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Effects of two types of meditation on self-esteem of introverts and extraverts

Khalsa, Sat-Kaur, Ed.D.

University of California, Berkeley, 1990

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Effects of Two Types of Meditation on Self-Esteem of Introverts and Extraverts

By

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B.S. (Boston University) 1970
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DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF EDUCATION

in the

GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA at BERKELEY

Approved: James L. Jarrett 4/10/90
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DOCTORAL DEGREE CONFERRED
MAY 22, 1990

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EFFECTS OF TWO TYPES OF MEDITATION
ON SELF-ESTEEM OF INTROVERTS AND EXTRAVERTS

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EFFECTS OF TWO TYPES OF MEDITATION ON SELF-ESTEEM OF INTROVERTS AND EXTRAVERTS

by

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Doctor of Education

University of California, Berkeley

Berkeley, California

Abstract

The purpose of this study was to investigate and determine the short-term effects of two types of meditation (concentrative and mindfulness) on self-esteem as measured by the total scores of the Tennessee Self-Concept Scale (TSCS). A sub-purpose of the study was to compare introvert and extravert attitude-types as determined by the Myers-Briggs Type Indicator with the two meditative conditions. There were 36 college student volunteers solicited from yoga/meditation classes at the Claremont Colleges, Claremont, California. Data were collected over a six week period with the baseline score established on session one. In sessions two and three, subjects experienced concentrative and mindfulness meditation followed immediately by taking the TSCS. The raw percentile total scores were used in a two-way repeated measures analysis of variance. There was a significant trials main effect and the post hoc analysis indicated a significant difference between baseline and concentrative TSCS

total score. There was no significant main effect for attitude-type nor interaction effect of trial by attitude. It appeared that on a short-term basis, concentrative meditation is the intervention technique of choice for improving self-esteem. Both meditations elicited positive changes in self-esteem.

James E. Jarrett

DEDICATION

To God
    Who is the doer,

To Guru
    Who is the connection,

To The Siri Singh Sahib Bhai Sahib
    Harbhajan Singh Khalsa Yogiji
    Who is my guide,

And to Arleigh T. Williams
    who believed in me and fought
    to give me a chance.
    Thank you, with all my heart.

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I acknowledge with deepest gratitude, the steadfast editorial work that MSS Shakti Parwha Kaur Khalsa gave to me throughout this project. She really is a gem.

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CHAPTER 1
INTRODUCTION

Introduction

Self-esteem is a crucial element in the formula of human happiness and success. "What we think about ourselves is probably the central concept in our conscious lives." (McGuire & Padawer-Singer, 1976, p. 743) Branden (1969) claims that there is no value judgment more important to a person, no factor that is more decisive in his psychological development and motivation, than the judgment he passes on himself. "His self-evaluation is an omnipresent factor in man's psychology" (p. 109).

> How we feel about ourselves does affect virtually every aspect of our lives: ...from the way we function at work, in love, in sex, to the way we operate as parents, to how high in life we are likely to rise. Our responses to events are shaped by who and what we think we are. The dramas of our lives are the reflections of our most private visions of ourselves. Thus, self-esteem is the key to success or failure. (Branden, 1987, p. 5)

Since self-esteem plays such a vital role in our lives, this researcher is interested in finding effective tools for enhancing self-esteem. Meditation has been shown to be such a tool (Johnson, 1974; Van Den Berg & Mulder, 1976; Nystal & Garde, 1977; Shapiro & Giber, 1978). However, despite the work that has been done through these studies, there is little delineation as to which type of meditation (concentrative or mindfulness) is most beneficial for which individual with regard to improving self-esteem.

As a therapist, I am interested in knowing the enhancing effect that these two different types of meditations have on the concept of self-esteem so that I can more effectively utilize this intervention (meditation) in the therapeutic setting. As Kornfield (1979, p. 57) says: "To study meditation is to study the human growth process and to expand our understanding of the limits of the human mind."

Jung's attitude-types, introversion and extraversion, can be used to help further distinguish different client types. By not only looking at the effects concentrative and mindfulness meditation have on self-esteem scores with a given population, but to further refine these findings based on those effects specifically with regard to introverts and extraverts, the results of this work may help to refine the clinical application of meditation as a therapeutic tool.

In summary, since self-esteem is such an essential ingredient in the formula for human happiness, fulfillment and success, and since meditation has been shown to be beneficial in improving self-esteem, this researcher is interested in further refining the selection of the most appropriate type of meditation for a specific type of client. By so doing, it is my hope that we as therapist/educators will be better equipped to draw on the beneficial effects of meditation as an effective intervention technique for our client populations with regard to improving self-esteem.

Statement of Problem

In the last two decades, the concept of self-esteem has become enormously important in psychology, education and individual mental health. How we identify, measure, improve and sustain positive levels of self-esteem have become important questions for all kinds of educators to ask and answer.

Effective counseling and clinical psychologists certainly can be called educators. Helping clients to improve and sustain a positive level of self-esteem is a practical application of the knowledge presently available about self-esteem.

In defining the concept of self-esteem, most psychologists would agree that self-esteem is "a personal judgement of one's own worth" (Fleming and Watts, 1980, p. 921). Brandon (1987) claims that in addition to worth, self-esteem also means having "a feeling of personal competence" (p. 6). Jackson and Paunonen (1980) report in their review of personality structure and assessment, that self-esteem is viewed both as an enduring personal disposition characterized by temporal consistency (the trait view) and also as a variable state of self-evaluation regulated by environmental events (the situational view).

It has also been suggested (Johnson, 1974; Van den Berg & Mulder, 1976; Nystal & Garde, 1977; Shapiro & Giber, 1978) that meditation does increase self-esteem. In fact, meditation has become an increasingly popular self-control, self-awareness and "growth" technique, as well as a prominent intervention technique in the psychotherapeutic clinical environment (Glusck & Strobel, 1975; Ferguson & Gowan, 1976; West, 1980; Delmonte & Braidwood, 1980). Deikman (1982) says, "Western psychotherapists who employ meditation in their practice regard it as an adjunct to psychotherapy..." (p. 143).

However, if we as professionals are going to make the best use of meditation as a therapeutic intervention, some important problems in meditation research must be addressed. A recurring criticism of meditation research (Smith, 1978; Walch, 1979) is that many results seem ambiguous or contradictory. Shapiro (1980) claims that there is a critical need for accurate studies of the phenomenology of meditative states.

In 1977 the American Psychiatric Association called for a critical examination of meditation by saying:

> The Association strongly recommends that research be undertaken in the form of well-controlled studies to evaluate the specific usefulness, indications, contraindications, and dangers of meditative techniques. The research should compare the various forms of meditation with one another and with psychotherapeutic and psychopharmacologic modalities (p. 720).

This call for comparing various forms of meditation is of paramount importance. There appears to be a lack of specificity on the part of most researchers when it comes to making a distinction between the different types or "forms" of meditation they employ in their studies, let alone the differences in personality types that are using this intervention technique.

For instance, Benson (1975) and Boswell and Murray (1979) have conceptualized meditation as a unitary relaxation state which is not different from any other form of relaxation. Smith (1975) on the other hand found that viewing meditation as a single state or saying that meditation affects all subjects similarly may result from a lack of specificity in the studies. Smith's own studies found significant differences in effect depending on the personality of the subjects.

> Meditation is quite likely a heterogeneous phenomenon, producing effects ranging from sleep to enlightenment, and incorporating such diverse processes as insight, desensitization, and suggestion. It is time that meditation researchers examine the question of who experiences what state and trait changes with which technique. (Smith, 1978, p.278)

To clarify the different types of meditation, Shapiro (1980, p. 15) says: The 'family' of meditation techniques may conveniently be divided into three groupings: concentrative meditation, opening-up (mindfulness meditation), (Naranjo & Ornstein, 1971; Goleman, 1972) and a combination of the above (Washburn, 1978)."

In all types of concentrative meditation, Shapiro (1980) says "...an attempt is made to restrict awareness by the focusing of attention on a single object. Other stimuli in the environment are usually ignored, and complete attention is focused on the stimulus labeled the 'object of meditation.' "(p. 15)

In mindfulness meditation, "an attempt is made to be responsive to all stimuli in the internal and external environment, but not to dwell on any particular stimulus." (Shapiro, 1980, p. 18)

Clearly there is a distinction between concentrative and mindfulness meditation. The classical meditation literature (Brown, 1977; Naranjo & Ornstein, 1971; Rai, 1980) claim there are many differences in the experience of meditation depending on the type of meditation and the depth of the meditative state. Bhajan (1976) says, "Don't think that every meditation works for you in the same manner. That is a prevalent but incorrect thought" (p.4)

Shapiro (l982, p. 267) says, "The more sophisticated question that clinicians and psychotherapists now need to ask is not just whether a technique 'works' but when that technique is the treatment of choice for which particular patient with what type of clinical problem".

One factor that might be important in helping to make the determination of which treatment of meditation (concentrative or mindfulness) would be most beneficial in increasing self-esteem with which patient, would be to look at the attitude-types of introverts and extraverts.

Jung (1971,p.330) says:

The attitude-types ... are distinguished by their attitude to the object. The introvert's attitude is an abstracting one; at bottom, he is always intent on withdrawing libido from the object, as though he had to prevent the object from gaining power over him. The extravert, on the contrary, has a positive relation to the object. He affirms its importance to such an extent that his subjective attitude is constantly related to and oriented by the object. The object can never have enough value for him, and its importance must always be increased.

Since the two types of meditation are distinguished by their focus either on an object (concentrative) or being responsive to all stimuli without dwelling on any particular stimulus or object (mindfulness), it would seem that introversion/extraversion may play an important part in choosing the most appropriate meditation intervention technique with regards to improving self-esteem.

Therefore, the problem for this study is to investigate and compare which meditation type (concentrative or mindfulness) is more effective on a short term basis for improving self-esteem. A second problem for this study is to determine which meditation is the treatment of choice for which particular client (introvert or extravert) with regard to improving self-esteem.

The Theoretical Rationale

The theoretical rationale for the concept of self-esteem stems from the work of William James. James (1890) was the first psychologist to concretely put forth a theory regarding self-esteem. James made a clear distinction between the self as the subject and the self as the object. He classified self as a) the self as

known, or the me (sometimes called the empirical ego), and b) the self as knower, or the I (the pure ego).

"The Empirical Self of each of us is all that he is tempted to call by the name of me. ...In its widest possible sense, a man's Self is the sum total of all that he CAN call his..." (James, 1890, p. 291). In understanding the Self in the widest sense, James (1890) divides the history of Self into three parts: "1) Its constituents; 2) the feelings and emotions they arouse, -Self-feelings; 3) the actions which they prompt, -Self-seeking and Self-preservation. He then breaks the constituents of Self into: (a) The material Self; (b) The social Self; (c) The spiritual Self; and (d) The pure Ego" (p.292).

James describes self-feelings as primarily complacency and self-dissatisfaction...pride, conceit, vanity, self-esteem (author's emphasis), arrogance, vainglory, on the one hand, and on the other modesty, humility, confusion, diffidence, shame, mortification, contrition, the sense of obloquy and personal despair. "These two opposite classes of affection seem to be direct and elementary endowments of our nature." (1890, pp. 305-306). By this statement, James includes self-esteem as an 'elementary endowment' of our nature, a basic motivation in human beings. He goes on to say, "...that the normal provocative of self-feeling (self-esteem) is one's actual success or failure, and the good or bad actual position one holds in the world" (p. 306).

What has become known as James' 'law' with regard to self-esteem comes from the rivalry and conflict of the different selves or 'me's' :

> our self-feeling in this world depends entirely on what we back ourselves to be and do. It is determined by the ratio of our actualities to our supposed potentialities; a fraction of which our pretensions are the denominator and the numerator our success: thus,

$$\text{Self-esteem} = \frac{\text{Success}}{\text{Pretensions}}$$

> Such a fraction may be increased as well by diminishing the denominator as by increasing the numerator. To give up pretensions is as blessed a relief as to get them gratified; and where disappointment is incessant and the struggle unending, this is what men will always do. (1890, pp. 309-310)

Despite the fact that James made a clear distinction between the self as subject and the self as object, and that he put forth the above definition of self-esteem, it would be absurd to claim that there is just one definition or even agreement among psychologists about the definition of self. The following excerpt from Rosenberg (1979, pp.5-6) demonstrates this point:

> The terms 'self' or 'ego' have been used to refer to the 'inner nature' or 'essential nature' of man (Fromm, 1941, 1947; Maslow, 1954; Moustakas, 1956); to the experience and content of self-awareness (Chein, 1944); to the individual as known to the individual (Hilgard, 1949; Murphy, 1947; Raimy, 1948; Rogers, 1951; Wylie, 1961, 1974); to a constellation of attitudes having reference to 'I,' 'me,' or 'mine' experiences (James, 1890; Sherif and Cantril, 1947); to individual identity and continuity of personal character (Erikson, 1956); to a set of mental processes operating in the interest of satisfying inner drives (Freud, 1933; Symonds, 1951); and, most simply, to the person. There are, furthermore, various other distinctions or emphases in the literature. Turner (1976) speaks of 'institutional' and 'impulsive' selves; Franks and Morolla (1976) of 'inner' and 'outer' selves;

Edelson and Jones (1954) of the 'conceptual self-system'; Waterbor (1972) and Tiryakian (1968) of the 'existential self' or the 'existential bases of the self'; Seeman (1966) of 'authentic' and 'inauthentic' selves; Wylie (1961, 1968, 1974) and Snygg and Combs (1949) of 'phenomenal' and nonphenomenal' selves; Allport (1955) of the 'proprium'; Sullivan (1947) of the 'self-system'; Hilgard (1949) of the 'inferred self'; and many others of the 'self-image.' Wylie's (1968, p. 729) assertion that 'There is no consistency in usage among theorists' shines forth as a euphemistic miracle the less charitable might characterize the terminological situation as a shambles.

