Extremely happy – could not have been more satisfied or pleased
2 ☐ Very happy
3 ☐ Fairly happy
4 ☐ Satisfied -- pleased
5 ☐ Somewhat dissatisfied
6 ☐ Very dissatisfied

7. **Have you had any reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel, or of your memory?** *(DURING THE PAST MONTH)* — 7. (007)
1 ☐ Not at all
2 ☐ Only a little
3 ☐ Some -- but not enough to be concerned or worried about
4 ☐ Some and I have been a little concerned
5 ☐ Some and I am quite concerned
6 ☐ Yes, very much so and I am very concerned

8. **Have you been anxious, worried, or upset?** *(DURING THE PAST MONTH)* — 8. (008)
1 ☐ Extremely so -- to the point of being sick or almost sick
2 ☐ Very much so
3 ☐ Quite a bit
4 ☐ Some -- enough to bother me
5 ☐ A little bit
6 ☐ Not at all

9. **Have you been waking up fresh and rested?** *(DURING THE PAST MONTH)* — 9. (009)
1 ☐ Every day
2 ☐ Most every day
3 ☐ Fairly often
4 ☐ Less than half the time
5 ☐ Rarely
6 ☐ None of the time

10. **Have you been bothered by any illness, bodily disorder, pains, or fears about your health?** *(DURING THE PAST MONTH)* — 10. (010)
1 ☐ All the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little of the time
6 ☐ None of the time

11. **Has your daily life been full of things that were interesting to you?** *(DURING THE PAST MONTH)* — 11. (011)
1 ☐ All the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little of the time
6 ☐ None of the time

12. **Have you felt down-hearted and blue?** *(DURING THE PAST MONTH)* — 12. (012)
1 ☐ All of the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little of the time
6 ☐ None of the time

13. **Have you been feeling emotionally stable and sure of yourself?** *(DURING THE PAST MONTH)* — 13. (013)
1 ☐ All of the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little of the time
6 ☐ None of the time

14. **Have you felt tired, worn out, used-up, or exhausted?** *(DURING THE PAST MONTH)* — 14. (014)
1 ☐ All of the time
2 ☐ Most of the time
3 ☐ A good bit of the time
4 ☐ Some of the time
5 ☐ A little of the time
6 ☐ None of the time

For each of the four scales below, note that the words at each end of the 0 to 10 scale describe opposite feelings. Circle any number along the bar which seems closest to how you have generally felt DURING THE PAST MONTH.

15. **How concerned or worried about your HEALTH have you been?** *(DURING THE PAST MONTH)* — 15. (015)

0 1 2 3 4 5 6 7 8 9 10

Not concerned at all — Very concerned

16. **How RELAXED or TENSE have you been?** *(DURING THE PAST MONTH)* — 16. (016)

0 1 2 3 4 5 6 7 8 9 10

Very relaxed — Very tense

17. **How much ENERGY, PEP, VITALITY have you felt?** (DURING THE PAST MONTH) — 17. (017)

0 1 2 3 4 5 6 7 8 9 10

No energy AT ALL, listless — Very ENERGETIC, dynamic

18. **How DEPRESSED or CHEERFUL have you been?** *(DURING THE PAST MONTH)* — 18. (018)

0 1 2 3 4 5 6 7 8 9 10

Very depressed — Very cheerful

19. **Have you had severe enough personal, emotional, behavior, or mental problems that you felt you needed help** *DURING THE PAST YEAR?* — 19. (019)
1 ☐ Yes, and I did seek professional help
2 ☐ Yes, but I did not seek professional help
3 ☐ I have had (or have now) severe personal problems, but have not felt I needed professional help
4 ☐ I have had very few personal problems of any serious concern
5 ☐ I have not been bothered at all by personal problems during the past year

20. Have you ever felt that you were going to have, or were close to having, a nervous breakdown? — 20.

(020) 1 ☐ Yes -- during the past year
2 ☐ Yes -- more than a year ago
3 ☐ No

21. Have you ever had a nervous breakdown? — 21.

(021) 1 ☐ Yes -- during the past year
2 ☐ Yes -- more than a year ago
3 ☐ No

22. Have you ever been a patient (or outpatient) at a mental hospital, a mental health ward of a hospital, or a mental health clinic, for any personal, emotional, behavior, or mental problem? — 22.

