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A RELATIONSHIP BETWEEN ANXIETY
AND PRESENT-CENTEREDNESS

A Thesis
Presented to the
Faculty of
California State College
San Bernardino

In Partial Fulfillment of
the Requirements for the Degree
in
Psychology
Master of Science

by
Edward Allen

June 1981

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June 1, 1981
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ABSTRACT

Eastern spiritual masters and Gestalt theorists have suggested that subjective anxiety may be a result of the tendency to focus attention upon thoughts of the past and/or future rather than upon present experience. The purpose of the current investigation was (1) to derive a sensitive measure of present-centeredness which was defined as "the tendency to focus awareness upon current activity", and (2) to use this instrument in conjunction with an anxiety measure to test the hypothesis that present-centeredness and anxiety are related in the normal population. A negative correlation between present-centeredness and anxiety was predicted. The "Time Orientation Survey" was developed and along with the Taylor Manifest Anxiety Scale was administered to a sample of 90 undergraduate students. As anticipated, correlational data supported the hypothesized negative relationship between present-centeredness scores and anxiety scores, $r = -.242$, $p < .01$. An analysis of variance was performed in attempt to detect differences among the mean anxiety scores of high, medium and low present-centeredness scorers. As expected, the obtained mean anxiety values of 6.97, 8.02 and 10.03 for high, medium and low present-centered scorers respectively were found to differ significantly, $F = 5.73$, $p < .01$. Also, a Tukey analysis indicated the existence of a significant

difference between the mean anxiety scores of high and low present-centeredness scorers, $df = 3.88$, $p < .05$. Results are discussed in relation to Eastern teachings and Gestalt theory. Implications for clinical anxiety management are also explored.

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Acknowledgements

I wish to thank my thesis committee members, Les Herold and Paul Johnson, for their assistance with this project.

I am especially appreciative of the inspiration, direction and caring support of my thesis chairman and friend, Charles Hoffman.

Also, I would like to thank my fellow Practicum students for the warmth and understanding that we shared throughout our work (and play) together.

To my parents, Jules and Mary Allen who have given me so much, I offer my thanks and my love.

To God -- I thank you for sending me Catherine. To Catherine -- I thank you for bringing me God.

To Fats, The Clone and the Pocket Bairn, I thank you for your playful wisdom and the jelly beans.

INTRODUCTION

In recent years Western empiricists have demonstrated increasing interest in the Eastern spiritual traditions and their implications for psychotherapy. The Western psychological literature reflects a particular interest in the meditation process and its effectiveness as a mode of anxiety reduction (Thorpe, 1977). Numerous studies employing both objective and subjective measures of anxiety have indicated that meditation practice can significantly decrease anxiety-related symptomatology (Benson, 1975; Ferguson and Gowan, 1975). A primary "philosophical" perspective accompanying meditation instructions as presented in various Eastern traditions is that of "present-centeredness" or the focusing of attention upon current activity rather than upon thoughts of the past or future (Thera, [cited in Naranjo, 1970], Walpole, 1969). While the concept of present-centeredness has received little attention from Western investigators, certain Eastern spiritual masters and Western theorists suggest that the process of focusing awareness upon immediate experience is the "cornerstone" of many meditation formats (Naranjo, 1970). As stated by Chogyam Trungpa (1969, p. 52) "The essence of meditation is nowness. (It is)...trying to see what is here and now." Baba Ram Dass (1974) asserts that differing meditation techniques such as concentrating upon one's breath or

repeating a sound or phrase may be conceived of simply as alternate modes of training awareness to remain focused solely upon present-centered experience.

Given that present-centeredness is seen by many as a commonality underlying various meditation procedures and has been shown to be effective in reducing subjective anxiety, it appears plausible that the more an individual maintains a present-centered perspective, the less anxiety he/she would be likely to experience. Assuming that individuals vary in the degree to which they focus attention upon present action, it follows that such an inverse relationship between present-centeredness and anxiety may exist in the normal population independent of formal meditation practice. The aim of this investigation was to examine the nature of the relationship between present-centeredness and anxiety.

Eastern Perspectives

Discussion of the relationship between present-centeredness and anxiety as well as description of the various methods for attaining a present-centered awareness can be found in the writings of several of the Eastern spiritual traditions. The contemporary sociologist Thomas Keefe (1975) examines present-centeredness in relation to Zen:

Living in the here and now is behavior derived from the Zen experience. Guilt and anxiety are children of the past and future. To the extent that a person dwells upon the should-have-been or the might-be of life at the expense of living life in the reality of the present, he suffers.
(p. 141)

In discussing Buddhism's "Noble Eightfold Path," Nyaponika Thera (cited in Naranjo, 1970) comments:

...how much energy has been wasted by useless thoughts of the past: by longing idly for bygone days, by vain regrets and impatience, and by the senseless and garrulous repetition, in word or thought, of all the banalities of the past? Of equal futility is much of the thought of the future: vain hopes, fantastic plans and empty dreams, ungrounded fears and useless worries? All this is again a cause of avoidable sorrow and disappointment. (pp. 53-54)

In addition to such techniques as Za-Zen and various other forms of formal "sitting" meditations which train the student to focus his/her awareness, Buddhist teachings suggest that any activity may be used as a means of developing present-centered consciousness. This latter approach, stemming from Buddha's "Eightfold Path", has been termed "right mindfulness" (Ornstein, 1971). The essence of right mindfulness is reflected in the following instructions by Rahula (cited in Ornstein, 1971).