Obviously, there is not a lot of agreement on the definition of self. However, despite this lack of agreement, the distinction (first made by James, 1890) that has come to be recognized by most theorists is the distinction between the self as subject or agent and the self as object of the person's own knowledge and evaluation (Symonds, 1951; Hall and Lindzey, 1957; Wylie, 1974). Most research involving self-esteem views the self as object, as will this author for the purpose of this study. However, since the I-subject evaluates the me-object, self is really both subject and object.

Where does this rivalry and conflict of the different selves come from and why is self-esteem important? Theorists seem to believe that self-esteem is a primary motivation in human behavior and that positive self-esteem is at the root of human happiness and positive mental health.

Whether implicitly or explicitly, there seems to be widespread agreement with Kaplan's (1975) contention that "the self-esteem motive is universally and characteristically ...a dominant motive in the individual's motivational system" (p. 10). Allport (1961) says: "If we are to hold to the theory of multiple drives at all,

we must at least admit that the ego drive (or pride or desire for approval-call it what you will) takes precedence over all other drives" (pp. 155-156). Self-esteem is important because it is considered a basic "drive" or motivation in a person. Snugg and Combs (1949) postulate that the protection and enhancement of the self are themselves prime motives and are not reducible to more elementary drives. McDougall (1932) postulates in his theory of sentiments that "self-regard" is the master sentiment, the sentiment to which all others are subordinate.

Rosenberg (1979) says, "...the self-esteem motive rests on its own foundations; high self-esteem is innately satisfying and pleasurable, low self-esteem the opposite. A major determinant of human thought and behavior and a prime motive in human striving, then, is the drive to protect and enhance one's self-esteem" (p.57). Therefore, there appears to be a basic human tendency or drive to improve and enhance one's self-esteem.

James considered the self-esteem motive to be fundamental-"direct and elementary endowments of our nature...the emotions... of self-satisfaction and abasement are of a unique sort, each as worthy to be classed as a primitive emotional species as are, for example, rage or pain" (1890, p.307).

If self-esteem is a primary motive in human striving, then this theory also implies that "a consideration of human behavior [is] not solely through the eye of some external observer, but also and more importantly, from the subjective point of view, that of the individual doing the behaving. This approach is a concern with the way the individual perceives and construes his environment, of which his self-concept constitutes a central and all-pervasive focal point, into a uniquely meaningful construction" (Burns, 1979, Introduction). In other words,

how a person subjectively perceives himself is crucial to his self-concept and self-esteem.

Since self-esteem is a prime motive in human striving and the drive to protect and enhance one's self-esteem is essential in human behavior, this author finds self-esteem to be a critical element to evaluate and improve with regard to a person's mental health and well-being. Branden (1987) claims:

> Apart from problems that are biological in orgin, I cannot think of a single psychological difficulty-from anxiety and depression, to fear of intimacy or of success, to alcohol or drug abuse, to underachievement at school or at work, to spouse battering or child molestation, to sexual dysfunctions or emotional immaturity, to suicide or crimes of violence-that is not traceable to poor self-esteem. Of all the judgments we pass, none is as important as the one we pass on ourselves. Positive self-esteem is a cardinal requirement of a fulfilling life. (p. 5)

Rosenberg (1979, p.54) states that certain depth psychologists (i.e. Angyal, 1941) have gone so far as to contend that self-esteem problems are at the heart of the neurotic process. Systematic quantitative data are entirely consistent with the views of these psychologists. In a study by Rosenberg (1965) based on a sample of over 5,000 high school juniors and seniors, it was shown that only four percent of those with the highest self-esteem while eighty percent of those with the lowest self-esteem were highly depressed (according to a scale of "depressive affect", r=.3008), (p. 55).

"To have high self-esteem is to feel confidently appropriate to life, that is, conpetent and worthy... To have low self-esteem is to feel inappropriate to life; wrong, not about this issue or that, but wrong as a person" (Branden, 1987, p. 6).

Since self-esteem appears to be a critical factor in mental health, this author is interested in finding effective therapeutic interventions that can improve client self-esteem. Meditation has been shown to be one such technique (Johnson, 1974; Van den Berg & Mulder, 1976; Nystal & Garde, 1977; Shapiro & Giber, 1978).

Branden, (1987, p. 9) says: "...positive self-esteem is best understood as a kind of spiritual attainment-that is, as a victory in the evolution of consciousness." Meditation directly affects consciousness. 'Meditation' refers to a large collection of diverse techniques that alter consciousness and change variables of self-awareness (Shapiro, 1978; White, 1974).

In a recent article Shapiro (l982) states that looked at phenomenologically, of an approach valued by the Eastern tradition for centuries, meditation is just beginning to gain favor within the Western scientific community. Shapiro (l982) says:

> although Morse and associates (1977) found that there were no significant differences in physiological responses to three relaxation states, they pointed out that there were significant differences in the subjects' evaluations of these states, as did Gilbert and associates (1978). Therefore, Morse and associates cited and concurred with Charles Tart's remark that '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'. ...
>
> 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 physiologically. Its uniqueness may be seen, however, in the way the individual experiences it. The

> phenomenological experiences of meditation-meditation as an altered state of consciousness (Davidson, 1976; Shapiro & Giber, 1978; Shapiro, 1980)-may be an important and critical area for future scientific examination. (p. 272)

As noted earlier in this section, how a person subjectively experiences himself is a crucial factor in his sense of self-esteem. Self-esteem was also dubbed a "victory in the evolution of consciousness". Self-esteem is feeling good about oneself, a personal judgment of one's worth and personal competence. Since meditation is a subjective experience and meditation does affect the expansion of consciousness, it is of little wonder that meditation does improve self-esteem. What is not clear in the meditation/self-esteem research is what type of meditation is most effective toward improving self-esteem. The present study is designed to determine which type of meditation is more beneficial to an individual on a short term basis with regard to improving self-esteem.

There are two primary types of meditation: concentrative and mindfulness (Shapiro, 1980). In concentrative meditation "...An attempt is made to restrict awareness by the focusing of attention on a single object. Other stimuli in the environment are usually ignored, and complete attention is focused on the stimulus labeled the 'object of meditation' " (Shapiro, 1980, p. 15).

In mindfulness meditation, "an attempt is made to be responsive to all stimuli in the internal and external environment, but not to dwell on any particular stimulus" (Shapiro, 1980, p. 18). There is indeed a clear distinction between concentrative and mindfulness meditation (Brown, 1977; Naranjo & Ornstein, 1971; Rai, 1980).

In 1977, the American Psychiatric Association issued an official action statement calling for critical examination of meditation to "compare the various forms of meditation with one another" (p. 720). This study is designed to respond to that call. It is also in response to Shapiro's (1980) suggestion to match the treatment approach with a particular patient.

The problem being proposed is which type of meditation, concentration or mindfulness, is a more effective therapeutic intervention technique on a short-term basis for improving self-esteem. A sub-problem of the study is to examine the difference between introverts' and extraverts' reponse to these two meditations as reflected in their scores on a standardized self-esteem measuring instrument.

The attitude types of introvert and extravert are distinguished by their attitude to the object. As already noted, Jung (who coined the concepts introvert and extravert) said that introverts are always intent on withdrawing desire or energy ("libido") from the object whereas extraverts focus on and are actually oriented by the object.

Since the attitude-types (introverts and extraverts) are distinguished by their attitude toward the object, and the two types of meditation are deliniated by focus or lack thereof on an object, it appears that introverts and extroverts may have a different response to the two types of meditations as reflected by their self-esteem scores. If this is the case, depending on the results, this information may be helpful in further refining the question: which meditation for which client.

Purpose of the Study

The purpose of this study was to investigate and determine the short-term effects of two types of meditation (concentrative and mindfulness) on self-

esteem. A sub-purpose of the study was to compare introvert and extravert attitude-types with the two meditative conditions. By examing the results of this study, the question of which type of meditation is the treatment of choice for which type of client can be discovered.

Significance

From the literature, self-esteem seems to be a prime motive in human striving and the drive to protect and enhance one's self-esteem appears to be an essential element in human behavior. "To grow in self-esteem is to expand our capacity for happiness" (Branden, 1987, p.7).

Since self-esteem appears to be a critical factor in mental health, this author is interested in finding effective therapeutic interventions that can improve client self-esteem. Meditation has been shown to be one such technique (Johnson, 1974; Van de Berg & Mulder, 1976; Nystal & Garde, 1977; Shapiro & Giber, 1978).

What is not clear in the meditation/self-esteem research is what type of meditation is most effective towards improving self-esteem? The present study is designed to determine which type (concentrative or mindfulness) of meditation is more beneficial to an individual on a short term basis with regard to improving self-esteem.

Therefore, this is a way of refining which type of meditation (concentrative or mindfulness) is more beneficial on a short term basis for improving self-esteem. Based on the results of this investigation, this study may be helpful to psychotherapists who are interested in using meditation as a therapeutic intervention for improving self-esteem. By comparing the results looking at introverts and extraverts, this study can add another delineation criteria that

may be helpful to therapists in deciding which meditation is more beneficial for which individual with regard to improving self-esteem.

Hypotheses

The null hypotheses for this study were:

1) There will be no significant difference in raw percentile scores by trial (baseline, concentrative meditation and mindfulness meditation) on the Tennessee Self-Concept Scale (TSCS) total score.
2) There will be no significant difference in raw percentile scores between introverts and extraverts on the TSCS total score.
3) There will be no significant interaction between the type of meditation and the attitude-type or the TSCS total scores.

Research Hypotheses

1) There will be no difference between the raw percentile scores of concentrative and mindfulness meditation due to the balancing effect the attitude- types will have on this outcome.
2) There will be no difference in the raw percentile scores between introverts and extraverts due to the balancing effect the attitude-types will have on this outcome.
3) There will be an interactive effect between type of meditation and attitude type. Extraverts will have a higher TSCS raw percentile (self-esteem score) using concentrative meditation due to their need to focus on an object. Whereas in mindfulness meditation, extraverts will feel less secure without being able to focus on any particular object.

This subjective feeling of less control and success with mindfulness meditation will be reflected in a lower TSCS raw percentile score (self-esteem score) upon completing the mindfulness meditation. The exact opposite effect will be the outcome for introverts because of their withdrawing libido from the object. That is, introverts will have a more successful subjective experience with mindfulness meditation than with concentrative meditation. This difference in subjective experience will be reflected in their higher TSCS raw percentile scores for mindfulness meditation rather then for concentrative meditation.

Scope and Limitations of The Study

This study will limit itself to the consideration of two meditations that are representive of the two different types of meditation: mindfulness and concentrative. The subjects will be college student volunteers from two Yoga/meditation classes at the Claremont Colleges, Claremont, CA. Students who choose to take these meditation classes pay an additional fee; that is, these classes are not covered under their regular tuition. Obviously, this population would tend to be a highly motivated group of individuals actively taking steps for self-improvement. This factor limits the generalizability of the study's results. However, since application in the therapeutic environment is the intent of this research, and since people who generally choose to engage in therapy tend also to be a highly motivated group of individuals actively taking steps for self-improvement (who are also willing to pay for it), this sample is a

reasonable representation of the population to which the results of this study will be applied.

An additional limitation of this study is that the results are only applicable to people who actually choose to meditate. This point directly limits the generalizability of the study's results.

Another variable that is worth noting with regard to this subject group is the factor of using volunteers. Some authors do express concern over the volunteer effect (Carrington, 1978; Shapiro, 1980; Warrenburg, 1979). Those subjects from the meditation classes who choose to participate may be different from those who do not. Though this factor is not considered a major issue, it is a specific limitation in the selection of this sample.

In choosing to use people who are generally favorable towards meditation, mortality as a possible source of invalidity will be minimized, and again generalizability will be limited.

The present review suggests that there are no specific differences in response to meditation based on gender. Also, studies on self-esteem "show that men and women have essentially identical levels of self-esteem..." (Deaux, 1976, p. 37). Therefore, gender is not considered as a factor in the present study.

College age students will be chosen as subjects because self-esteem tends to be more stable in this age group and because the results of this study will be used with college age or older clientele.

> ..Ellis, Gehman, and KatzenMeyer (1980) recently reported a shift in the way individuals assessed self-acceptance. They interpreted their data as showing that prior to 10th grade, or about age 16, the individual rates himself or herself primarily according to external standards of

achievement. After 10th grade, internal standards of personal happiness seem to become the basis of self-acceptance. Again, this shift in the basis would be likely to have a positive effect on self-esteem (O'Malley & Bachman, 1983, p. 266).

Warren (1972) claims that findings from many studies show that age is an important factor in self-concept. He says that the TSCS total scores (which indicate level of self-esteem), show an increase with age.

This sample was divided by the attitude-types of introvert and extravert as a result of their responses on the Myers-Briggs Type Indicator.

In the meditation literature (Shapiro, 1980; Goleman, 1971; Brown, 1977; Deikman, 1980, 1982) there is concern that most meditation research does not address the question of traditional "preparation" for meditation practice. "These preparations range from the highly structured and complex -changing dietary habits, cultivating feelings of love and compassion, decreasing thoughts of selfishness and greed- to much less complex-preparatory lectures and instructional training" (Shapiro, 1980, p. 214). Since the intent of this study is to utilize the results in the therapeutic environment, and since most clients are not interested in changing their entire lifestyle in order to use a self-help technique, it makes little sense for the sake of this study to accommodate these preparations. As Deikman (1982) said: "Of course, if meditation is used for its lower-level functions and not pursued intensively, ignoring these instructions and cautions may not have much consequence" (p. 149).