(022) 1 ☐ Yes -- during the past year
2 ☐ Yes -- more than a year ago
3 ☐ No

23. Have you ever seen a psychiatrist, psychologist, or psychoanalyst about any personal, emotional, behavior, or mental problem concerning yourself? — 23.

(023) 1 ☐ Yes -- during the past year
2 ☐ Yes -- more than a year ago
3 ☐ No

24. Have you talked with or had any connection with any of the following about some personal, emotional, behavior, mental problem, worries, or "nerves" **CONCERNING YOURSELF** *DURING THE PAST YEAR?*

a. Regular medical doctor (except for definite physical conditions or routine check-ups) . . . . . — 24a.
(024) 1 ☐ Yes 2 ☐ No

b. Brain or nerve specialist . . . . . — b.
(025) 1 ☐ Yes 2 ☐ No

c. Nurse (except for routine medical conditions) . . . . . — c.
(026) 1 ☐ Yes 2 ☐ No

d. Lawyer (except for routine legal services) . . . . . — d.
(027) 1 ☐ Yes 2 ☐ No

e. Police (except for simple traffic violations) . . . . . — e.
(028) 1 ☐ Yes 2 ☐ No

f. Clergyman, minister, priest, rabbi, etc. . . . . — f.
(029) 1 ☐ Yes 2 ☐ No

g. Marriage Counselor . . . . . — g.
(030) 1 ☐ Yes 2 ☐ No

h. Social Worker . . . . . — h.
(031) 1 ☐ Yes 2 ☐ No

i. Other formal assistance: . . . . . — i.
(032) 1 ☐ Yes – What kind? _____
2 ☐ No

25. Do you discuss your problems with any members of your family or friends? — 25.

(033) 1 ☐ Yes - and it helps a lot
2 ☐ Yes - and it helps some
3 ☐ Yes - but it does not help at all
4 ☐ No - I do not have anyone I can talk with about my problems
5 ☐ No - no one cares to hear about my problems
6 ☐ No - I do not care to talk about my problems with anyone
7 ☐ No - I do not have any problems

APPENDIX D

GENERAL WELL-BEING SCHEDULE VALIDATION INFORMATION

GENERAL WELL-BEING CASE RECORD SUMMARY SHEET

NAME (Last, First, Middle)

Sample No. _____

Sex: M F (1) (2) Age: _____

ADJUSTMENT INDICATORS

Item	Description	Scoring						
1.	Good spirits	*	1	2	3	4	5	6
		**	5	4	3	2	1	0
2.	Nervousness		1	2	3	4	5	6
			0	1	2	3	4	5
3.	Firm control of behavior, emotions		1	2	3	4	5	6
			5	4	3	2	1	0
4.	Sad, discouraged, hopeless		1	2	3	4	5	6
			0	1	2	3	4	5
5.	Stress, strain, pressure		1	2	3	4	5	6
			0	1	2	3	4	5
6.	Happy, satisfied with life		1	2	3	4	5	6
			5	4	3	2	1	0
7.	Afraid losing mind, or loss of control		1	2	3	4	5	6
			5	4	3	2	1	0
8.	Anxious, worried, upset		1	2	3	4	5	6
			0	1	2	3	4	5
9.	Waking fresh, rested		1	2	3	4	5	6
			5	4	3	2	1	0
10.	Bothered by bodily disorders		1	2	3	4	5	6
			0	1	2	3	4	5
11.	Interesting daily life		1	2	3	4	5	6
			5	4	3	2	1	0
12.	Downhearted, blue		1	2	3	4	5	6
			0	1	2	3	4	5
13.	Emotionally stable, sure of self		1	2	3	4	5	6
			5	4	3	2	1	0
14.	Feeling tired, wornout		1	2	3	4	5	6
			0	1	2	3	4	5