Whether you walk, stand, sit, lie down or sleep, whether you stretch or bend your limbs, whether you look around, whether you put on your clothes, whether you talk or keep silent, whether you eat or drink--even whether you answer the calls of nature--in these or other activities you should be fully aware and mindful of the act performed in the moment. That is to say, you should live in the present moment, in the present action. (pp. 198-99)

The practice of right mindfulness is paralleled in the Yoga tradition by "Karma Yoga" which involves performing everyday activities as a sacrament and investing full attention in whatever action is being performed (Ornstein,

1971). In the Sufi tradition as interpreted by Gurdjieff, students are advised: "remember that you are present" and remain fully conscious of current activity (Naranjo, 1970).

The "Gestalt" Perspective

Within the realm of Western psychotherapy, present-centeredness has emerged as a fundamental component of Frederick Perls (1951, 1969, 1971) Gestalt theory of anxiety. Based upon his knowledge of the Eastern disciplines, Perls (1947) asserts that anxiety as well as other forms of psychological distress may result from the failure to live in the "here and now":

There is no other reality than the present. Our desire to retain more of the past or to anticipate the future might completely overgrow this sense of reality. Although we can isolate the present from the past (cause) and from the future (purpose), any giving up of the present as the center of balance--as the lever of our life--must lead to an unbalanced personality. (p. 92)

Perls contends that both "futuristic" and "retrospective" thinking cause a clash between ideas and reality which may manifest in the subjective experience of anxiety.

Present-centeredness or focus upon the "here and now" is a basic component of Gestalt therapy technique. During the therapeutic process, the client is instructed to verbalize his/her concerns in the present tense. Thus, the discussion of past or future events becomes rooted in the present through this "presentification" (Naranjo, 1970). In his discussion of the theoretical foundation of the presentification process, the Gestalt theorist Arnold Beisser (1970) suggests that a

prerequisite to change is an acute sensitivity to, and the acceptance of, present experience.

The Western Psychological Literature

A review of the Western psychological literature reveals that little empirical attention has been focused upon the interaction between present-centeredness and anxiety. While no published study has directly examined this issue, investigations of related questions have generated data which provide indirect evidence of the suggested inverse relationship between these two variables. In a study of the relationship between anxiety and self-actualization, De Grace (1974) incorporated both a measure of anxiety and a measure of present-centeredness. De Grace utilized Cattell's (1963) IPAT Anxiety Questionnaire and Shostrom's (1966) Personal Orientation Inventory (POI). The IPAT questionnaire determines a subject's anxiety score by summing the subject's affirmative responses to anxiety-oriented items. The POI combines several subtests to measure an individual's level of "self-actualization" in accord with Maslow's construct. Among the POI's subscales is the "Time Competence" scale which evaluates the degree to which an individual focuses awareness in the "here and now". Thus, while De Grace's investigation was designed to study the relationship of anxiety to self-actualization rather than to present-centeredness, the latter dimension was tapped. De Grace's investigations centered around the hypothesis that anxiety and self-actualization are not necessarily

incompatible. Given the measures used, this hypothesis implies the nonexistence of a relationship between present-centeredness and anxiety. De Grace claimed that his results were supportive of his hypothesis since no significant difference in anxiety was found to exist between "actualizers" and "non-actualizers" as measured by a t-statistic. However, a close inspection of De Grace's data reveals that while no significant difference was detected, based on De Grace's small subject sample ($N = 30$), mean anxiety scores were, in fact, somewhat lower for actualized subjects. Moreover, in respect to the Time Competence scale, it was found that the mean anxiety score for the highly present-centered subject group was lower (although not significantly lower) than that of the low present-centeredness scorers. These data suggest the possibility of a negative correlation between anxiety level and tendency toward present-centered awareness. Unfortunately, De Grace did not determine a correlation coefficient nor did he report the data necessary to do so.

Having noted several of the methodological shortcomings apparent in the De Grace study, Wilkins (1978) adopted an alternative theoretical viewpoint and hypothesized that actualized subjects would report significantly less anxiety than would non-actualized subjects. Once again, while present-centeredness was not the focus of the Wilkins investigation, the data obtained are of relevance to this issue due to the nature of the instruments used. As a measure of self-

actualization, Wilkins utilized several Personal Orientation Inventory subscales including the Time Competence Scale. Also, paralleling the De Grace study, Wilkins incorporated the IPAT Anxiety Scale into his methodological format. The Taylor (1953) Manifest Anxiety Scale was added as a second measure of chronic or debilitating anxiety. From a sample of 125 undergraduate students, Wilkins found that high self-actualizers reported significantly less anxiety than did low self-actualizers ($p < .001$). Furthermore, a correlational analysis revealed an inverse relationship between self-actualization and anxiety for the sample tested. Given that the POI's Time Competence subscale was a component of the self-actualization measure, the existence of a negative relationship between present-centeredness and anxiety would seem likely. Unfortunately, Wilkins combined Personal Orientation Inventory scales to yield a summary measure of self-actualization for use in statistical evaluation; Time Competence Scale data were not reported separately. Thus, no definitive conclusions regarding present-centeredness and anxiety can be drawn based on Wilkins' data.