Although the treatment takes place in a limited time frame, if the results of this study are significant, meditation as a therapeutic intervention technique for improving self-esteem on a short term basis (immediate results) will be strongly supported. Certainly, the effectiveness of meditation as a treatment is

enhanced by steady and prolonged practice (Lazar, Farwell, & Farrow, 1977; Marcus, 1975). However, most clients have difficulty sustaining a consistent discipline. If they can experience some positive effects on a short term basis, perhaps they may be more willing to put forth the effort that is needed to sustain a prolonged practice of meditation and thus gain the benefits from such a practice.

The last factor of scope and limitation in this study that needs to be addressed is that of the internal validity variable of the test/retest practice effect with regard to the TSCS. Although the subjects took the test three times in six weeks, there were two weeks in between each test and two different meditation experiences preceding the test. If the meditations are done properly, they have a strong phenomenological effect (Shapiro, l982; Morse, et. al., 1977; Gilbert, et.al., 1978; Tart, 1969). This effect or state tends to change the mental state of the meditator immediately following the meditation. If this state is strong enough, it should minimize the test/retest practice effect. However, there is still a strong possibility that the test/retest practice effect is a factor in this study.

Operational Definitions

Self-esteem: Raw percentile scores for TSCS total score.

Concentrative Meditation: A specific meditation called Pauri Kriya, utilized in the kundalini system of yoga designed to focus attention on a specific mantra.

Mindfulness Meditation: Meditation designed to utilize an awareness of all

stimuli in the internal and external environment without a specific focus of attention.

Introvert: An individual with an I attitude-type on the Myers-Briggs Type Indicator, Form G.

Extravert: An individual with an E attitude-type on the Myers-Briggs Type Indicator, Form G.

CHAPTER 2
REVIEW OF THE LITERATURE

This study examines the effects of two types of meditation on the concept of self-esteem with a sub-purpose to study those effects specifically with regard to introverts and extraverts. To understand the premise and direction of this study there are four subsections to this literature review: self-esteem; meditation; short and long term effects of meditation; and meditation: clinical applications.

Self-Esteem

The term self-concept (which subsumes self-esteem) originated in the twentieth century, according to Burns (1979). Writings on the individuality of the behaving organism up to that point had focused on the Self as "soul", "will" and "spirit". It was not until the seventeenth century in Western Europe, that a new understanding of the self emerged. Consciousness and content became an acceptable distinction between the concept of self and the self-concept (Burns, 1979; Rosenberg, 1979, King, 1972).

It was William James (1890) in his chapter on "The Consciousness of Self", who really marked the difference between the older and newer ways of thinking about self. He viewed the concept of self as a social construct, an organized unitary conception of self. "The normal provocative of self feelings is one's actual success or failure and the good or bad position one holds in the world" (James, 1980, p. 310).

Psychologists tend to define self-concept as "me over time". Wylie (1974, p. 1) claims that in psychological discussions, "the word self has been used in

many different ways. It is often said that these usages may be roughly dichotomized into those which refer to self as agent of process and those which refer to self as object of the person's own knowledge and evaluation" (English & English, 1958; Hall & Lindzey, 1970; Symonds, 1951).

Wylie (1974) goes on to say that the simple dichotomy of the self as agent or object does not adequately apply for the usage of the self constructs by personality theorists. These theorists tend to place a more active role on the self-concept phrase, attributing behavior-influencing characteristics to the concept. "Moreover, some personality theorists postulate processes which seem to refer to 'self as agent' and 'self as object,' but which go beyond both senses and are not clearly related to either. For example, Horney (1950) suggests that growth tendencies of a 'real self' are present in everyone; Maslow (1954) postulates an inborn motive to develop one's potentialities (self-actualization)" (Wylie, 1974, p.1).

Burns (1979) had an interesting resolution to this problem of divergent definitions by saying: "...whether self, self-concept, proprium, self-esteem, ego, or identity is the particular term favoured by a theorist it is apparent that most theories are concerned with individual self evaluation and the manner in which such appraisal motivates and directs behavior, a theme taken to its ultimate by the organismic theorists who reduced all motivation to one basic drive, that of self actualization" (p. 28).

In any case, throughout the years, many scholars have argued that the desire to achieve a positive self-image is a universal human motivation. Brown, Collins, and Schmidt (1988) said:

> This motive, which McDougall (1932) referred to as the master sentiment, has been endorsed as a principal force of human behavior by

philosophers (e.g., Hobbes, Kant, Nietzsche, and Rosseau), cultural anthropologists (e.g., Becker), and sociologists (e.g., Rosenberg), as well as numerous theorists from psychiatry and psychology (e.g., Adler, Allport, Horney, James, Koffka, Rogers, and Sullivan). (p. 445).

Even though it is true that people will differ in the degree to which they believe or trust their personal sense of worth, this judgement of self is certainly a major aspect of mental health (French, 1967; Jahoda, 1967).

Ernest Becker said:

> The fundamental datum for our science is a fact that at first seems banal, or irrelevant: it is the fact that - as far as we can tell - all organisms like to 'feel good' about themselves,...Thus in the most brief and direct manner, we have a law of human development,... the Principle of Self-Esteem Maintenance (1968, p. 328).

To put this belief in a slightly different way, Jones (1973, p. 186) says: "The self-esteem position assumes that the individual has a need to enhance his self-evaluation and to increase, maintain, or confirm his feelings of personal satisfaction, worth, and effectiveness." If this is the case, it seems curious that it took nearly sixty years from the time James (1890) stated his ideas about self-concept and the first systematic empirical research appeared (Raimy, 1948). Perhaps part of the reason for this gap in research is the problem of defining self-concept and quantifying this concept.

Jackson and Paunonen (1980, p. 540) suggest that:

> Self-esteem has been viewed both as an enduring personal disposition characterized by temporal consistency in its behavioral manifestations and as a variable state of self-evaluation regulated by environmental events. Under the former view, self-esteem is a quantifiable construct that can be

used as a basis for reliably discriminating individuals and predicting future behaviors. Because of the fluctuating nature of self-esteem under the latter view, one cannot be confident in the prediction of temporally remote events, although the immediate consequences of experimentally manipulated self-esteem may be anticipated.

French and Kahn (1962) argue that not all dimensions used by an individual to evaluate himself are of equal importance to all individuals. They claim that the dimensions may vary in centrality, that is, to the degree to which any individual may determine his own personal sense of self-esteem. Bachman (1977) explains that this concept of centrality is not incompatible with the concept of self-esteem being a single global dimension; "it simply suggests that there can be variations and also changes in the several components which jointly determine global self-esteem" (p.366).

Coopersmith (1959) sums up this look at different kinds, definitions understandings and evaluations of self-esteem by saying:

> There is the self-esteem the individual purports to have, the self-esteem which he subjectively holds, the self-esteem he displays (or attempts to display), and the self-esteem behavior that is observed and reported by others. The self-esteem behavior that the individual displays is presumably based, to a great extent, upon his prior positive and negative experiences. His 'real' self-esteem can only be inferred from phenomenal reports, evaluation of the unconscious, and behavioral evaluations, and may be expected to vary with the structure and demands of a given situation. (p. 93)

In any case, interest in the self-esteem construct in psychological research (Fleming & Watts, 1980) has come from several important areas: studies of

personality variables (Coopersmith, 1967; Rosenberg, 1965), growth of self-concept (Rogers, 1951; 1959), self-esteem as it relates to educational outcome (Bachman & O'Malley, 1977; O'Malley & Bachman, 1979; Purkey, 1970, Yamamoto, 1972) and school achievement (McCoy, 1963; Wink, 1963; Snyden, Jefferson & Strauss, 1965: Snyder, 1966; Marascillo, 1969; Gorlow, Butler & Guthrie, 1963; Williams and Coel, 1968; Gay, 1966; Purkey, 1970) and other research concerning the interaction of personality variables in various situational contexts.

Shavelson, Hubner, & Stanton (1976, pp. 407-408) say:

> The sharp increase in the number of studies on self-concept is one reflection of the reemphasis on noncognitive outcomes of education...(Coller, 1971; Purkey, 1970; Yamamoto, 1972; Zirkel, 1971). Another symptom of this shift has taken the form of increased concern with enhancing the child's self-concept, especially on the part of Head Start teachers (e.g., Hoepfner, Stern & Nummedal, 1971). improvement of a student's self-concept seems to be valued as an educational outcome in its own right.

"The developmental and motivational aspects of self-esteem are integral parts of psychological research, particularly in the area of academic performance. Thus, although no comprehensive theory has been formulated, this variable occupies an important place in psychology" (Fleming & Watts, 1980, p. 921). Rosenberg (1979, p.55) states, "The fact that probably more research has been devoted to self-esteem than to all the other aspects of the self-concept combined (Wylie, 1961, 1974) is no doubt attributable to the great relevance of self-esteem for emotional disturbance (Rogers, 1951; Turner & Vanderlippe, 1958; Wylie, 1961, Chap. IV)."

Wylie (1974) claims that most of the measuring instruments and researches refer to self-as-object, but the self-concept variables under consideration are hypothetically assigned behavior-determining roles as well. Shavelson, Hubner, and Stanton (1976) suggested an explication of the self-esteem construct from their analysis of the pertinent literature. According to their definition, self-concept (they did not differentiate between self-esteem and self-concept) is: "(a) organized, (b) multifaceted,
(c) hierarchical, (d) stable (when considered as a general construct) and unstable (situationally), (e) developmental (in that factors become more differentiated with age), (f) evaluative, and (g) differentiable from related constructs" (Fleming & Watts, 1980, p. 921).

Meditation

In an attempt to define the term meditation, Shapiro (1982) says: "...we may state that meditation refers to a family of techniques which have in common a conscious attempt to focus attention in a nonanalytical way and an attempt not to dwell on discursive, ruminating thought" (p.268).

Meditation is often defined in terms of its effects on a variety of variables. Brown (1977) explains that meditation in the experimental literature at least, has many meanings. It appears that meditation has largely been defined in terms of certain physiological variables like measuring "EEG (Akishige, 1973; Anand, China & Singh, 1961; Banquet, 1973; Kasamatsu & Hirai, 1966); by certain changes in arousal (Fischner, 1971); by more specific autonomic variables (Wallace, 1970; Walrath & Hamilton, 1975); and by a certain pattern of muscular tension/relaxation (Ikegami,1973)" (pp.236-237). Meditation has also been

defined by its application specially for changing physiological problems such as high blood pressure, headaches, pain and tension (Benson, 1974; Benson 1979; Klemchuk & Graham, 1974; Benson, et al., 1978; Funderburk, 1977; Patel, 1975). "Others have defined meditation more in terms of attention deployment (Davidson & Schwartz, 1976; Deikman, 1966; Van Nuys,1973), related cognitive control mechanisms (Silverman, 1968), or ego control mechanisms (Maupin, 1965). Still others have defined meditation more as a process of therapy, with resultant significant changes in affective and trait variables (Davidson & Goleman, 1975; Davidson, Goleman & Schwartz, 1976; Goleman, 1971)" (Brown,1977, 237). And, finally, there are a number of papers that focus on the psychological dimensions of meditation practice (Brown, 1977; Forte, Brown & Dysart, 1984; Shapiro, 1980).

Not only is there wide range of definitions for meditation, but there is also a wide variety of specific techniques. Perhaps because of this vast variety of specific techniques of meditation that are available today, many investigators have searched for commonality among the types. Carrington (1978) indicates that all meditations share the "ability to bring about a special kind of free-floating attention where rational thought is by-passed and words are of far less importance than in everyday life" (p.3). Naranjo (1971) describes all meditation as "a dwelling upon something" (p.10), and thus is a form of attention training.

Some researchers seem obsessed with trying to find a commonality between different kinds of meditation (Benson, 1975; Boswell & Murray, 1979). These researchers claim that all meditations elicit the same basic physiological response. Benson (1975) has labeled this the relaxation response. Smith (1975) on the other hand, disagrees with this view (commonality) and suggests that such a conclusion may be the result of lack of specificity in the studies.

Brown (1977) suggests that there are three kinds of variables that can be separated out for the purpose of meditation research: "(a) nonspecific variables, common to all meditation systems; (b) specific variables, limited to specific types of meditation practice; and (c) time-dependent variables, changing over the course of meditation practice. The latter, time-dependent variables comprise the majority of meditation variables" (p. 236).

Shapiro (1980) points out that although meditation research has resulted in powerful subjective experiences and physiological changes in the subjects, it is not yet clear what variance of the effect of meditation is attributable to which component of the meditation technique.

In any case, classically, most writers on the subject of meditation, divide meditation into two principal categories: concentrative and mindfulness. Deikman (1982) says:

> Concentrative meditation focuses attention on a single target, such as a candle flame, a series of syllables spoken aloud or silently (a mantrum), an emotion such as reverence or love, or sensations such as those accompanying breathing or walking. Most Yogic meditations are concentrative. Mindfulness or insight meditation makes no attempt to control mind content but endeavors to maintain an even, uninvolved attentiveness to whatever thoughts, sensations, or emotions appear spontaneously. Most Buddhist meditations are of this type... In no form of meditation does anyone engage in discursive, analytic thought. Meditation is designed to counter the usual use of the mind for problem-solving and conceptualization, activities especially marked in the West. However, Yogic and Buddhist meditations were originally designed for Easterners so it is clear that meditation addresses universal tendencies. (p. 136)

Pribram (1971) describes the differences between concentrative and mindfulness meditation as similar to a camera with different lens. The first type is that of a zoom lens, a specific focusing on a restricted segment of the field (concentrative meditation). The second is a wide-angle lens, a broad, sweeping awareness taking in the entire field (mindfulness meditation).