RATING SCALES

15. Health concern, worry
0 1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1 0

16. Relaxed-Tense
0 1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1 0

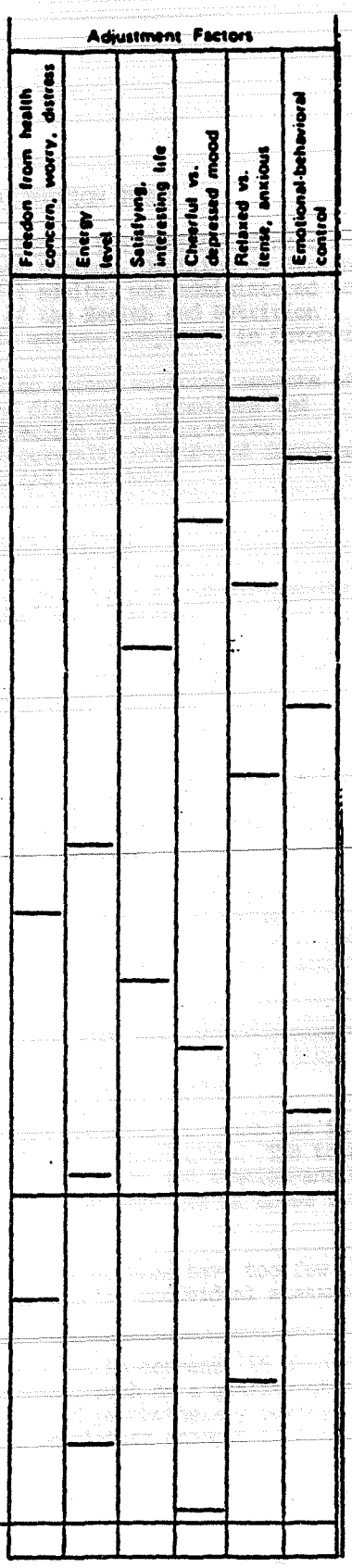
17. Energy level
0 1 2 3 4 5 6 7 8 9 10

18. Depressed-Cheerful
0 1 2 3 4 5 6 7 8 9 10

Sum of sub-scales

Total Adjustment _____

* - *actual response*
** - *coded values*



NOTE: High scores indicative of good or positive adjustment

GENERAL WELL-BEING SCHEDULE INFORMATION SHEET

"The General Well-Being Schedule (GWB) was developed in the National Center for Health Statistics [by Dr. Harold Dupuy, Psychology Adviser, Division of Health Examination Services] and, after pretesting on 373 adults, was administered to over 6,900 adults as part of the national study of the Health and Nutrition Examination Survey, which had begun in April 1971 and was completed in October 1975.

"The GWB is a self-report instrument designed to assess selected aspects of self-representations of subjective well-being and distress. Questions and response options were formulated to provide indications of the presence, severity, or frequency of some symptoms that are generally considered important in clinical assessments of subjective well-being and distress."

CONCURRENT VALIDATIONAL STUDY RESULTS

Population Studied: Student population of 18 - 25 year olds at the University of Wisconsin—Milwaukee (116 females, 79 males)

Concurrent Tests: Personal Interview data by psychologists, MMPI data, Zung self-rating depression scale data, college health questionnaire data, personal feelings inventory data, psychiatric symptoms scale data

Reliability of GWB: The test-retest correlation was 0.851 for the total scale, with a 3 month period in between testings. Internal consistency coefficients for the total scale ranged from a 0.912 for males to a 0.945 for females.

"The high level of internal consistency of the 18 GWB total scale items indicated that it is a homogeneous scale basically measuring a singular dimension or general psychological state in this sample. Thus, the subscales of the GWB also measured some properties of this general state and were somewhat highly intercorrelated."

"The surprisingly high correlations of the GWB items with the other measures of depression and anxiety indicate that the multiple response options of these items are properly ordered and form mini-scales in their own right."

"It [GWB] was clearly better than most of the other measures for each sex in its strength of relationship with the interviewer rating of depression. The total GWB scale and the two short, 4-item subscales of depression and tension-anxiety intercorrelated as highly with the other more extensive measures of these two states as these other measures did among themselves."

"The major weakness of the GWB seems to be that the subscales have too few items to provide content homogeneous and reliable subscales for individual asessment on these aspects of well-being or distress."