Shostrom's Time Competence Scale: Methodological Inadequacies

An additional hindrance to an empirical delineation of the relationship between anxiety and present-centeredness based upon the information reported in the De Grace and Wilkins studies is the nature of the time orientation measure employed in these investigations. As stated previously, both De Grace

and Wilkins incorporated the "Time Competence" subscale of Everett Shostrom's Personal Orientation Inventory into their experimental formats. Close inspection of this time orientation measure reveals the existence of several inherent methodological shortcomings. The Time Competence Scale consists of 23 pairs of numbered statements. Each item within a pair reflects an opposite attitude toward time utilization. The subject is instructed to mark the item within each pair that is true or mostly true for him/her. Scoring involves the summing of subject responses to items which are designated by Shostrom as being characteristic of "time competence". Items designated as characteristic of "time incompetence" are also summed. The subject's score is reported as the ratio of "time competent" to "time incompetent" scores. The scale's most blatant flaws involve Shostrom's modes of item construction and presentation. First, the use of a forced choice format demands a total acceptance or rejection of each statement. There is no allowance for varying degrees of applicability. The problem is exemplified by the following Time Competence Scale item:

- A. I have feelings of resentment about things that are past.
- B. I do not have feelings of resentment about things that are past.

This "all or nothing" item remains insensitive to discriminative criteria such as the extent of an individual's harbored resentments and the amount of time spent by an individual

dwelling upon past resentments. This lack of sensitivity is apparent in several Time Competence Scale items. Another weakness evident upon examination of the Time Competence Scale is that many questions merely assess subjects' philosophies regarding time orientation. This is problematic in that an individual's ideologies may be only distantly related or unrelated to his/her actual time utilization style. An additional problem is that certain Time Competence Scale items are extremely ambiguous and unnecessarily complex. For example, one item reads: "For me past present and future is a meaningful continuity." For a psychologically unsophisticated subject, this item may be difficult to understand and open to a wide range of interpretations. Finally, certain Time Competence Scale items such as "I worry about the future" directly imply anxiety. Such items could have a confounding effect on studies examining interactions between time orientation and anxiety.

In summary, an examination of the Eastern and Western psychological literature indicates that (1) Meditation has been shown to be an effective method of anxiety reduction (2) Several Eastern spiritual traditions suggest that present-centeredness may be a commonality underlying various meditation techniques (3) Certain Eastern teachers and Gestalt theorists assert that anxiety results from the focusing of awareness upon thoughts of past and/or future events rather than upon current experience (4) While the existence of a relationship

between present-centeredness and anxiety has not been empirically demonstrated, studies of related issues have generated data which lend indirect support to the possibility of an existing relationship between present-centeredness and anxiety (6) The one published assessment device designed to measure time orientation can be seen to have several methodological inadequacies.

The first purpose of the current investigation was to develop a measure designed to sensitively assess "time orientation". Time orientation will be defined here as the relative degree to which an individual focuses attention upon past, present and future activity. The tendency to focus attention primarily upon the recollection of past events will be referred to as "past orientation". The tendency to focus attention primarily upon the anticipation of future events will be referred to as "future orientation". The tendency to focus attention primarily upon current activity will be referred to as "present-centeredness". One additional time utilization style is of relevance here. The term "past-future avoidance" will be used to refer to the tendency to engross oneself in current activity as a means of avoiding or escaping the necessity of facing one's difficulties. Present-centeredness, conversely, does not imply a defensive exclusion of past and/or future. Rather, present-centeredness refers to a situation in which thoughts of the past and future become background to a foreground awareness of ongoing activity.

Several criteria were specified by the investigator for the development of the proposed time orientation measure. First, the measure was to be organized so that responses to "Present-Centeredness", "Past-Orientation" and "Future-Orientation" question subcategories could be integrated into a single time orientation score. The "Past-Future Avoidance" subcategory was to be scored separately and interpreted in conjunction with the time orientation formula score. The majority of questions for the proposed measure were to be designed so as to assess behavioral frequencies (subject reported) as opposed to opinions or philosophies. Also, questions were to be simple and unambiguous. Items were to exhibit a high degree of face validity and were to be worded so as not to imply anxiety. Finally, the questionnaire was to be designed so as to be brief and easy to complete. The proposed assessment device was to be titled: "Time Orientation Survey" (TOS).

The second major purpose of this investigation was to empirically determine if a relationship between present-centeredness and anxiety does, in fact, exist in the normal population. It was expected that subjects' responses to the proposed time orientation measure and anxiety measure would indicate that subjective anxiety and time orientation are related. It was anticipated that individuals with a greater tendency toward present-centered awareness experience less manifest anxiety than those individuals tending to concentrate

more upon thoughts of past and/or future events. A negative correlation between present-centeredness and manifest anxiety was predicted. Additionally, it was expected that past orientation, future orientation and past-future avoidance would all correlate positively with manifest anxiety. As defined previously, present-centeredness is the tendency to focus awareness upon current activity. Present-centeredness was to be assessed by the Time Orientation Survey's (TOS) present-centeredness scoring formula which expresses the tendency toward present-centered awareness relative to the tendencies toward past-oriented and future-oriented thought. Past-orientation, future-orientation and past-future avoidance, defined in accord with the TOS survey categories explained above, were to be assessed by their respective TOS subcategory scales. Manifest anxiety is defined as "the predisposition toward tension, nervousness, apprehension and/or worry" (Taylor, 1953). Manifest anxiety may be seen as chronic rather than situation-specific or transitory in nature. Manifest anxiety was to be measured by the widely utilized Taylor Manifest Anxiety Scale (TMAS) (Taylor, 1953).