The classic study of Raja Yogis practicing concentrative meditation was carried out by Anand, Chinna and Singh (1961) in India. This study clearly demonstrated that through their concentrative meditation, the yogis did not see, hear, or feel any of the stimuli that were presented to them. In contrast, the Kasamatsu and Hirai study (1966) using Zen Monk subjects meditating with mindfulness meditation, showed a two to three second blockage of alpha when presented with various stimuli. Thus, as Shapiro(1980) notes, in the classic texts there is a clear distinction made between fixed concentrative meditation (focus on a single object) and momentary concentration, mindfulness (also known as insight) meditation (as attention shifts from object to object as one object becomes salient and another loses salience). Deikman (1982, p.140) says: "Insight meditation attempts to strike at the root of desire. It seeks to bring about a total disinterest in self-gratification through the experience of all phenomena as transient and, therefore, unsatisfying."

Concentrative and mindfulness meditation definitely seem to involve a different kind of effort in order to experience the ultimate effects of the two types of meditation. Initially, the concentrative kind is said to require a great deal more effort on the part of the meditator. However, its not easy, for most people, to refrain from focusing on thoughts, sensations and perceptions so that they do not persist as is required of certain kinds of mindfulness practice (Brown, 1977).

In any case, there does seem to be an important distinction in the sequential experiencing of the two types of meditation.

> In concentrative meditation, the yogi is reported to go through distinct levels of practice, each level being some major alteration incognitive organization and functioning. These levels appear to have a logical order much in the same way that child development has been conceptualized. They appear to demonstrate an in-variant sequence. Mindfulness meditations, on the other hand, do not have well-defined levels. After many years of practice, there is a sudden and dramatic reorganization of cognition. (Brown, 1977, p. 243).

Based on a report by Osis and Bokert (1971) and Osis, Boket and Carlson (1973), certain stable patterns emerged from factor analysis of questionnaire data from a study conducted on the subjective experience of ordinary people meditating in small semi-structured groups. The researchers identified five dimensions which appeared in at least three of their experiments (Kohr, 1977). These findings seem to correspond to the levels that are part of the experience of concentrative meditation rather than mindfulness.

The exact reason for this distinction between the levels of practice of concentrative and mindfulness meditation needs to be researched. According to Brown (1977, p. 244) "one approach would be to examine what the classical meditation texts say about the longitudinal progression of mindfulness and concentrative practice... " In the analysis of Mahamudra meditation, there are "five levels of attainment, each level having a fundamentally different cognitive organization from the previous, but following each other in invariant sequence. Each of the five divisions also has three subjectively distinct sublevels" (Brown, 1977, p. 244).

As Brown (1977, p. 250) explains, "The phenomenology of concentrative meditation is much like perceptual categorization in reverse; the yogi stops categorizing perceptual objects and is left only with the 'mere signs'."

Kornfield (1979) agrees that meditation is not necessarily a linear learning or developmental process. He points out that mindfulness meditation seems to include periods of regression, restructuring and reintegration as part of the basic experiential growth pattern. Kornfield appeared to focus his comments specifically about mindfulness meditation making no reference to concentrative meditation.

Deikman (1982, p. 142) made a clear distinction between the experience of the two meditative types with regard to attaining the highest goal of meditation when he said:

> I am suggesting that the main activity of meditation is to develop the observing self. Concentrative meditation does this by focusing attention on a single content of consciousness-usually sensory-and then proceeding to discard, layer by layer, the mental strata that underlie it, until what remains is the light of awareness only. Mindfulness or insight meditation takes a different approach by establishing this distinction between the observer and the observed from the very beginning. Through the realization of the transiency of all mind content, it brings about a subsidence of desire for sensory and emotional phenomena and , finally, an almost total disappearance of mind content. This makes possible the next step, the arising of intuitive consciousness, called Nirvana or enlightenment or Truth.

He goes on to explain that the principal aim or goal of meditation is really to enhance the observing self until the Self's reality is without question and the

meditator totally identifies with it. Through this process, a new form of consciousness called enlightenment, Nirvana, awakening, and so forth can emerge. "Thus, the two principal forms of meditation, concentration and mindfulness, can be understood as employing different means to achieve the same goal" (Deikman, 1982, pp. 137-138).

Osis, Bokert, and Carlson (1973) explain this common goal of meditation as a radical change in a meditator's consciousness or way of experiencing life. They cite terms such as "expanded consciousness", "unity" and "being in the light" (p. 109). Tart (1969) labeled the meditative state as an altered state of consciousness. Although the meditative state may have some elements in common with such states as hypnosis or psychedelic drug experiences, meditators seem to emphasize the spiritual nature of their experiences. If this is the reality, then the meditative state more closely resembles the peak experience, a spontaneous altered state of conscious, as described by Maslow (1968).

Vivekananda (1976) has a very strong opinion about the positive effects of meditation and the meditative state when he says:

> Buffeted by the tensions and anxieties, temptations and frustrations of the world around him, and at the same time finding only a great emptiness within himself, man today is in the midst of a crisis. He is unable to determine what are the lasting values of life. What he really seeks-perhaps without knowing it-is freedom, joy, poise, and peace within. How can he achieve that? Meditation is the answer. (p.11)

Certainly, meditation can be a powerful tool in helping people to feel better about themselves and to help individuals develop higher levels of self-esteem. O'Connell (1984) claims that training in the experiencing of the "inner-I-ness",

the transpersonal or observing self, is now the prime focus of meditators. Later in a meditator's practice, contemplation, to become "one-with-all", is the focus. "These two meditative processes inherently bring about increases of self-esteem (SE) and social interest (SI), even without medical supervision" (O'Connell, 1984, p. 75).

White (1974) summarizes the changes a person can experience through meditation by saying:

> By meditating, a person can improve himself physically, psychologically, and socially. Physical illnesses and ailments are usually improved and sometimes even cured. Anxiety, tension, and aggressiveness decrease while stamina and ability to work are increased, along with inner-directed self-control and a general improvement in health. Mental functioning becomes clear, alert, integrated, and creative. And as the meditator grows in self-knowledge, as he finds his intra-personal life becoming more harmonious and fulfilled, his family and social relations also tend to improve. (p. xii)

Let us look next at what the literature has to say about the short term and long term effects of meditation.

Short Term and Long Term Effects Of Meditation

In looking at the short term and long term effects of meditation, Davidson (1976, p. 346) succinctly states: "'Meditation' is a term applied to a diverse group of practices having the common goal of producing in the short term desired mental states, and in the long term the promotion of personality growth and mental health (traditionally referred to as 'enlightenment')."

From a therapeutic outlook, Glueck (1975) says that we are always trying to get patients and well people to assume more of the responsibility for their own health and well-being. However, Glueck points out that simply telling patients to relax, to lose some anxiety is not going to help them change the state they are in. He claims that there is no reinforcement for what the therapist is telling the patient. However, he claims if we can teach a client to meditate and the client's anxiety drops sharply (frequently after the first meditation session) there would be an immediate reward and motivation to continue meditating (Glueck, 1975).

However, meditators seem to vary widely in their subjective reports of how rapidly they experience effects of the practice of meditation, although almost all report that their experience deepens with continued practice over time (Kornfield, 1979). Prolonged practice does seem to produce more marked effects (Shapiro, 1980), "but the nature of the learning curve is quite unclear, and with few exceptions subjects have had amounts of experience which would be considered only beginning level by most meditation systems. On the other hand, a study by Goleman and Schwartz (1976) suggested that even first-timers might show detectable effects" (Walsh, 1979, p. 167).

As Walsh (1979, p.168) explains, "Most effects of meditation represent the end product of a chain of reactions or mechanisms which extend from the first brain response through chemical, physiological, and behavioral links." In other words, the outcome depends a great deal on the individual person. Yet, there does seem to be some consistency in effect with a wide variety of people.

Research on the therapeutic effects of meditation have yielded three sets of findings:

(a) Experienced meditators who are willing to participate without pay in meditation research typically praise meditation and indeed appear happier and healthier than the beginning meditator, the average college student or the everyday man in the street; (b) beginning meditators who practice meditation for 4-10 weeks show improvement on a variety of tests than non-meditators tested at the same time; and (c) persons who are randomly assigned to learn and practice meditation show more improvement over 4-10 weeks than control subjects assigned to some form of alternate treatment (Smith, 1975, p. 558).

There are studies that suggest that meditation may not be more effective for clinical disorders than most other self-regulatory strategies such as relaxation training and self-hypnosis, over a relatively short time period such as two weeks and using objective measures (Kirsch & Henry, 1979; Boswell & Murray, 1979; Goldman, Domitor & Murray, 1979; Zuroff & Schwartz, 1978; Marlatt, Pagano, Rose &Marques, 1980). However, in several comparative studies, meditators reported that their subjective experiences were deeper, more meaningful, and/or more enjoyable than those of subjects using other self-regulation strategies, even though the objective tests used in the studies did not reveal significant differences (Curtis & Wessberg, 1975; Cauthen & Prymak, 1977; Morse, Martin, Furst, & Dubin, 1977).

Carrington and Ephrom (1975, pp. 102-103) report that "Clinical and experimental evidence suggests that personality changes do take place in those who meditate regularly and that these changes are repeated in many people." Along this same line of thinking, Goleman (1971) tells a personal story in which he shares his surprise in observing changes in himself and similar changes in his friends who also started meditating. These changes that he

observed were the same kind of changes in personality and behavior that clinical psychologists set as the treatment goals in psychotherapy.

Kohr (1977b, p. 202) purports that the meditative state is susceptible to measurement and that certain regularities can be observed in the experiences of people who are meditating under quite different conditions."

The core items of the meditative experience that seem to persist from year to year are: "Self- Transcendence and Openness, Intensification and Change of Consciousness, the Meaning Dimension, Forceful Exclusion of Images, and General Success of Meditation" (Osis, Bokert, and Carlson, 1973, p. 130).

Generally, regular practice of meditation seems to have the result of improvement in the perceived quality of a meditator's inner experience during meditation (Kohr, 1977a). Put more simply, the longer a person meditates the better that person feels (Kohr, 1977a).

Kornfield (1979) reports, based on follow-up questionnaires sent to him after a three-month retreat, that "most altered state changes and unusual perceptions or concentration effects were short-lived, and had vanished by the time of the follow-up study. Students reported more positive, long-lasting changes in the area of such traits as openness, equanimity, and a relaxed attitude toward life. The long-term trait changes reported seemed more related to the development of mindfulness and equanimity than to concentration" (p. 56).

There are a number of studies that report lower blood pressure, decreased tension and less anxiety from having practiced a particular meditation technique, such as Transcendental Meditation, over an extended time (six months to a year or more) (Benson, 1974; West, 1980; Linden, 1973; Hjelle, 1974; Dillbeck, 1977; Ferguson & Gowan, 1976; Patel, 1975; Marcus, 1975).

Davidson, Goleman, and Schwartz (1976) found that long-term meditators reported that they had greater absorption in nonanalytic pursuits than did shot-term meditators. "These results are consistent with physiological literature and the studies by Kasamatsu and Hirai (1966) and Anand et al. (1961). Longer-term meditators seem to have a better developed ability to voluntarily control attention" (Shapiro, 1980, p. 217).

Lodge (1974) reported a number of studies on the effects of meditation on personality measures. Williams (1976, p. 788) said, "In general, these studies have reported changes in the direction of greater adjustment and maturity (Seeman, Nidlich & Banta, 1972; Ferguson & Gowen, 1974; Hjelle, 1974)."

Perhaps the most significant thing that was said about the effects of meditation over time was, "meditators came to perceive their actual-selves as being increasingly similar to their ideal -- and social -- selves and that they developed a more strongly defined concept of their actual-selves" (Turnbull & Norris, 1982, p. 57).

In having looked at both the short and long term effects of meditation it is now appropriate to investigate the clinical applications of those effects.

Meditation: Clinical Applications

The beneficial effects of meditation as a treatment modality have been documented (Carrington, 1975a, 1975b; Woolfolk, 1975; Glusck & Strobel, 1975; Smith, 1975; Ferguson & Gowan, 1976; Davidson, 1976; Shapiro & Giber, 1978; Cohen & Phipps, 1979; West, 1980; Delmonte & Braidwood, 1980; Welwood, 1983). Meditation has been shown to act as an effective therapeutic intervention tool for self-regulation in a variety of clinical applications: alcohol

abuse (Benson, 1974; Parker, 1977; Parker, Gilbert & Thoreson, 1978); anxiety (Benson, 1975; Boswell & Murray, 1979; Smith, 1975; headaches (Benson, Klemchuch & Graham, 1974); hypertension (Benson, Rosner, Marzetta, et al.,1974; Gersten, 1978); and phobias (Shapiro & Giber, 1978). Meditation has also been beneficial in developing a sense of personal meaning (Goleman, 1971; Kohr, 1977); for improving self-esteem (Johnson, 1974; Van Den Berg & Mulder, 1976; Nystal & Garde, 1977; Shapiro & Giber, 1978); and for self-actualization (Nidich, Seeman & Dreskin, 1973; Welwood, 1983).

Specifically, with regard to psychotherapy, meditation is being used more and more as a self-mastery and growth technique as well as an adjunct to psychotherapeutic intervention in the clinical setting (Schwartz, Davidson & Goleman, 1978; Boals, 1978; West, 1980; Delmonte & Braidwood, 1980; and Delmonte, 1984). Indeed, meditation seems to be a promising adjunct to therapy as long as it is accompanied by insight into the resistances that may arise as a function of a client's psychopathology (Carrington and Ephron, 1975a).