"Because the GWB is brief, well designed, and relevant in content, it should be useful in a variety of research and applied settings, such as a quality-of-life index, a mental health status appraisal, a measure of psychotherapy outcome evaluation, and a social indicator for measuring population changes in sense of well-being over time.

MAJOR STATISTICS FOR THE ELEMENTS OF THE GENERAL WELL-BEING SCHEDULE

MAJOR DATA ELEMENT	MEAN VALUE			STANDARD DEVIATION		
	Male	Female	Total	Male	Female	Total
GWB Total Scale	75.1	70.5	72.4	14.8	17.8	16.7
Subscales						
Freedom from...	11.6	11.1	11.3	3.2	3.1	3.2
Energy level	12.5	11.6	11.9	3.3	3.8	3.6
Satisfying life	5.7	6.0	5.9	1.9	2.3	2.2
Cheerful mood	17.2	16.3	16.7	4.2	4.7	4.5
Relaxed vs tense	15.9	14.5	15.1	4.8	5.0	5.0
Emotional control	12.1	11.1	11.5	2.7	2.8	2.8

EVALUATIVE ASSESSMENT OF UNWEIGHTED NATIONAL SAMPLE BESED ON GWB TOTAL SCORES

DESCRIPTION OF GWB ATTRIBUTE	TOTAL GWB SCORE	% OF SAMPLE	
POSITIVE WELL-BEING			
Euphoric mood	101 - 110	10.4	
Strong positive mood	91 - 100	22.7	
Moderately high mood	81 - 90	22.4	
Low positive mood	76 - 80	9.5	
Marginal positive mood	71 - 75	9.1	74.1%
PROBLEM-INDICATIVE STRESS			
Mild	66 - 70	6.9	
Moderate	61 - 65	5.4	
Severe	56 - 60	4.0	16.3%
CLINICALLY SIGNIFICANT DISTRESS			
Mild	51 - 55	3.1	
Moderate	41 - 50	3.5	
Severe	26 - 40	2.3	
Suicidal risk	00 - 25	0.7	9.6%

SAMPLE: N = 6,931; MEAN = 80.3; S.D. = 17.7

CITATION: Public Health Service. (1977). A Concurrent Validational Study of the NCHS General Well-Being Schedule, DHEW Publication (HRA)78-1347. Vital and Health Statistics, Data Evaluation and Methods Research, Series 2 - Number 73. Ryattsville, Md., National Center for Health Statistics.

APPENDIX E

CURRENT HEALTH AND MAJOR BREAKDOWN STATISTICS

Group Composition by Current Health

Current Health Rating	Frequency	Percent
(1) Poor	4	1.8
(2) Fair	29	12.8
(3) Good	152	67.0
(4) Excellent	42	18.5
TOTAL	227	100.0

Current Health Rating Between Groups

	Mean	Cases
Meditation Group	(3.05) Good	198 Total
Males	(3.14) Good	87
Females	(2.97) Fair	111
Control Group	(2.82) Fair	29 Total
Males	(2.90) Fair	20
Females	(2.66) Fair	9

Group Composition by College Major

College	Frequency	Percent
(1) Arts, Letters, and Sciences	56	24.7
(2) Business Administration	29	12.8
(3) Education	19	8.4
(4) Health, P.E., and Recreation	43	18.9
(5) Undecided	80	35.2
Total	227	100.0

APPENDIX F

OUTLINE OF LECTURE

Procedures

The meditation group met for a 50-minute session during which time the following procedures were implemented:

Activity	Med.Group	Contrl.Group
Introduction	2"	2"
Lecture on meditation	15"	15"
Introduction to med. technique	6"	-
Meditation	10"	-
Debriefing	10"	-
Instructions for home meditation and completing med. log	7"	-

APPENDIX G

MEDITATION GUIDELINES

Meditation Guidelines

1. Plan your meditation sessions so as not to coincide with digestion of meals, consumption of stimulants (coffee, tea, or cafeinated beverages). Meditate before meals if possible or wait at least one hour after eating.

2. Choose a quiet room to meditate in where seclusion without interruption from telephones, ect. is possible.

3. If one enjoys the smell of incense, lighting it can add to the meditative experience, but it is not necessary. If you do use incense, avoid overly sweet or artificial scents.