METHOD

Part I: Development of Questionnaire

The development of the Time Orientation Survey (TOS) involved the generation of TOS items, the administration of a rough form of the TOS to a subject sample and the verification of item subcategories through a factor analysis of the obtained subject responses. This initial form of the TOS consisted of a total of 47 items of which approximately 12 had been derived to correspond to each of the four proposed TOS subscales including "Present-Centeredness", "Future-Orientation", "Past-Orientation", and "Past-Future Avoidance". While most items were developed by the author, several were adapted from items used in Shostrom's Personal Orientation Inventory (Shostrom, 1962). All TOS items were presented in accord with a Likert-style format. (The pilot version of the TOS is presented in Appendix A.) The questionnaire was administered to a sample of 29 male and 36 female students enrolled in an undergraduate philosophy course. Verbal test taking instructions mirrored written instructions (See Appendix A). Subjects were informed that there were no correct or incorrect answers to the survey.

Analysis of Pilot Questionnaire. The factor analysis of completed questionnaires involved the dividing of data into four factors. Only items with a factor loading of .50 or

greater were accepted. It was found that items did, in fact, tend to cluster in accord with the four postulated time orientation categories. The five Present-Centeredness items, the five Past-Oriented items and the five Future-Oriented items with the highest factor weightings in each respective category were selected for use in the final version of the TOS. Only four items with significant factor weightings ($>.50$) appeared in the Past-Avoidance category. These four items were incorporated into the final TOS format.

Time Orientation Survey: Final Version. The final version of the TOS (See Appendix B) consists of a total of 19 randomly ordered items. A breakdown of items according to subcategory can be found in Table 1. Written instructions request that the subject circle the Likert number indicating whether a particular item applies to him/her (1) "never", (2) "rarely", (3) "sometimes", (4) "frequently", or (5) "always". The subject is to be verbally instructed that the questionnaire assesses his/her experience and that there are no correct or incorrect responses. No time limit for completion of the questionnaire is imposed.

Scoring the Time-Orientation Survey. The scoring format for the TOS is as follows: First, the Likert scale numbers corresponding to a subject's response on the five Present-Centered items are summed. Similarly, the sum is obtained for the 5 Past-Oriented and the 5 Future-Oriented items. Then, in order to obtain a single time orientation score,

the sums of the Past-Oriented and Future-Oriented categories are added together and the resulting sum is subtracted from the Present-Centered score multiplied by two. The "Present-Centeredness Formula Score" derived from this equation evaluates the individual's tendency toward present-centered thought and behavior relative to his/her tendencies toward futuristic and retrospective thought and behavior. A higher formula score would indicate that an individual tends to focus a greater degree of awareness upon "here and now" experience. Of course, Present-Centered, Future-Oriented and Past-Oriented subcategory scores may be reported and analyzed individually. The Past-Future Avoidance subcategory was designed to be scored separately and used optionally in conjunction with Present-Centeredness Formula scores. Specifically, Past-Future Avoidance category scores may be compared with overall Present-Centeredness Formula scores to assess the role of avoidance behavior in contributing to an individual's time orientation style. For example, an instance in which a subject's Present-Centeredness Formula score is relatively high and his/her Past-Future Avoidance category score is also high would indicate that although that individual tends to focus much attention on present activity, he/she may do so for the purpose of defensively avoiding certain aspects of his/her past or future. Past-Future Avoidance subcategory scores may be calculated by summing the Likert Scale numbers corresponding to the four Past-Future Avoidance TOS items.

Table 1
Time Orientation Survey (TOS) Subcategory
Definitions and Items

Past Orientation

The tendency to focus attention primarily upon the recollection of past events.

TOS Items

- #1. I find myself absorbed in thoughts about the past.
- #4. I think about the impressions that I've made on people who I've known in the past.
- #8. I reflect back on the early days of my life.
- #11. I enjoy looking back on the good old days.
- #19. Memories are an important part of my life.

Future Orientation

The tendency to focus attention primarily upon the anticipation of future events.

TOS Items

- #5. It is very important to me to know what is going to happen in the future.
- #7. I tend to plan ahead.
- #10. Living for the future gives my life meaning.
- #14. It is very important for me to plan for retirement.
- #16. I do things today so that I will be prepared for the future.

Present-Centeredness

The tendency to focus attention primarily upon current activity.

TOS Items

- #2. For me, today seems just as important as days to come.
- #6. Much of my energy is devoted to living in the present moment.
- #12. I become totally engrossed in what I'm doing.
- #15. I think that what I am now is just as important as what I will be in future years.
- #18. For me, today seems just as important as days past.