However, there is no uniform response to the meditative experience as being solely rewarding based on looking at the attrition rates from any given practice (West, 1980; Delmonte, 1984d; Fehr, 1977; Zuroff & Schwarz, 1980; Delmonte, 1980; Delmonte, 1981). Meditation is not an easy, quick, and pleasant cure-all (Malhotra, 1962).

Yet, when meditation is used in conjunction with psychotherapy, meditation seems to contribute to the therapy by fostering an indefinable, deeply convincing, nonverbal experience of self in the client. "This sense of self may be evidenced in meditation patients in many ways. They frequently report that they have become more aware of their own opinions, less likely to be

influenced by others, more able to sense their own needs, and better able to stand up for their 'own rights' " (Carrington & Ephron, 1975a, p. 103).

Goleman (1971) puts forth an interesting view of meditation and therapy when he says:

> I conceptualize meditation as a 'meta-therapy': a procedure that accomplishes the major goals of conventional therapy and yet has as its end-state a change far beyond the scope of therapies, therapists, and most personality theorists-an altered state of consciousness. Just as behavior therapy and psychoanalysis proved to embody the visions of the first and second forces in psychology, and as the encounter group is the main vehicle for the third force, so may meditation be the main route for the newly emergent fourth force (p.4).

There is a shared concern for the total personality of the individual by both the non-Freudian psychotherapies and by Zen. Their goals and systems seem to be fundamentally compatible (Haimes, 1972).

Robert Goldenson (1970, pp. 1382-1383) says:

> The Zen approach has aroused considerable interest among Western psychologists and psychiatrists (including Jung, Horney, Fromm, and the existentialists) who believe that (l) psychotherapy should be concerned with the meaning of life rather than merely with the elimination of symptoms or the improvement of social adjustment, and (2) this meaning is a unique, personal affair which the individual can achieve only through direct, intuitive experience and not by a scientific, intellectual approach. The goal is therefore not to learn but to become, not to know but to attain insight.

There is concern by Deikman (1982) (from the point of view of mystical science) with the use of meditation for what he calls secondary purposes. That is, focusing the practice of meditation with the intended outcome to be that of lowered blood pressure, increased calm, improved physical health or enrichment of associative thinking, is missing the primary purpose of meditation and this intention for secondary purposes could hinder a meditator from reaching the ultimate goal of meditation. Deikman warns that these problems should be considered when suggesting the use of meditation for psychotherapeutic, physical or health purposes. Deikman (1982, p. 142) says: "Using a fine wood chisel to open tin cans makes sense only if you do not intend to do any carving and have no other means of opening cans."

This author strongly disagrees with Deikman's point of view. The secondary purposes he describes are simple steps along the path of evolving as a meditator and need not conflict with the attainment of the primary purpose of meditation: Enlightenment.

There are some case reports of adverse effects of meditation for certain subjects (Krishna, 1975; Lazarus, 1976; Hassett, 1978; Walsh & Rauche, 1979; Otis, 1984). However, these are the exceptions rather than the rule (Khalsa, 1985). Carrington and Ephron (1975) as well as Stroebel and Glueck (1977) noted the need for therapists to be readily available for psychiatric patients using meditation, due to the material that might come into the patients' awareness. Carrington (1978) feels that meditation should not be prescribed for psychotic and borderline patients unless the patient's practice can be supervised by a psychotherapist familiar with meditation.

Another important issue found in the meditation literature is that of preparation for meditation. Shapiro (1982) feels that there can be negative

effects of meditation if the client has not been given sufficient preparation for meditation.

Swami Rama (1976) reminds us that different meditations have different effects depending on which breath, posture, and sound (mantra) are used. He encourages future use of meditation as therapy to incorporate such differences.

Specifically in the area of meditation research and self-esteem, although Johnson (1974), Van Den Berg & Mulder (1976), Nystal & Garde (1977) and Shapiro & Giber(1978) found meditation to be effective in improving self-esteem, Spanos, Steggles, Radtke-Bodorik & Rivers (1979) show no significant differences between three groups of meditators with varying degrees of experience and non-meditators with respect to self-esteem. However, the meditator groups may have been too small (i.e. 6 Ss/group) for differences to be apparent.

It is true that "Transpersonal psychologists have been interested in meditation research because of their hope that they could forge a link between the practices of the Eastern consciousness disciplines and Western empirical research" (Walsh, 1979, p. 162). Additional research will either help bridge or further this gap.

In Shapiro's (1982) latest paper, he reviewed the literature comparing meditation physiologically and clinically with other self-regulation strategies, as opposed to his first paper in which he and Giber (1978) reviewed 'first round studies', (generally consisting of anecdotal single case studies or comparisons between a meditation group and a control group rather than between groups given different self-regulation strategies). He claims as noted above that the real question is not whether a technique 'works' but when is that technique the treatment of choice for which patient.

"In addition, future research also needs to pinpoint the nature of the clinical problem as precisely as possible" (Shapiro, 1980, p. 259).

"Western investigators agree that more research is needed to determine the specific effects of meditation and how it should be applied" (Deikman, 1982, p. 148). As Shapiro (1980) says, "...from a clinical standpoint, ...questions of primary importance include the following: for which clinical populations, under what conditions, for what clinical problems, are what meditation treatments effective" (p. 258).

Therefore, by comparing concentrative meditation with mindfulness meditation with regard to a standardized measure of self-esteem, this study may help to refine which type of meditation is more beneficial on a short term basis in a therapeutic setting. By comparing the results, looking at introverts and extraverts, it is my intent to add another delineation criterion that will be helpful in deciding which meditation is more beneficial for which individual with regard to improving self-esteem.

CHAPTER 3
METHODOLOGY

The following is a description of the research design, subjects, instrumentation and collection of data that were used in this study to determine the short-term effects of (concentrative and mindfulness) meditation on the self-esteem of introverts and extraverts.

Design

The design used for this study was a A x (B x S) experimental two-factor design (Keppel, 1973). This design is presented in Table 1.

In this design, any given subject serves in only three of the treatment combinations. The particular set of three is explicitly specified, namely, that the same set of subjects (s_1, s_2, and s_3,) serves in both levels of factor A, in combination with factor B_1, while a different set of subjects (s_{16}, s_{17}, and s_{18}) receives both levels of factor A in combination with factor B_2. Therefore, it becomes evident that factor S is a nested factor in this mixed design; i.e., factor S is nested within the different levels of factor B (Keppel, 1973).

Subjects

The subjects were 40 college student volunteers from two meditation classes at the Claremont Colleges, Claremont, CA. Data from four volunteers could not be included due to missing a session during the study ("no shows") or to errors in completing the standardized instruments. This left a total

TABLE 1

A x (B x S) Design

	a_1 b_1	a_2 b_1	a_3 b_1		a_1 b_2	a_2 b_2	a_3 b_2
s_1				s_{16}			
s_2				s_{17}			
s_3				s_{18}			
.				.			
.				.			
.				.			
s_{15}				s_{36}			

sample of 36 subjects. The students who take these meditation classes do so by paying an additional fee. These classes are considered special interest classes offered on campus that are not covered by the student's regular tuition fees.

The class had been in session for three weeks when this study was introduced. The instructors of these classes passed out a copy of the Consent Form (see appendix A) to each student and then read the form aloud while the students followed along with their individual written copy. This form explained what would be asked of the participants, how much time would be required, what risks were involved, the possible benefits they might experience, the confidentiality procedures, the remuneration that was being offered, and that the study would have nothing to do with their yoga class or their grade for their class.

After the instructor read the Consent Form, he then instructed any students who were interested in volunteering for the study to take a Consent Form and Background Information Sheet (see appendix B) home with them, fill them out and sign them, then bring both forms back to the first meeting of the study which was set for the following week. This gave interested volunteers a week to think about their choice. This method of soliciting volunteers offered sufficient opportunity for the students to consider carefully whether or not to participate in this study without coercion.

Upon receiving the Background Information Sheets from the instructor immediately after the pre-test, the sheets were then used as a screening device for any physical or medical conditions of the student that might interfere with his/her ability to participate in the study.

The conditions that were considered as possibly interfering with a subject's ability to participate in the study were: 1) physical inability to sit in cross-legged position on a mat or sheep skin for 20 minutes, 2) physical inability to touch the thumb and first fingers (on both hands simultaneously, while the hands rested on the knees of both legs) then touch the thumb and the second fingers simultaneously, followed by touching the thumb and the third fingers simultaneously and finally, touching the thumb and the fourth fingers simultaneously. They had to be able to repeat this sequence in a steady manner for twenty minutes, 3) anyone unable to hear and repeat sounds due to a physical impairment and 4) anyone currently taking medical or other types of drugs since drugs of this nature can interfere with the meditative experience.

Based on the information obtained on the Background Information Sheets, no volunteer had to be eliminated from the study.

Instrumentation

Myers-Briggs Type Indicator: This instrument was selected because it purports to ascertain a person's basic preferences (Myers, 1962) with respect to orientation or attitude . "...the MBTI is not trying to measure people, but to SORT them into groups" (Mitchell, 1985, p. 1030). Since it is the intent of the researcher to sort the subjects of this study by introversion and extraversion as part of the analysis of data, the Myers-Briggs Type Indicator is an appropriate and commonly used standardized measuring instrument to utilize in this study.

The purpose of the Indicator is to implement Jung's theory of type (1923). Briefly, the theory is that much apparently random variation in human behavior is actually quite orderly and consistent, being due to certain basic differences in the way people prefer to use perception and judgement. "...the Indicator aims to

ascertain, from self-report of easily reported reactions, people's basic preferences in regard to perception and judgment, so that the effects of the preferences and their combinations may be established by research and put to practical use" (Myers, 1962, p. 1). The Indicator contains separate indices for determining each of the four basic preferences (Extraversion or Introversion; Sensing or Intuition; Thinking or Feeling; Judgement or Perception) which, under this theory, structure the individual's personality (Myers, 1962). For the purpose of this study, only the introversion/extraversion index was utilized.

Tennessee Self-Concept Scale: After careful consideration and investigation of a variety of self-esteem tests including The Tennessee Self-Concept Scale (Fitts, 1964; Roid & Fitts, 1988); The Piers-Harris Children's Self-Concept Scale (Piers, 1969); The Janis-Field Feelings of Inadequacy Scale (Eagly, 1967); Self-Esteem Inventory (Coopersmith, 1967); Self-Esteem Scale (Rosenberg, 1965); Sears Self-Concept Inventory (Sears, 1966); Self-Perception Inventories (Soares & Soares, 1965); The Berger Self-Acceptance Scale (Phillips,1951); The Self-Activity Inventory (Worchel, 1957); The Self-Description Inventory (Cutick, 1962); The Sherwood Self-Concept Inventory (Sherwood, 1962); The Self-Report Inventory (Bown, 1961); and The Twenty Statements (Who Am I?) Test (Kuhn & McPartland, 1954), this researcher chose to use the Tennessee Self-Concept Scale.

The TSCS was selected because it purports to measure global self-esteem, is age appropriate for college students and has been used in previous studies on meditation: Smith (1978); Nystul & Garde (1977; 1979).

The total score on the TSCS is supposed to measure overall self-esteem:

> The Total Score is the single most important score on the TSCS. It reflects the overall level of self-esteem. An individual with a high Total Score

tends to like himself or herself, feels that he or she is a person of value and worth, has self-confidence, and acts accordingly. An individual with a low Total Score is doubtful about his or her own worth, sees himself or herself as undesirable, often feels anxious, depressed, and unhappy, and has little self-confidence (Roid & Fitts, 1988, p. 3).

According to the information available with regard to the definitions used in this test (Fitts, 1964; Roid &Fitts, 1988), "self-concept" is considered to be a more general term which subsumes "self-esteem". If this is true, then this test meets the needs for evaluation in this study.

When measuring the effects of meditation on a particular variable (in this case self-esteem) it is important that the test be relatively short in duration when given immediately following meditation. According to the literature, the effects of meditation can be substantially disrupted if the test requires a great deal of effort or time (Shapiro, 1980). The TSCS takes approximately thirteen minutes to complete, thus minimizing its disruptive effect on the meditators' state.

<u>Background Information Sheet:</u> At the time of the pre-test, subjects filled out a basic background information sheet (see appendix B). This sheet was used as a screening device for physical or medical conditions of subjects that might interfere with their ability to participate in the study.

<u>Instructors Observation Sheet</u>: (see appendix C). Anecdotal information (see appendix D & E).

Procedures

To eliminate experimenter bias and reaction effects of observation explicit written instructions were given to the yoga teacher who in turn, read these

instructions to the subjects. Shapiro (1980, p. 256-257) says, "Experimenters should try to standardize expectation effects. Although the media and cultural milieu cannot be controlled, standard written introductory expectations could be read to all groups participating in the experiment (Barlow, Leitenberg & Agras, 1969; Nidich, Seeman & Dreskin, 1973). In this way, there can be a systematic effort to take subjects' expectations into account as part of the treatment variable (Smith, 1975)"

The following pages are the detailed written instructions given to the instructor, used by him to conduct the study and read by him to the subjects. Week one dealt with the collection of Consent Forms and Background Information Form, administering the Myers-Briggs Type Indicator and the TSCS (baseline). Weeks two and three consisted of overseeing the two meditation experiences and administering the TSCS (post-test).

INSTUCTIONS FOR THE TEACHER
SESSION ONE

Session one, week one:

Please make sure that all volunteers have:

1) turned in their signed CONSENT FORM

2) turned in their filled out Background Information Sheet

Next: 3) Please pass out the Myers-Briggs Type Indicator and the separate answer sheet. Please read the following instructions:"This is the Myers-Briggs Type Indicator and separate answer sheet. Please make no marks on the test booklet itself. Mark all your answers on the separate answer sheet. Please follow along on the cover

page of the test booklet as I read the directions aloud. (Go to the Myers-Briggs Type Indicator Form GH and read the DIRECTIONS on the cover page of the test booklet.) There is no time limit on this test. The average time for completion is approximately 15 minutes. Please use a #2 pencil to mark on your answer sheet. If you want to change an answer, please erase it thoroughly and mark the choice you want. Are there any questions? Please begin now. When you have finished, please sit quietly to allow everyone to complete this test." After everyone has completed the test, please collect them and pass out the TSCS.