4. Face away from any direct source of light. The room need not be dark, but it's more pleasant if the lighting is subdued.

5. Sit on a chair or on the floor, based on personal preference, in an easy comfortable position with the spine straight, and hands either folded or separately placed, palms facing up, on the thighs.

6. If you are interrupted during the meditation, play for time. Avoid jumping out of meditation suddenly. If someone is knocking at a door, etc., answer only after a pause (if possible) and reply you will be there in a minute or so.

7. When timing your meditation use a watch and view through half-closed eyes, squinting so as not to alert yourself.

8. After finishing meditation, remain seated for a minute or two with eyes closed and focus on the feeling of peace and relaxation. Then open the eyes slowly, stretch, and rise in a leisurely manner.

9. Attempt to meditate for 10 to 20 minutes once daily at least four times per week as a minimum. For maximum benefits meditate once daily 15 to 20 minutes for the duration of the four-week program.

10. It is helpful to meditate at approximately the same time each day. Many find it easiest to meditate the first thing in the morning, or in the late afternoon before dinner or just before retiring at night. The important thing is to do it.

11. Be sure to accurately record your meditation on your meditation log.

APPENDIX H

MEDITATION TECHNIQUE AND MANTRA SELECTION

Meditation Technique:

1. Sit in a meditation posture, with spine erect. The hands, with either palms upturned resting comfortably on the thighs where they join the abdomen or folded on the lap.

2. Open the eyes, looking straight ahead, avoid focusing on others for approximately 20 seconds.

3. Close the eyes for approx. 20 seconds and observe the difference.

4. Open the eyes, for approx 20 seconds.

5. Close the eyes for the duration of your meditation (approximately 10-20 minutes)

6. Mentally watch, i.e., become aware of, the continuous inhalation and exhalation of the breath with the same detachment that you would feel if observing another's breathing. Do not attempt to regulate the flow of breath in any way; merely observe it.

7. As the breath flows in, mentally (not audibly) say the first syllable of your mantra. As it flows out again, mentally say the second portion of the mantra. Example: on inhaling say, "Ah...h...h...h..."
on exhaling say, "nam...am...am...am..."

8. During any intervals when the breath may cease of its own accord to flow, concentrate on and enjoy the peace you feel during that breathless state.

9. After finishing meditation, remain seated for a minute or two with eyes closed and focus on the feeling of peace and relaxation. Then open the eyes slowly, stretch, and rise in a leisurely manner.

10. Practice the meditation technique once daily. It is best to schedule the meditation in the morning before eating, or before dinner between 5 and 6 p.m. or in the evening before retiring between 10 and 12 p.m.

11. In addition to the recommended one meditation per day; you may also practice it during leisure periods, or you may even practice the technique lying down on your back, if you wish, though in the prone position one is more susceptible to falling asleep. As a general rule, however, meditation should be practiced in the correct upright meditation posture.

Mantra Selection

Directions: Select one of the mantras listed below, or if you wish, substitute a word of your own choosing which has a pleasant ringing sound. If you decide to create your own mantra, avoid using a word which is emotionally "loaded." No names of people, or words that bring an intense or exciting image. The mantra/word should produce a feeling of serenity. When selecting the mantra, first repeat each selected mantra mentally then select one that sounds the most pleasant and soothing, or create your own.

Ah-nam

Shi-rim (pronounced: shē-rĭm)

Ah-nam (pronounced: ä-näm)

Ra-mah (pronounced: rä̈-mä̈)

So-hum (pronounced: sō̆w-hŭm)

Hong-sau(pronounced: Hŏng-sâw)

Shan-ti (pronounced: shän-tēa)

Aj-na (pronounced: äj-nä̈)