Past-Future Avoidance

The tendency to engross oneself in current activity as a means of avoiding or escaping one's difficulties.

TOS Items

- #3. I'm so busy that I have no time to think about my past.
- #9. My work helps me to forget about things that I'd rather not think about.
- #13. Keeping busy helps to keep my mind off unpleasant thoughts.
- #17. I become so absorbed in what I'm doing that I don't think about the past or future.

Present-Centeredness Formula scores may range numerically from a value of -50.0 to 50.0 with the former figure indicating the lowest possible degree of present-centeredness and the latter figure indicating the highest. Past-Orientation, Future-Orientation, and Present-Centeredness subcategory scores may each vary from 0 to 25.0 indicating respectively the least and most identification with that particular time orientation style. Past-Future Avoidance subcategory scores may range from 0 to 20.0 indicating respectively the least and most use of this defensively motivated time structuring strategy. At this stage in the development of the TOS, data relevant to normative trends in scoring have not yet been obtained.

Part II: Testing of Present-Centeredness/Anxiety Relationship

Subjects. A total of 90 undergraduate students served as subjects for the second phase of this investigation which was designed to examine the hypothesized relationship between present-centeredness and anxiety. Approximately equal numbers of subjects were drawn from psychology and philosophy courses in progress at California State College, San Bernardino. The subject sample included 41 males and 49 females. Subjects' ages ranged from 18 years to 59 years. Subject participation was on a volunteer basis.

Instruments. The Time Orientation Survey (TOS) as discussed in "Part I" of this chapter was used to assess present-centeredness.

The short form of the Taylor Manifest Anxiety Scale

(TMAS) (Taylor, 1953) was chosen to measure subjective anxiety (See Appendix #3). The TMAS consists of 24 items selected from the 200 item Minnesota Multiphasic Personality Inventory (Hathaway and McKinley, 1943) on the basis of their ability to detect clinical anxiety as determined by the judgments of professional clinicians. A subject's score on the TMAS is equal to the total number of items to which he/she gives the "anxious" response. The latter may be "true" or "false" depending on the wording of the particular item. The possible range of scores is from 0 to 24 with higher scores indicating a greater level of manifest anxiety.

Of the three most commonly used anxiety measures including the State Trait Anxiety Inventory (Spielberger, 1968), the IPAT Anxiety Scale (Cattell, 1963) and the TMAS, the TMAS was chosen for use in this investigation based upon a comparative examination of face validity as assessed by this investigator. Taylor's (1953) studies of construct validity have demonstrated a positive relationship between TMAS scores and the clinical observation of manifest anxiety. The TMAS has also been shown to be a relatively reliable measure of manifest anxiety with a test-retest correlation of .88 for a four week interval (Ahana, 1952).

Procedure. Two questionnaire formats consisting of the Time Orientation Survey and the Taylor Manifest Anxiety Scale presented in alternating order were administered to volunteer subjects during regular classroom sessions. Test taking in-

structions in accord with the formats suggested by the authors of the TMAS and TOS were presented both verbally and in writing. The questionnaires were untitled and subjects were informed that the test assessed "ways in which people view themselves and their environment." Subjects were assured that there were no correct or incorrect answers and were told to take as much time as needed to complete the questionnaire.

RESULTS

A correlational analysis in accord with the Pearson Product Moment procedure confirmed the predicted negative relationship between anxiety scores and Present-Centeredness Formula scores, $r = -.242$, $p < .01$. Also, as was expected, positive correlations between anxiety scores and Past-Orientation, Future-Orientation and Past-Future Avoidance subcategory scores were obtained (See Table 2). While a correlational trend in the anticipated negative direction was found to exist between anxiety scores and Present-Centeredness subcategory scores, the computed correlation coefficient did not meet customary levels of significance. Present-Centeredness subcategory scores were, however, found to correlate positively with the overall Present-Centeredness Formula scores used in testing the study's primary hypotheses, $r = .383$, $p < .001$. Correlation results are reported in Table 2.

In an attempt to obtain further statistical support for the predicted relationship between present-centeredness and anxiety, an analysis of variance was performed by dividing Present-Centeredness Formula data into high, medium and low scorer categories and comparing the mean manifest anxiety scores for subjects within each group. As expected the high Present-Centeredness Formula scorers received the lowest mean anxiety score ($\bar{x} = 6.97$), while the medium Present-Centeredness

TABLE 2

Correlational Data

- A. Correlation of Taylor Manifest Anxiety Scale scores with Time Orientation Survey Present-Centeredness Formula scores and Time Orientation Survey subcategory scores.

TOS Scores

Taylor Manifest Anxiety Scale Anxiety Scores	<u>Present-Centeredness Formula</u>	<u>Subcategories</u>			
		Past Orientation	Future Orientation	Present- Centeredness	Past-Future Avoidance
	-.242*	.424**	.295*	-.156	.273

*Significant at the .01 confidence level

**Significant at the .001 confidence level

- B. Correlation of Time Orientation Survey Present-Centeredness Formula Scores with Present-Centeredness Formula subscores.