4) Pass out the Tennessee Self-Concept Scale. Please read the standardized directions on the top of the page that has the heading, WPS TEST REPORT. "For client number, please enter your social security number. Now fill in the rest of the identifying information by darkening the appropriate circles. Are there any questions? When you finish the test, please remain seated in your place until everyone finishes. Now go to the box that says Time Started. The time now is (state the time). Please mark that time on the line next to time started and begin with question one. When you finish the test, make sure you enter the Time Finished on the appropriate line. Begin." After everyone has completed the test and you have collected them, please read #5.

5) The teacher will then read the following written explanation of the difference between the two meditations: "In sessions two and three of this study, you will have an opportunity to experience two types of meditation: concentrative and mindfulness. The following is a

brief explanation of these two primary types of meditation. You will be given both written and oral instructions at the time that you are to do these meditations. In concentrative meditation, the meditator attempts to restrict his/her awareness by focusing his/her attention on a single object. Other stimuli in the environment are ignored, and the meditator's attention is focused on the stimulus labeled the object of meditation. This object may be a sound (mantra), or an actual object (i.e. a candle). In mindfulness meditation, rather then focusing on a single object, an attempt is made by the meditator to be responsive to all stimuli in the internal and external environment without dwelling on any particular stimulus. Thus, the difference between these two meditations has to do with focus or lack thereof, on a particular object. You will have an opportunity to experience both of these meditations in the second and third sessions of this study. We are now going to divide this group into two groups which we will label group #1 and group #2. Starting here with this person, please count off in two's and please remember what number you are (1,2, 1, 2, 1, 2, etc.)." After completing the counting, have all the #1's raise their hands (check to make sure everyone knows their number) and say, please return two weeks from now, at 7:15p.m. Now, #2's please raise your hands (please check again). #2's please come in two weeks at 8:00p.m. Thank you for your participation and I'll see you in two weeks."

After the first session, the teacher gave all the Background Information Sheets to the researcher. These sheets were reviewed to see if any subjects

needed to be eliminated from the study based on their physical of medical conditions (for a detailed description of these criterion, see section entitled Subjects). After review of these sheets, no subject had to be eliminated. The teacher also gave the researcher the Myers-Briggs Type Indicator answer sheets and the TSCS answer sheets for session one. The researcher hand-scored the Myers-Briggs and had the TSCS computer scored.

The night before session two and three, each subject was called to remind him/her of the study.

The caller: Hello (subject's name). This is just a reminder call that the second/third session of the study is scheduled for tomorrow night. Now, you are in group (1 or 2), correct?

Subject: (Responded)

Caller: Good. Then you are scheduled to meet at (7:15 or 8:00p.m., depending on which group the subject was in). Please be on time due to our tight schedule. Thank you. (Hung up).

INSTRUCTIONS FOR THE TEACHER
Session Two of Study

Session two of study:

1) The first part of this session is scheduled to begin at 7:15p.m. Please check to see that the people who are present are in group #1. Pass out one copy of the TSCS test to each student. Please have each student carefully and fully fill out their name, date, age, sex, social security number, race, marital status, occupation, and education. On the line entitled examiner, please have each person write group #1.

2) Then pass out the written instructions for mindfulness meditation (see appendix F). Each student should have a copy for him-or herself. Tell the students, "please follow along on your written copy as I read the instructions aloud." Please read the following instructions:

MINDFULNESS MEDITATION

1) Sit with an erect spine in easy cross-legged position on a mat or on a sheepskin or a towel. Adjust yourself so that you feel balanced in this position. Rest your hands on your knees in gyan mudra (put the tip of the thumb together with the tip of the index finger like an O.K. sign).
2) Sit in this steady posture, mentally look at the breath and be aware.
3) Suppose this mental content comes into your mind (and it often does in all types of meditation) e.g. images of scenes, critical voices or feelings about yourself; simply be aware of it, it's just there. Sit, sit. Breath, breath. Scene, scene. Feeling, feeling. Be aware of all stimuli in the internal and external environment, without dwelling on any particular stimulus.
4) Continue this meditation for 20 minutes. At the end of 20 minutes the teacher will say, "inhale, hold the breath and then relax." Please follow the teacher's instructions.
5) Immediately following this meditation, please fill in your responses to the TSCS.

6) Please wait until everyone is done taking the test and the teacher dismisses the class. Thank you.

3) After you have read these instructions, please say, "You can stop the meditation if you experience unacceptable discomfort, or just raise your hand and I (the instructor) will help you. Are there any questions?" Please do your best to answer any questions that are asked. Now you are ready to begin the meditation. "Remember, I will time the meditation and I will let you know when the 20 minutes is up. Ready? Begin."

4) Please time the meditation and observe the group to a) help anyone who is in need of assistance and b) to fill out the INSTRUCTOR'S OBSERVATION SHEET (see appendix D).

5) At the end of the 20 minutes, please say, "inhale, hold the breath, and relax. Please take your TSCS test and write in the box that says, Time Started. Please write (state the exact time). Please remain in your place until everyone is finished and I have dismissed the class. You may begin now."

6) After everyone has finished taking the test, please collect the tests and say, "On Tuesday two weeks from tonight, this group, group #1, will meet at 8:00p.m. At the conclusion of that class, all those students who have participated in all three sessions of this study, will receive their $10 remuneration. Thank you for your participation this evening." Please dismiss group #1.

7) At 8:00p.m., group #2 should be ready to begin. Please check to see that the people who are present are in group #2. Pass out one copy

of the TSCS test to each student. Please have each student carefully and fully fill out their name, date, age, sex, social security number, race, marital status, occupation and education. On the line entitled "examiner", please have each person write group #2.

8) Then pass out the written instructions for concentrative meditation (see appendix G). Each student should have a copy for him or her self. Then say to the students, "please follow along on your written copy as I read the instructions aloud." Please read the following instructions:

Concentrative:

The name for this particular concentrative meditation is Pauri Kriya.

1) Sit with an erect spine in easy cross-legged position on a mat or on a sheepskin or a towel. Adjust yourself so that you feel balanced in this position. Rest your hands on your knees, keeping your elbows straight.

2) On the inhale, divide the breath into 8 equal, rhythmic, separate parts, at the same time, silently chant SA on the first part, TA on the second part, NA on the third part, MA on the fourth part, again, SA on the fifth part, TA on the sixth, NA on the seventh, and MA on the eighth. As you silently chant SA, the thumb and the first fingers touch (on both hands simultaneously), on TA the thumb and the second fingers touch, on NA the thumb and the third fingers touch, and on MA the thumb and the fourth fingers touch. Continue the movement of the fingers with the sounds, SA, TA, NA, MA. Each finger should touch in turn the tip of the

thumb with a firm pressure. Please chant two cycles of SA, TA, NA, MA aloud, as you completely exhale the breath. Continue the finger coordination with the corresponding sounds, SA, TA, NA, MA for both the inhale and exhale parts of the meditation. Continue repeating this entire sequence for 20 minutes.

3) Suppose this mental content comes into your mind (and it often does in all types of meditation) e.g., images of scenes, critical voices or feelings about yourself; use the mantra (SA, TA, NA, MA) to bring your mind back to focusing on the meditation you are doing. Do your best to concentrate all your attention, all your awareness on the sound of the mantra and on the movement of your fingers. Let the perception of the sound and finger movement fill your entire mind.

4) Continue the meditation for 20 minutes At the end of 20 minutes the teacher will say, "inhale, hold the breath and relax". Please follow the teacher's instructions.

5) Immediately following this meditation, please fill in your responses to the TSCS.

6) Please wait until everyone is done taking the test and the teacher dismisses the class. Thank you.

9) After you have read these instructions, please say, "You can stop the meditation if you experience unacceptable discomfort, or just raise your hand and I (the instructor) will help you. Are there any questions?" Please do your best to answer any questions that are asked. "Now you are ready to begin the meditation. Remember, I will

time the meditation and I will let you know when the 20 minutes is up. Ready? Begin."

10) Please time the meditation and observe the group to a) help anyone who is in need of assistance and b) to fill out the INSTRUCTOR'S OBSERVATION SHEET (see appendix D).

11) At the end of 20 minutes, please say, "inhale, hold the breath, and relax. Please take your TSCS test and write in the box that says, Time Started. Please write (state the exact time). Please remain in your place until everyone is finished and I have dismissed the class. You may begin now."

12) After everyone has finished taking the test, please collect the tests and say, " Two weeks from tonight, this group, group #2, will meet at 7:15p.m.. At the conclusion of that class, all those students who have participated in all three sessions of this study, will receive their $10 remuneration. Thank you for your participation this evening." Please dismiss group #2.

After session two, the teacher again gave the researcher the TSCS answer sheets for that session and his Teacher Observation Sheet. The researcher then reviewed the observation sheet to note any important information and had the TSCS computer scored.

The INSTRUCTIONS FOR THE TEACHER, SESSION THREE, were exactly the same as those for session two except that (a) group #2 came at 7:15 and did the Mindfulness Meditation where as group #1 came at 8:00 and did the Concentrative Meditation and (b) at the end of session three (upon completion of the TSCS post-test), the instructor said: "Thank you for your participation in this study. For all of you who have participated in all three sessions of this

study, please meet with me now to receive your $10 remuneration." He then dismissed that group. After checking the subject off a list that indicated participation in sessions one and two, the teacher gave each subject their $10 remuneration.

The instructor again filled out the Instructor's Observation Sheet (see appendix E).

After session three, the teacher again gave all the TSCS answer sheets and the Teacher Observation Sheet to the researcher. The researcher had the TSCS computer scored and reviewed the observation sheet.

Data Analyses

The Myers-Briggs Type Indicator was hand-scored by the researcher, so that introvert/extravert attitude types were identified. These indicators served as the basis for the independent variable, attitude type. The TSCS was computer-scored by WPS (Western Psychological Services) Test Report service, and the raw percentile total score of the subjects were ulitilized in a two-way repeated measures analysis of variance. All of the original information was kept confidential and was used sorely for the purposes of this study and this dissertation. All names are being kept confidentiai.

The Teacher Observation Sheets were examined for any valuable anecdotal information regarding the phenomenon of meditation.

CHAPTER 4
RESULTS AND DISCUSSION

The purpose of this study was to investigate and determine the short-term effects of two types of meditation (concentrative and mindfulness) on self-esteem. A sub-purpose of the study was to compare introvert and extravert attitude types with the two meditative conditions. Data for this study were obtained from 36 college students from the Claremont Colleges, Claremont, California.

The study was conducted in three sessions over six weeks. In the first session, after taking the Myers-Briggs Type Indicator and the Tennessee Self Concept Scale, the thirty-six subjects were randomly divided into two groups of 18 subjects each (labeled group #1 and #2). During session two, group #1 experienced mindfulness meditation followed immediately by taking the TSCS. After group #1 was dismissed, group #2 came into the same room and experienced concentrative meditation followed immediately by taking the TSCS. Session three was exactly the same except group #2 came first and experienced the mindfulness meditation and group #1 came after group #2 and experienced the concentrative meditation.

Three null hypotheses were examined in this study:

1) There will be no significant difference in raw percentile scores by trial (baseline, concentrative meditation and mindfulness meditation) on the Tennessee Self-Concept Scale (TSCS) total score.
2) There will be no significant difference in raw percentile scores between introverts and extraverts on the TSCS total score.

3) There will be no significant interaction between the type of meditation and the attitude-type or the TSCS total scores.

Data were collected on the 36 subjects by administering the Myers-Briggs Type Indicator, the TSCS, Background Information Sheets (see appendix B) and the Teacher Observation Sheets (see appendixes D & E).

The Myers-Briggs Type Indicators were hand-scored by the researcher to determine Introvert/Extravert attitude type of each subject. The TSCS were computer scored by WPS (Western Psychological Services) Test Report Service and the raw percentile total score of the subjects were utilized in a two-way repeated measures analysis of variance. The instructor observation sheets were examined for any valuable anecdotal information regarding the phenomenon of meditation and the Background Information Sheets were used as a screening device for the study.

Results

Results of the TSCS total scores of each group are presented in Table 2. The raw scores for all subjects are listed in appendix H. The raw percentile total scores of the TSCS were used in a two-way repeated measures analysis of variance. Results of the two-way repeated measures analysis of variance are presented as Table 3. All of the analyses for this study were conducted using a .05 level of significance.

There was a significant trials main effect ($F(2,68) = 3.87$, $p = .026$). The post hoc analysis indicated a significant difference ($T = 2.48$, $p = .018$), between the baseline and concentrative TSCS total scores. There was no

Table 2

Means And Standard Deviations For Each Of The
Three TSCS Scores For 36 Subjects Divided By Attitude Type

	TSCS			
Attitude Type	Baseline	Concentrative	Mindfulness	Totals
Extravert	42.2 (31.8)	50.87 (33.3)	46.3 (31.6)	46.46 (32.23)
Introvert	33.4 (27.4)	40.3 (30.0)	40.6 (31.7)	38.10 (29.7)
Totals	37.1 (29.2)	44.7 (31.3)	43.0 (31.3)	

Table 3

Summary Table For Two-Way Repeated Measures Analysis of Variance For TSCS Scores

Source	SS	DF	MS	F	P
Trials	1139.3	2	569.8	3.87	0.026
Error	10011.6	68	147.23		
Attitude-Types	1839.6	1	1839.62	0.72	0.402
Error	86692.63	34	2549.78		
Interaction	102.2	2	51.12	0.708	
Error	10011.60	68	147.23		

significant difference between baseline (T = 1.94, p = .06) and mindfulness TSCS total scores or between concentrative and mindfulness (T =.76, p. =.45).