APPENDIX I

MEDITATION LOG

Week 1 2 3 4 **Meditation Log**

Name: _____
SS #: _____

Comments	Time	Stress	
Date:_____			before
Monday			after
Start time: End time:			
Date:_____			before
Tuesday			after
Start time: End time:			
Date:_____			before
Wednesday			after
Start time: End time:			
Date:_____			before
Thursday			after
Start time: End time:			
Date:_____			before
Friday			after
Start time: End time:			
Date:_____			before
Saturday			after
Start time: End time:			
Date:_____			before
Sunday			after
Start time: End time:			
Time: Weekly totals:			**Before:weekly totals**
Time: Weekly average: ___ ÷ 7 days = ___		___	**After:weekly totals**
			Difference
			Ave. weekly stress score ___ ÷ 7 days = ___

Week (1) 2 3 4 **Meditation Log**

Name: Sample
SS #: —

Comments	Time	Stress	
Date: 4-3-89 Felt calm - good meditation Monday Start time: 8:30 End time: 8:50	20 min	7 5	before after
Date: 4-4-89 Anxious today - poor meditation Tuesday Start time: 9:00 End time: 9:10	10 min	8 8	before after
Date: 4-5-89 Did not meditate. Wednesday Too busy. Start time: — End time: —	0 min	7 7	before after
Date: 4-6-89 Excellent meditation - peaceful Thursday Start time: 7:00 End time: 7:20	20 min	6 2	before after
Date: 4-7-89 Felt relaxed after + during Friday meditation Start time: 6:10 End time: 6:22	12 min	5 3	before after
Date: 4-8-89 Meditated in the woods Saturday Very peaceful experience Start time: 10:00 End time: 10:15	15 min	4 1	before after
Date: 4-9-89 Meditated during a very quiet Sunday evening. Pleasant experience. Start time: 10:00 End time: 10:28	28 min	4 1	before after
Time: Weekly totals:	105 m.	41	Before: weekly totals
Time: Weekly average: 105 ÷ 7 days = 15	15 min	— 27	After: weekly totals
		14	Difference
		2	Ave. weekly stress score 14 ÷ 7 days = 2

APPENDIX J

INSTRUCTIONS FOR MEDITATION LOG AND STRESS RATING SCALE

INSTRUCTIONS FOR MEDITATION LOG AND STRESS RATING SCALE

Meditation Log

1. Enter in the left column, today's date, meditation starting time and ending time for each session of meditation.

2. Enter in the comments column any experiences during meditation that you wish to record.

3. Enter in the Time column the total amount of time spent meditating in each session. Spaces have been provided under the day of week for recording meditation start time and meditation end time to obtain your daily time spent in meditation.

4. In the stress column, record your level of stress just before meditation and immediately after meditation for each day.

5. Add your Time: Weekly totals (mon. thru sun.) then divide this number by 7 to determine the Time: Weekly average.

6. Add your Before: weekly stress scores (mon. thru sun.) then add the After: weekly stress scores (mon. thru sun.) and subtract the difference. Divide the difference by 7 to determine the Ave. weekly stress score. Record this number in the box provided.

7. Please complete the meditation log daily, even if you do not meditate that day.

Stress Rating Scale

Rate your stress level before you meditate, then immediately after meditation and enter these scores on your meditation log. Indicate your stress level by checking the appropriate rating using the 9-point scale below.

If you are experiencing a very high level of stress, mark a 9. If you feel absolutely no stress, mark a 1. If you are feeling a moderate level of stress, mark a 5.

Stress Scale

1	2	3	4	5	6	7	8	9
Low				Moderate				High

APPENDIX K

CLINICALLY STANDARDIZED MEDITATION (CSM)

Clinically Standardized Meditation (CSM)

The meditation technique used in the study, referred to as (CSM), was developed by Carrington (1975) as an alternative form of meditation whereby a classical Indian form of mantra meditation was modified into a relaxation technique suitable for Western use, along with a standardized set of instructions.

The first group to use CSM were Princeton University students attending a meditation seminar. Subjects were administered a series of personality tests prior to CSM instruction and after a ten-week practice of CSM. Results showed changes similar to subjects who had been practicing Transcendental Meditation in a comparable study being conducted on the Princeton campus. Both groups showed evidence of anxiety reduction over the ten-week period.

CSM incorporates the use of a mantra selected from a list of sixteen Sanskrit mantras, or a nonsense syllable designed by the subject himself.

The following mantras were listed and chosen by the subjects in this study, with the option of developing their own based upon certain guidelines.