Present- Centeredness Formula Scores	<u>Present-Centeredness Formula Subcategory Scores</u>		
	Present-Centeredness	Past-Orientedness	Future-Orientedness
	.383**	-.233*	-.369**

*Significant at the .01 confidence level

**Significant at the .001 confidence level

Formula scorers produced a midrange anxiety mean ($\bar{x} = 8.02$), and the low Present-Centeredness Formula scorers obtained the highest mean anxiety value ($\bar{x} = 10.85$). A statistically significant difference in anxiety levels was found to exist among the high, medium and low Present-Centeredness scorer categories, $F = 5.73$, $p < .01$. The relationships between anxiety and each of the TOS's subscales were examined through similar procedures. Significant anxiety differences among high, medium and low Past-Oriented scorers, among high, medium and low Future-Oriented scorers and among high, medium and low Past-Future Avoidance subcategory scorers were obtained. Analysis of Variance results are reported in Table 3.

Finally, a Tukey analysis was performed in order to varify the existence of a significant difference between the anxiety score means corresponding to the high versus low Present-Centeredness Formula scorer categories and to pinpoint any existing anxiety differences between the low versus medium and the medium versus high Present-Centeredness Formula scorers. As anticipated, the mean manifest anxiety scores of the high and low Present-Centeredness Formula scorers were found to differ significantly, $df = 3.88$, $p < .05$. A significant difference was also found to exist between the anxiety means of the low and medium Present-Centeredness Formula scorers, $df = 2.33$, $p < .05$. These data as well as the results of additional Tukey analyses performed on each of the TOS subscales are reported in Table 4.

TABLE 3

Analysis of Variance Data

Mean Taylor Manifest Anxiety Scale scores for high, medium and low
Time Orientation Survey Present-Centeredness Formula scorers and high,
medium and low Time Orientation Survey subcategory scorers

Scorer Category	<u>Present-Centeredness Formula</u>	<u>Subcategories</u>			
		Past Orientation	Future Orientation	Present- Centeredness	Past-Future Avoidance
High	6.97	10.74	10.83	8.12	9.24
Medium	8.02	7.95	6.93	7.37	9.67
Low	10.85	6.22	7.44	10.46	6.23

$\frac{F}{p} = 5.73,$ $p < .01$	$\frac{F}{p} = 8.12,$ $p < .001$	$\frac{F}{p} = 7.94,$ $p < .001$	$\frac{F}{p} = 2.87$	$\frac{F}{p} = 5.10,$ $p < .01$
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TABLE 4

Tukey Data

Differences between mean Taylor Manifest Anxiety Scale scores
of low vs. high, low vs. medium and medium vs. high Time
Orientation Survey Present-Centeredness Formula scorers
and Time Orientation Survey subcategory scorers

Time Orientation Survey
Present-Centeredness
Formula

Time Orientation Survey
Subcategories

		Past Orientation	Future Orientation	Present- Centeredness	Past-Future Avoidance
Low vs. High	3.88*	4.51*	3.40*	2.33	3.01*
Low vs. Medium	2.33*	1.72	.51	3.09*	3.43*
Medium vs. High	1.10	2.79*	3.90*	.75	.42

*Significant at the .05 level of confidence

DISCUSSION

The obtained results are clearly supportive of the study's major predictions. The hypothesized existence of a relationship between subjective anxiety and time orientation is supported by the discovery of a significant difference among anxiety scores of high, medium and low Present-Centeredness Formula scores as assessed by an analysis of variance. Furthermore, the negative correlation between Present-Centeredness Formula scores and anxiety scores and the positive correlations between Past-Orientation and anxiety scores as well as Future-Orientation and anxiety scores suggest that individuals who maintain a greater degree of present-centeredness tend to experience less manifest anxiety than individuals who tend to spend a greater amount of time focusing awareness upon thoughts of the past and/or future.

The hypothesized existence of a relationship between anxiety and past-future avoidance time structuring was also supported by analysis of variance data. Correlation analyses suggest that the tendency to engross oneself in current activity as a means of avoiding one's problems is positively related to manifest anxiety.

The relationship between present-centeredness and anxiety, as indicated by the results of this investigation, has several theoretical and practical implications. First, the teachings

of several Eastern spiritual traditions, as well as the theories of Gestalt psychology which maintain that anxiety is directly related to futuristic and retrospective thinking styles, may be seen to have empirical support. It may also be seen that "pencil and paper" measures such as the TOS could potentially provide a simple and practical mode for the clinical assessment of futuristic and retrospective thought styles as well as tendencies toward escape oriented time structuring. Additionally, it may be inferred that psychotherapeutic orientations and techniques which emphasize the development of "here and now" awareness may be particularly beneficial in the treatment of anxiety. The findings further suggest that practices such as "right mindfulness", which teach the individual to maintain a present-centered perspective throughout his/her ongoing daily routine, hold promise for use as clinical anxiety reduction procedures.

Conclusions based upon the results of this investigation should be tempered by the following limitations inherent in the study's format. First, questions for the Time Orientation Survey were developed primarily upon the basis of face validity. Given the limited scope of the project, tests of external validity and reliability were not performed. Also, both the TOS and the TMAS rely solely upon subject self-reports. Although during the development of the TOS attempt was made to avoid the inclusion of items which might elicit an "halo effect", it is conceivable that certain items nevertheless triggered responses based upon social desir-

ability. Additionally, the TMAS does contain several items which might require a subject to admit to personal "weakness". It is quite plausible that certain subjects would be reluctant to respond honestly to those items. An additional limitation is the fact that all data were obtained from a student sample. The generalizability of the obtained results is thus restricted. A final limiting factor is the study's use of a correlational design. Thus, although a relationship between present-centeredness and anxiety could be demonstrated, questions of causation remain unanswered.