The main effect for attitude-type indicated no significant difference (F (1, 34) = 0.72, p = 0.40) between Introvert and Extravert on TSCS total scores. Similarly, the interaction of trials and attitude types indicated no significant difference (F (2, 68) = 0.35, p = 0.708). A breakdown of percentage of subject changes in TSCS by attitude-type and meditation are found in Table 4.

Therefore, we can reject null hypothesis one that states: There will be no significant difference in raw percentile scores by trial (baseline, concentrative meditation and mindfulness meditation) on the Tennessee Self-Concept Scale (TSCS) total score. There was a significant trials main effect and the post hoc analysis indicated the significance was between the baseline and concentrative TSCS total scores.

We must accept null hypothesis two that states: There will be no significant difference in raw percentile scores between introverts and extraverts on the TSCS total score. The results indicate no significant difference between introverts and extraverts on the TSCS total scores.

And finally, we must also accept null hypothesis three that states: There will be no significant interaction between the type of meditation and the attitude-type or the TSCS total scores. The results of the interaction of trials and attitude type indicate no significant difference.

The Background Information Sheets indicated that there were thirteen males and twenty-three females who participated in the study. The subjects

Table 4

Percentage Of Subjects Experiencing Changes
In TSCS Total Scores As A Result Of Meditation

		Improvement	Decrement	No Change
Extravert	Concentrative	60	27	13
	Mindfulness	47	47	6
Introvert	Concentrative	71	29	0
	Mindfulness	62	38	0

ages ranged from seventeen to thirty-one years, with the majority of subjects being nineteen years old. Thirty of the thirty-six subjects were Caucasian. Twenty-seven subjects indicated that they were currently practicing meditation (although most of these subjects had just started meditating three weeks prior to the study as a result of taking the yoga class they were enrolled in) and nine said that they were not currently meditating at all.

From the Instructor's Observation Sheet (see appendixes D & E), in mindfulness meditation, most of the subjects looked to be consciously breathing (only one subject in session two appeared to be sleeping and two subjects in session three appeared to be sleeping). None of the subjects needed assistance during the mindfulness meditation. Thus, it appeared that from the teacher's point of view, the subjects were doing the mindfulness meditation. In concentrative meditation, the teacher observed that all of the subjects during session two were rhythmically moving their fingers and chanting aloud SA TA NA MA. These subjects also appeared to be doing the eight equal parts of the inhale breath throughout the meditation. There was only one subject in session two who needed assistance. That subject claimed that his leg had fallen asleep. Again in session three of concentrative meditation (from the Teacher's Obervation Sheet) most of the subjects appeared to be doing the meditation and no one needed assistance.

Discussion

The results of this study indicate that there was a statistically significant trials main effect ($F(2, 68) = 3.87$, $p = .026$) and the post hoc analysis indicated a significant difference ($T = 2.48$, $p = .018$), between the baseline and concentrative TSCS total scores. That is, concentrative meditation was significantly different from the baseline scores as measured by the TSCS total scores indicating a greater impact on raising subject's self-esteem as measured by the TSCS total scores. The average TSCS total score for concentrative meditation was 44.7 (31.3). The average baseline TSCS total score was 37.1 (29.2). Therefore, the change in TSCS total scores for concentrative meditation was 7.6. The change for mindfulness (TSCS total score) was 5.9 and the change in the interactive effect was only 1.7. This outcome supports the notion that there is a difference in which type of meditation (concentrative or mindfulness) is more effective on a short-term basis for raising self-esteem. However, it must be said that although mindfulness was not statistically significant, the results did indicate increases in self-esteem and the results were following the same trend as concentrative.

This research speaks specifically to the call for critical examination of meditation put forth by the American Psychiatric Association (1977) when the association said that there was a need to compare the various forms of meditation with one another. This study did exactly that. As Smith (1975) said, to view meditation as a single state or say that meditation affects all subjects similarly may be from a lack of specificity in the studies. This study may help to add another layer of specification to the body of research on meditation and self-esteem.

The results of this study indicate support for the work of Johnson (1974), Van den Berg & Mulder (1976), Nystal & Garde (1977) and Shapiro & Giber (1978) who demonstrated that meditation does improve self-esteem. This study does not support the work of Spanos, Steggles, Radtke-Bodorik & Rivers (1979) who found no significant differences between groups of meditators and non-meditators with respect to self-esteem.

Based on the results of this study, the question becomes, what is it about concentrative meditation that would lend it to showing significant results after one twenty-minute meditation experience? Perhaps the answer to this question lies in the premise that concentrative meditation seems to have definite levels of practice or experience. As discussed in the review of the literature,

> In concentrative meditation, the yogi is reported to go through distinct levels of practice, each level being some major altering incognitive organization and functioning. These levels appear to have a logical order much in the same way that child development has been conceptualized. They appear to demonstrate an invariant sequence. Mindfulness meditations, on the other hand, do not have well-defined levels. After many years of practice, there is a sudden and dramatic reorganization of cognition. (Brown, 1977, p. 243)

Perhaps the fact that concentrative meditation is said to have these distinct levels of experience, concentrative meditation lends itself more effectively to short-term impact on self-esteem. This study supports this notion.

From a therapeutic standpoint, the results of this study are important to note. Given that meditation has been shown to be effective in improving self-esteem, and given the results of this specific study that indicate concentrative meditation is effective in raising self-esteem scores on the TSCS, the

implication is that concentrative meditation may be the more appropriate choice of intervention technique in helping clients improve self-esteem on a short-term basis when a therapist chooses to use meditation and clients agree to meditate.

It is true from the literature, that subjects vary widely in their experience of the effects of meditation. Even in this study, not every subject improved his/her total score on the TSCS with concentrative or mindfulness meditation. However, since meditation has been shown to be an effective intervention technique that does help to improve self-esteem and since self-esteem has been shown to be a critical element in a client's mental health and well-being, this researcher is interested in utilizing the most effective type of meditation to help clients improve their self-esteem.

Therapists know from working with clients that the more a client can ultimately assume responsibility for his/her own health and well-being, the faster that client can make the changes in his/her life he/she says he/she wants to make via the therapeutic process. It is hard work for most individuals to change. If a client can experience an immediate difference in his/her state of mind or self-concept, this experience may serve as a motivator to the client to continue the client's pursuit of change.

Since meditation has been shown to be an effective tool for helping to improve self-esteem, it is obvious that it would be more helpful to the client to continue to meditate over time. By choosing the most effective meditation type (as indicated from this study: concentrative), a therapist may better help a client to maximize his/her continued use of meditation to improve self-esteem. By having had a positive initial experience with that type of meditation, the client may be more motivated to keep up with this technique that can produce change.

As Turnbull and Norris (1982) reported, perhaps the most significant thing that was said about the effects of meditation over time was, "meditators came to perceive their actual-selves as being increasingly similar to their ideal -- and social -- selves and that they developed a more strongly defined concept of their actual-selves" (p. 57). This outcome directly correlates with the formula for self-esteem put forth by James (1890), that is self-esteem = success over pretensions (where success is the numerator and pretensions is the denominator). The more an individual resolves the rivalry and conflict of the different selves or "me's", the more at peace that individual will be and the higher will be that person's self-esteem. If the outcome of meditating over time results in a resolution of the conflict of these different selves, then certainly choosing the type of meditation that may maximize a client's continued use is a therapeutically advantageous thing to do.

Although mindfulness meditation was not statistically significant, the results did indicate increases in self-esteem as measured by the total scores on the TSCS and the results were following the same trend as concentrative.

As noted in the literature (Brown, 1977), mindfulness meditation does not follow identified levels of experience like that of concentrative meditation. Rather, the experience of mindfulness meditation is subject to "sudden and dramatic reorganization of cognition" (p. 243). Supposedly, this outcome normally takes years and years of practice to experience. Since this study was limited to the subjects practicing mindfulness meditation once, for twenty minutes, perhaps the more beneficial effects of mindfulness meditation were missed.

However, despite the fact that the results for mindfulness were not significant, there was still improvement in total scores (self-esteem). This result

may be an indication of the commonality of meditation that Benson (1975), Boswell & Murray (1979) were seeking to point out. That is, meditation in general appears to have a positive effect on self-esteem.

Since this researcher was interested in finding which meditation type (concentrative or mindfulness) was most effective for improving self-esteem on a short-term basis, the researcher was less interested in the commonality of meditation types. However, since mindfulness was moving in the same direction as concentrative, it seems that a follow-up study over an extended period of time and practice of each of the meditations would be helpful in seeing which meditation proves more helpful in improving self-esteem over time.

Another factor that may have contributed to these results is that initially, most people have difficulty refraining from focusing on thoughts, sensations, and perceptions when they sit quietly for any length of time. Since part of the definition of self-esteem is one's self-evaluation, and if a subject found himself/herself focusing on thoughts, sensations and perceptions during the mindfulness meditation (when the instructions were to refrain from such focusing), that subject may have lowered his/her evaluation of himself/ herself and may not have scored as high on the TSCS immediately following this experience. Perhaps some kind of questionnaire that elicited the subject's subjective experience of meditation would be helpful in a future study to better determine the subject's mental and evaluative experience of the two types of meditation.

There was no significant difference in raw percentile scores between introverts and extraverts on the TSCS total score. However extraverts had a slightly higher TSCS total score in general than did introverts (46 v.s. 38).

Finally, there was no significant difference in interactive effect between type of meditation and the attitude types: introverts and extraverts. That is, extraverts as a group did not show higher TSCS total scores exclusively with concentrative or mindfulness meditation respectively. The same result is true for introverts. This was a curious outcome since introverts and extraverts are distinguished by their orientation towards the object and the two meditations are distinguished in a similar way.

To repeat Jung's explanation:

> The introvert's attitude is an abstracting one; at bottom, he is always intent on withdrawing libido from the object, as though he had to prevent the object from gaining power over him. The extravert, on the contrary, has a positive relation to the object. He affirms its importance to such an extent that his subjective attitude is constantly related to and oriented by the object. The object can never have enough value for him, and its importance must always be increased (Jung, 1971, p. 330).

Since the two types of meditation are distinguished by their focus either on an object (for this study the object was a mantra SA TA NA MA and finger manipulations: concentrative) or being responsive to all stimuli without dwelling on any particular stimulus or object (mindfulness), it appeared that introversion and extraversion would play an important part in the subject's meditative experience and would be reflected in the total scores on the TSCS. This was not the case.

The percentage of change for extraverts on the TSCS total scores for concentrative meditation was 60, for mindfulness it was 47. The percentage of change for introverts on the TSCS total scores for concentrative meditation was 71, and for mindfulness 62. Extraverts changed 8.67 points between baseline

and TSCS total scores for concentrative meditation and 4.1 points between baseline and TSCS total scores for mindfulness. Introverts changed 6.9 points between baseline and TSCS total scores for concentrative and 7.2 points between baseline and TSCS total scores for mindfulness. These results were still not significantly different.

However, because this study was designed to measure only the short-term effects of the two different types of meditation on self-esteem, the subjects only did concentrative and mindfulness meditation once. Perhaps if these two types of meditations were practiced over an extended length of time, a greater preference towards object would manifest and an interactive effect would have been seen between the attitude types and the meditation types. This question needs subsequent research.

CHAPTER 5
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In summary, the purpose of this study was to investigate and determine the short-term effects of two types of meditation (concentrative and mindfulness) on self-esteem. A sub-purpose of the study was to compare introvert and extravert attitude-types with the two meditative conditions. The intent of the study was to determine which type of meditation is the treatment of choice for which type of client.

The literature points to self-esteem as being a critical element in the formula of human happiness and success. A person's self-evaluation is seen as an omnipresent factor in human psychology. How we identify, measure, improve and sustain positive levels of self-esteem have become important questions for all kinds of educators to ask and answer. Helping clients to improve and sustain a positive level of self-esteem is a practical application of the knowledge presently available about self-esteem.

Studies have indicated that meditation has been helpful to improve self-esteem. What is unclear in the meditative research is which type of meditation is the treatment of choice: concentrative or mindfulness?

The attitude-types of introvert and extravert are distinguished by a person's attitude to the object. Since the two types of meditation either focus attention on an object (concentrative) or being responsive to all stimuli without dwelling on any particular stimulus or object (mindfulness), the researcher was interested in any differences by attitude-type to the two different meditation conditions.

Three null hypotheses were proposed:

(1) There will be no significant difference in raw percentile scores by trial (baseline, concentrative meditation and mindfulness meditation) on the Tennessee Self-Concept Scale (TSCS) total score.

(2) There will be no significant difference in raw percentile scores between introverts and extraverts on the TSCS total score.

(3) There will be no significant interaction between the type of meditation and the attitude-type or the TSCS total scores.

The sample consisted of 36 college students from the Claremont Colleges, Claremont, CA. Subjects were instructed in the procedure to be followed, in the instruments to be used (TSCS and the Myers-Briggs Type Indicator) and in the meditations to be performed. Each subject experienced concentrative and mindfulness meditation once for twenty minutes, followed immediately by taking the TSCS. The teacher (not the researcher) supervised these sessions and filled out a Teacher's Observation Sheet.

The raw percentile total scores of the TSCS were used in a two-way repeated measures analysis of variance. There was a significant trials main effect, with the post hoc analysis indicating that the difference was between baseline and concentrative meditation. There was no significant difference between attitude type or the interaction effect.

Both concentrative and mindfulness showed increases in TSCS total scores from the baseline scores. However, only concentrative meditation was statistically significant. This outcome supports the notion that there is a difference between types of meditations and that concentrative meditation appears to be the meditation of choice on a short-term basis for raising self-esteem for those individuals who choose to meditate.

The results of this study also indicate support for previous studies that demonstrated the positive effects of meditation for improving self-esteem.

Therapeutically, the results of this study indicate that concentrative meditation (as compared with mindfulness meditation) may be the more appropriate choice of meditation intervention technique in helping clients improve self-esteem on a short-term basis. However, it must be noted that mindfulness meditation was moving in that direction and did show increases in self-esteem as measured by the TSCS total scores, though these results were not significant.

There were no significant differences in interactive effect between type of meditation and the attitude types: introverts and extraverts. However, subjects only did each type of meditation once, for twenty minutes during the study, and this may not have been enough time to uncover an interactive effect. It would be helpful for the therapeutic community and for the body of research available on meditation to conduct a similar study over an extended period of time to determine any interactive effects.

Conclusions

The conclusions from this study are as follows:

1) On a short-term basis, concentrative meditation appears to be the intervention technique of choice.
2) Both types of meditation appear to be effective on a short-term basis for increasing self-esteem.
3) Both introverts and extraverts showed improvement of self-esteem using concentrative and mindfulness meditation.

Recommendations

The two meditations in this study were done for twenty minutes each by every subject. It would be interesting to test a group of subjects over an extended period of time, doing the same meditation consistently, to see if mindfulness meditation becomes statistically significant. If would also be interesting to divide this hypothetical subject group by attitude-type and meditation type. The results of such a study may have a better chance of uncovering any interactive effect between attitude-type and meditation type. If there were a significant result, these findings would help to refine the question of which type of meditation is more effective for which attitude-type with regard to improving self-esteem over time.

From the literature, it is noted that there are distinct levels of practice or experience for concentrative and mindfulness meditation. Further research in this area would again be helpful for determining which type of meditation is more appropriate and effective with a particular client, based on the orientation of that particular client and his/her stated goals.

It would also be helpful in a future study to compare the effects of different types of meditation on self-esteem with other self-regulatory strategies using the same standardized measuring instrument, i.e. the Tennessee Self-Concept Scale. The results of such a study would be easier to compare with previous work in the area of meditation, self-regulatory strategies and self-esteem.

It would also be interesting to use other operational definitions of introvert and extravert that have been advanced (specifically in the area of psychology)

and tests that specifically measure those other concepts and definitions of self-concept and self-esteem.

In this study, there was no significant difference between introverts and extraverts as to their baseline TSCS total score. Extraverts seemed to have slightly higher baseline scores, even though it was not significant. It would be interesting to compare a much larger sample of introverts and extraverts to see if one or the other attitude-type tends to have a lower baseline self-esteem score and if one or the other type improves more significantly than the other with regard to self-esteem scores. The results of this type of study could prove to be very helpful to therapists when working with clients on the issue of self-esteem.

Also, a study that involves a deeper level of instruction in the two techniques would be interesting to examine. The shortness of instruction and duration of the meditations seem to limit the results of this study.

And, finally, there appears to be a need to develop a questionnaire that elicits subjects' subjective experiences of meditation. This kind of a questionnaire would be helpful in a future study to better determine the subjects' mental and evaluative experience of the two types of meditation. This phenomenological factor seems to be a differential point in the body of meditation research. More information from the subjects themselves would be helpful in exploring this concept. That is, what do subjects experience on a mental, emotional and physical realm as purported by the subject him-or herself? This question needs further research.

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APPENDIX A
CONSENT FORM

UNIVERSITY OF CALIFORNIA, BERKELEY

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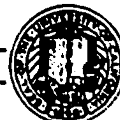

SANTA BARBARA • SANTA CRUZ

SCHOOL OF EDUCATION

BERKELEY, CALIFORNIA 94720

CONSENT FORM

You are being invited to participate in a research study designed to measure the effects of two kinds of meditation.

The study has been designed by a graduate student of Education, from the University of California, Berkeley: Sat-Kaur Khalsa, M.Ed., MFCC. If you are willing to participate, you will be asked to devote approximately three hours to the experimental sessions (1 hour, for 3 sessions over 6 weeks).

The first experimental session will consist of completing two different standardized pencil and paper tests. The first test will take approximately thirteen minutes and the second test will take approximately fifteen minutes. The second and third sessions will consist of doing a meditation, either concentrative or mindfulness, (you will receive written instructions, that the teacher will also read aloud) for 20 minutes., followed immediately by a post-test. You will have an opportunity to experience both meditations. You will be in a room with adequate space and good ventilation. There will be approximately twenty other people doing the same meditation in the same room with you and taking the same post-test on sessions two and three of this study. The study will be held every other Tuesday for six weeks, starting October 10th.

The possible risks involved in this study are very slight. They would arise from doing a breathing technique (that is part of the meditation) that you are unfamiliar with, or from unexpected emotions or thoughts that sometimes arise

during meditation. You may stop if there is unacceptable discomfort, or you may indicate that you need assistance and the instructor will help you.

The possible benefits are the contribution you make to the understanding of meditation, and the benefits of experiencing the meditations themselves.

All of the data about individual identity will be kept confidential. The privacy of each person will be respected and upheld. All reports of the research will be in the form of aggregated data and devoid of "identifiers".

All testing materials will be supplied by the researcher at no cost to you, the subject. A ten dollar remuneration is being offered to you upon your completion of all three, one hour sessions.

If you have any questions about the proposed research procedures, you can contact the researcher by calling (213) 652-6722.

Please know that your participation in this research study is strictly on a volunteer basis and that you are free to refuse to participate at any time during the study. This study is also separate from and has no connection with the yoga/meditation class you are presently taking, including having no effect on your grade for your class.

If you have read and understood the above statements and you wish to participate and allow the utilization of the data obtained from the testing to be used for research purposes, please sign your name below.

Signature of Subject:____

Date: ____________________

APPENDIX B
BACKGROUND INFORMATION SHEET

Background Information Sheet

Name: ____

Address: ____

City, zip: ____

Telephone contact number: (_____) ______________________

Age: ________ Sex: M _____ F _____

Ethnic background: ______________________________

Do you currently practice meditation? ____________ If so, what kind? ______

____

If you do practice meditation, which of these frequencies is closest to your regular practice?

1 x or more per day _____

3-5 x's a week _____

1-3 x's a week _____

l x every 2 weeks _____

l x or less a month _____

Are you currently taking any medical or other type of drug?

Yes _____ No _____

Do you have any special physical or mental conditions that may interfere with your ability to meditate? No _____ Yes _____ If yes, please explain:

____

____

APPENDIX C
INSTRUCTOR'S OBSERVATION SHEET

INSTRUCTOR'S OBSERVATION SHEET

Group #1:
Mindfulness meditation:

1) Number of subjects that appeared to be consciously breathing: __________

2) Number of subjects that appeared to be sleeping: __________

3) Number of subjects that appeared to stop doing the meditation: __________

4) Number of subjects that needed assistance: __________

Group #2 Concentrative meditation:

1) Number of subjects that continued to rhythmically move their fingers, one after the other throughout the meditation __________

2) Number of subjects that chanted aloud SA, TA, NA, MA on the exhale breath throughout the meditation: __________

3) Number of subjects that appeared to inhale in eight equal parts of the inhale breath throughout the meditation : __________

4) Number of subjects that stopped #1 above: __________

5) Number of subjects that stopped #2 above: __________

6) Number of subjects that stopped #3 above: __________

7) Number of subjects that appeared to stop doing the meditation: __________

8) Number of subjects that needed assistance: __________

APPENDIX D
INSTRUCTOR'S OBSERVATION SHEET
SESSION TWO

INSTRUCTOR'S OBSERVATION SHEET FOR SESSION TWO

Group #1:
Mindfulness meditation:

1) Number of subjects that appeared to be consciously breathing: most
2) Number of subjects that appeared to be sleeping: 1
3) Number of subjects that appeared to stop doing the meditation: Ø
4) Number of subjects that needed assistance: Ø

Group #2 Concentrative meditation:

1) Number of subjects that continued to rhythmically move their fingers, one after the other throughout the meditation All
2) Number of subjects that chanted aloud SA, TA, NA, MA on the exhale breath throughout the meditation: All
3) Number of subjects that appeared to inhale in eight equal parts of the inhale breath throughout the meditation : All
4) Number of subjects that stopped #1 above: Ø
5) Number of subjects that stopped #2 above: Ø
6) Number of subjects that stopped #3 above: Ø
7) Number of subjects that appeared to stop doing the meditation: Ø
8) Number of subjects that needed assistance: 1 - Leg fell asleep

APPENDIX E
INSTRUCTOR'S OBSERVATION SHEET
SESSION THREE

INSTRUCTOR'S OBSERVATION SHEET
FOR SESSION THREE

Group #2:
Mindfulness meditation:

1) Number of subjects that appeared to be consciously breathing: 17 Most
2) Number of subjects that appeared to be sleeping: 2
3) Number of subjects that appeared to stop doing the meditation: -0-
4) Number of subjects that needed assistance: -0-

Group #1 Concentrative meditation:

1) Number of subjects that continued to rhythmically move their fingers, one after the other throughout the meditation 15
2) Number of subjects that chanted aloud SA, TA, NA, MA on the exhale breath throughout the meditation: 16
3) Number of subjects that appeared to inhale in eight equal parts of the inhale breath throughout the meditation : 14
4) Number of subjects that stopped #1 above: 1
5) Number of subjects that stopped #2 above: -0-
6) Number of subjects that stopped #3 above: 2
7) Number of subjects that appeared to stop doing the meditation: -0-
8) Number of subjects that needed assistance: -0-

APPENDIX F

MINDFULNESS MEDITATION

MINDFULNESS MEDITATION

1) Sit with an erect spine in easy cross-legged position on a mat or on a sheepskin or a towel. Adjust yourself so that you feel balanced in this position. Rest your hands on your knees in gyan mudra (put the tip of the thumb together with the tip of the index finger like an O.K. sign).
2) Sit in this steady posture, mentally look at the breath and be aware.
3) Suppose this mental content comes into your mind (and it often does in all types of meditation) e.g. images of scenes, critical voices or feelings about yourself; simply be aware of it, it's just there. Sit, sit. Breath, breath. Scene, scene. Feeling, feeling. Be aware of all stimuli in the internal and external environment, without dwelling on any particular stimulus.
4) Continue this meditation for 20 minutes. At the end of 20 minutes the teacher will say, "inhale, hold the breath and then relax." Please follow the teacher's instructions.
5) Immediately following this meditation, please fill in your responses to the TSCS.
6) Please wait until everyone is done taking the test and the teacher dismisses the class. Thank you.

APPENDIX G
CONCENTRATIVE MEDITATION

Concentrative

The name for this particular concentrative meditation is Pauri Kriya.

1) Sit with an erect spine in easy cross-legged position on a mat or on a sheepskin or a towel. Adjust yourself so that you feel balanced in this position. Rest your hands on your knees, keeping your elbows straight.

2) On the inhale, divide the breath into 8 equal, rhythmic, separate parts, at the same time, silently chant SA on the first part, TA on the second part, NA on the third part, MA on the fourth part, again, SA on the fifth part, TA on the sixth, NA on the seventh, and MA on the eighth. As you silently chant SA, the thumb and the first fingers touch (on both hands simultaneously), on TA the thumb and the second fingers touch, on NA the thumb and the third fingers touch, and on MA the thumb and the fourth fingers touch. Continue the movement of the fingers with the sounds, SA, TA, NA, MA. Each finger should touch in turn the tip of the thumb with a firm pressure. Please chant two cycles of SA, TA, NA, MA aloud, as you completely exhale the breath. Continue the finger coordination with the corresponding sounds, SA, TA, NA, MA for both the inhale and exhale parts of the meditation. Continue repeating this entire sequence for 20 minutes.

3) Suppose this mental content comes into your mind (and it often does in all types of meditation) e.g., images of scenes, critical voices or feelings about yourself; use the mantra (SA, TA, NA, MA) to bring your mind back to focusing on the meditation you are doing. Do your best to concentrate all your attention, all your awareness on the sound of

the mantra and on the movement of your fingers. Let the perception of the sound and finger movement fill your entire mind.

4) Continue the meditation for 20 minutes. At the end of 20 minutes the teacher will say, "inhale, hold the breath and relax". Please follow the teacher's instructions.

5) Immediately following this meditation, please fill in your responses to the TSCS.

6) Please wait until everyone is done taking the test and the teacher dismisses the class. Thank you.

APPENDIX H
RAW SCORES OF ALL SUBJECTS

RAW SCORES OF ALL SUBJECTS

Case	Attitude Type	TSCS Baseline	TSCS Concentrative	TSCS Mindfulness
1	I	7	16	12
2	E	42	38	10
3	E	31	60	58
4	I	31	6	18
5	I	93	95	90
6	E	79	95	69
7	I	18	31	42
8	E	97	99	99
9	I	38	24	16
10	I	6	7	8
11	E	16	16	14
12	E	10	16	24
13	E	10	21	21
14	I	58	66	66
15	I	42	58	66
16	I	27	73	82
17	I	10	6	5
18	E	58	73	69
19	I	62	66	58
20	E	99	99	98
21	I	89	79	92
22	E	38	38	38
23	I	6	12	14
24	E	14	7	8
25	I	4	6	8
26	I	1	4	2
27	I	54	73	69
28	I	62	58	73
29	E	76	73	73
30	E	27	12	21
31	I	16	73	69
32	I	21	46	24
33	I	18	27	7
34	I	38	21	31
35	E	12	69	24
36	E	24	38	69