While this investigation may serve as an initial step toward understanding the relationship between present-centeredness and anxiety, a definitive clarification of this issue would require additional empirical attention. First, validity and reliability checks would be necessary to determine the TOS's actual precision in assessing subjective time orientation. In order to procure behavioral verification of the relationships suggested here on the basis of subjectively reported data, the development of objective measures of time orientation would be necessary. Also, further research would be needed to gain a more conclusive understanding of the relationship between present-centeredness and the defensively motivated past-future avoidance time orientation style. The degree to which meditation techniques do, in fact, serve to modify an individual's time orientation is another significant issue. Furthermore, it would be important to discover how

active "present-centering" procedures such as "right mindfulness" influence anxiety-related symptomatology. The relative anxiety reducing effectiveness of psychotherapeutic orientations which emphasize an individual's present versus his/her past and future would be another important research focus.

Numerous empirical analyses will be a necessary prerequisite to mainstream Western psychology's acknowledgement of Eastern teachings such as those regarding present-centeredness. The value of analyzing and objectifying such theoretical propositions is obvious. Perhaps less obvious to many investigators is the danger of obscuring wisdom by dissecting, compartmentalizing and translating a concept into the language of the currently accepted scientific paradigm. In placing the current investigation into its appropriate contextual perspective, it should be noted that Eastern teachings regarding present-centeredness were not originally aimed at simply easing the tensions of daily functioning, but rather were designed to facilitate the individual's ultimate transcendence of existential attachments. From this latter perspective, the potential for reducing anxiety may be seen simply as one biproduct of developing a present-centered awareness.

APPENDIX A

Pilot Version of the Time Orientation Survey

Age _____

Sex _____

Major _____

Year of Expected Graduation _____

Instructions: For each item, please circle the number corresponding to the category which is most accurate in terms of your experience.

Example

	Never	Rarely	Sometimes	Frequently	Always
I like to take afternoon naps.	1	2	3	4	5

(By circling the number "3" I have indicated that I "Sometimes" like to take afternoon naps)

	Never	Rarely	Sometimes	Frequently	Always
	1	2	3	4	5
1. I need something to look forward to.	1	2	3	4	5
2. I become so absorbed in what I'm doing that I don't think about the past or future.	1	2	3	4	5
3. I find myself absorbed in thoughts about the future.	1	2	3	4	5
4. I think that what I am now is just as important as what I will be in future years.	1	2	3	4	5
5. When I begin a book, I like to peek at the last pages to see how the story will end.	1	2	3	4	5
6. I become totally engrossed in what I'm doing.	1	2	3	4	5
7. I find myself thinking about pleasant experiences from the past.	1	2	3	4	5
8. I'm so busy that I have no time to think about my past.	1	2	3	4	5
9. Memories are an important part of my life.	1	2	3	4	5
10. My actions are well thought out.	1	2	3	4	5
11. Living for the future gives my life meaning.	1	2	3	4	5
12. For me, today seems just as important as days to come.	1	2	3	4	5
13. Keeping busy helps to keep my mind off unpleasant thoughts.	1	2	3	4	5
14. I think about what I'm currently doing rather than think about past events.	1	2	3	4	5

	Never	Rarely	Sometimes	Frequently	Always
	1	2	3	4	5
15. Much of my energy is devoted to living in the present moment.	1	2	3	4	5
16. I think about the hard times that I've been through.	1	2	3	4	5
17. I find it useless to think <u>a lot</u> about the future.	1	2	3	4	5
18. It is very important for me to plan for retirement.	1	2	3	4	5
19. I do things today so that I will be prepared for the future.	1	2	3	4	5
20. I tend to think about past actions which I now regret.	1	2	3	4	5
21. I find myself absorbed in thoughts about the past.	1	2	3	4	5
22. I think about the impressions that I've made on people who I've known in the past.	1	2	3	4	5
23. I have the tendency to defend my past actions.	1	2	3	4	5
24. Before falling to sleep, I think about my plans for the following day.	1	2	3	4	5
25. I am bothered by painful memories.	1	2	3	4	5
26. It is very important to me to know what is going to happen in the future.	1	2	3	4	5
27. I strongly dislike thinking about my past.	1	2	3	4	5
28. Before falling to sleep, I think about what I did during the day.	1	2	3	4	5

	Never	Rarely	Sometimes	Frequently	Always
	1	2	3	4	5
29. I become impatient waiting for the future to arrive.	1	2	3	4	5
30. I enjoy looking back on the good old days.	1	2	3	4	5
31. I'm so busy that I have no time to think about my future.	1	2	3	4	5
32. I reflect back on the early years of my life.	1	2	3	4	5
33. It is very important to me not to waste time.	1	2	3	4	5
34. I find myself imagining what course my life will take.	1	2	3	4	5
35. While doing something, I find myself thinking about what I'll be doing next.	1	2	3	4	5
36. I find it useless to think <u>a lot</u> about the past.	1	2	3	4	5
37. My work helps me to forget about things I'd rather not think about.	1	2	3	4	5
38. It is important to me how I live in the here and now.	1	2	3	4	5
39. I strongly dislike thinking about my future.	1	2	3	4	5
40. I tend to plan ahead.	1	2	3	4	5
41. I like to keep busy.	1	2	3	4	5
42. I think about what I'm currently doing rather than think about future events.	1	2	3	4	5

	Never	Rarely	Sometimes	Frequently	Always
	1	2	3	4	5
43. I prefer to save good things for future use.	1	2	3	4	5
44. For me, today seems just as important as days past.	1	2	3	4	5
45. I find that I can avoid problems by anticipating them.	1	2	3	4	5
46. I find myself dwelling on resentments about past happenings.	1	2	3	4	5
47. It is easy for me to keep my mind on what I'm doing.	1	2	3	4	5

APPENDIX B

Questionnaire: Final Version

Final Version of Time Orientation Survey--p. 1-2

Short Form of Taylor Manifest Anxiety Scale--p. 3-5

Age _____

Sex _____

Major _____

Year of Expected Graduation _____

PART 1

Instructions: For each item, please circle the number corresponding to the category which is most accurate in terms of your experience.

Example

	Never	Rarely	Sometimes	Frequently	Always
	1	2	3	4	5
I like to take afternoon naps.					

(By circling the number "3" I have indicated that I "Sometimes" like to take afternoon naps)

	Never	Rarely	Sometimes	Frequently	Always
	1	2	3	4	5
1. I find myself absorbed in thoughts about the past.	1	2	3	4	5
2. For me, today seems just as important as days to come.	1	2	3	4	5
3. I'm so busy that I have no time to think about my past.	1	2	3	4	5
4. I think about the impressions that I've made on people who I've known in the past.	1	2	3	4	5
5. It is very important to me to know what is going to happen in the future.	1	2	3	4	5
6. Much of my energy is devoted to living in the present moment.	1	2	3	4	5
7. I tend to plan ahead.	1	2	3	4	5
8. I reflect back on the early days of my life.	1	2	3	4	5
9. My work helps me to forget about things that I'd rather not think about.	1	2	3	4	5
10. Living for the future gives my life meaning.	1	2	3	4	5
11. I enjoy looking back on the good old days.	1	2	3	4	5
12. I become totally engrossed in what I'm doing.	1	2	3	4	5
13. Keeping busy helps to keep my mind off unpleasant thoughts.	1	2	3	4	5
14. It is very important for me to plan for retirement.	1	2	3	4	5

	Never	Rarely	Sometimes	Frequently	Always
	1	2	3	4	5
15. I think that what I am now is just as important as what I will be in future years.	1	2	3	4	5
16. I do things today so that I will be prepared for the future.	1	2	3	4	5
17. I become so absorbed in what I'm doing that I don't think about the past or future.	1	2	3	4	5
18. For me, today seems just as important as days past.	1	2	3	4	5
19. Memories are an important part of my life.	1	2	3	4	5

PART 2 -- TRUE-FALSE

Instructions: Please indicate whether each statement is TRUE or FALSE in terms of your experience.

If a statement is TRUE or MOSTLY TRUE, as applied to you, circle the letter "T". If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle the letter "F".

TRUE-FALSE

- | | | |
|--|---|---|
| 1. I am often sick to my stomach. | T | F |
| 2. I am about as nervous as other people. | T | F |
| 3. I work under a great deal of strain. | T | F |
| 4. I blush as often as others. | T | F |
| 5. I have diarrhea ("the runs") once a month or more. | T | F |
| 6. I worry quite a bit over possible troubles. | T | F |
| 7. When embarrassed I often break out in a sweat which is very annoying. | T | F |
| 8. I do not often notice my heart pounding. | T | F |
| 9. Often my bowels don't move for several days at a time. | T | F |
| 10. At times I lose sleep over worry. | T | F |
| 11. My sleep is restless and disturbed. | T | F |
| 12. I often dream about things I don't like to tell other people. | T | F |
| 13. My feelings are hurt easier than most people. | T | F |
| 14. I often find myself worrying about something. | T | F |
| 15. I wish I could be as happy as others. | T | F |
| 16. I feel anxious about something or someone almost all of the time. | T | F |
| 17. At times I am so restless that I cannot sit in a chair for very long. | T | F |
| 18. I have often felt that I faced so many difficulties I could not overcome them. | T | F |
| 19. At times I have been worried beyond reason about something that really did not matter. | T | F |
| 20. I do not have as many fears as my friends. | T | F |
| 21. I am more self-conscious than most people. | T | F |

- | | | | |
|-----|--|---|---|
| 22. | I am the kind of person who takes things hard. | T | F |
| 23. | I am a very nervous person. | T | F |
| 24. | Life is often a strain for me. | T | F |
| 25. | I am not at all confident of myself. | T | F |
| 26. | At times I feel that I am going to crack up. | T | F |
| 27. | I don't like to face a difficulty or make an important decision. | T | F |
| 28. | I am very confident of myself. | T | F |

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