

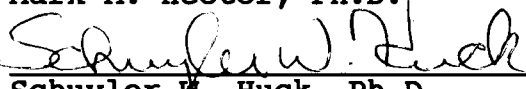
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I am submitting herewith a dissertation written by Elizabeth Godwin Seabrook entitled "Repressive Coping and the Experience of Anger". I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.


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REPRESSIVE COPING AND THE EXPERIENCE OF ANGER

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Elizabeth Godwin Seabrook
May, 1997

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DEDICATION

This dissertation is dedicated with love to my daughter

Jennifer Elizabeth Seabrook

who has made this long journey with me and who has

enriched my life in so many ways.

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ABSTRACT

The purpose of this research was to investigate the relationship between the repressive coping style and the experience of anger. The repressive coping style is characterized by the tendency to unconsciously avoid the experience of negative emotions and cognitions. Repressors are typically defined based on their reports of low anxiety and high defensiveness, although they are hypothesized to avoid negative affect in general. In the present study, 50 females and 45 males from a pool of 192 undergraduate students enrolled in a public state university were classified into four coping style groups based on their scores on the Bendig Short Form of the Taylor Manifest Anxiety Scale and the Marlowe-Crowne Social Desirability Scale as follows: low-anxious/high-defensive (repressors), low-anxious/low-defensive, high-anxious/low-defensive, and high-anxious/high-defensive. In order to determine whether trait anger was commensurate with trait anxiety in the classification of repressors, coping style groups were classified again by a second method using scores on the Trait Anger subscale of the State-Trait Anger Expression Scale and the Marlowe-Crowne Social Desirability Scale. A high concordance rate (91.9% for females and 92.5% for males)

between these two methods of classifying repressors was found.

Cognitive and somatic aspects of the experience of anger were examined among the coping style groups defined by trait anxiety and defensiveness scores. Subjects' responses to the Cognitive-Somatic Anger Scales revealed that repressors experienced less cognitive anger than all other groups and less somatic anger than the high-anxious and defensive high-anxious groups. A comparison of cognitive and somatic anger within Groups revealed that individuals in all four coping style groups reported similar levels of both of these aspects of the experience of anger.

Exploration of the recovery period following an anger recall interview indicated that repressors did not differ from other groups in their reports of behaviors, thoughts, bodily reactions, or state anger during the recovery period. With regard to other negative feelings, however, repressors reported fewer feelings of unhappiness during the recovery period than high-anxious subjects. The findings of this study support the hypothesis that repressors' avoidance of anxiety generalizes to other forms of negative affect as well. The avoidance of anger appears to extend beyond repressors' reports of trait anger to also include their cognitive and somatic experiences of anger. Implications of these results and recommendations for future research were explored.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION.....	1
II. METHODS.....	10
A. Participants.....	10
B. Procedure.....	10
1. Anger Recall Interview.....	12
C. Instruments.....	13
1. Taylor Manifest Anxiety Scale.....	13
2. Spielberger's Trait Anger Scale.....	13
3. Marlowe-Crowne Social Desirability Scale.....	14
4. Cognitive-Somatic Anger Questionnaire.....	14
5. Feelings Questionnaire.....	15
6. Recovery Questionnaire.....	16
D. Statistical Analyses.....	16
III. RESULTS.....	18
A. Classification of Coping Styles.....	18
B. Concordance of Repressor Classifications.....	20
C. Cognitive and Somatic Anger.....	21
D. Recovery Period.....	23
IV. DISCUSSION.....	26
REFERENCES.....	33
APPENDIX.....	41
VITA.....	51

LIST OF TABLES

TABLE	PAGE
1	Intercorrelation Matrix using Pearson Correlations of Personality Traits and Anger Measures (N = 192): Marlowe-Crowne Social Desirability Scale (MCSDS), Spielberger's Trait Anger Scale (STAXI-T), Cognitive Anger (COG), Somatic Anger (SOM), State Anger After the Recovery Period (RA3), and State Anger After the ARI (FA4).....42
2	Means (SD) for the Bendig Short Form of the Taylor Manifest Anxiety Scale (TMAS) and the Marlowe-Crowne Social Desirability Scale (MCSDS) for Males and Females by Group.....43
3	Table of Concordance Classifying Repressors using the Bendig Short Form of the Taylor Manifest Anxiety Scale (TMAS) and the Trait Anger Subscale of the State-Trait Anger Expression Scale (STAXI-T) for the Entire Sample (N = 192).....44
4	Table of Concordance Classifying Repressors using the Bendig Short Form of the Taylor Manifest Anxiety Scale (TMAS) and the Trait Anger Subscale of the State-Trait Anger Expression Scale (STAXI-T) for Males (n = 93).....45

5	Table of Concordance Classifying Repressors using the Bendig Short Form of the Taylor Manifest Anxiety Scale (TMAS) and the Trait Anger Subscale of the State-Trait Anger Expression Scale (STAXI-T) for Females (n = 99).....	46
6	Means (SD) for Cognitive and Somatic Components of Anger by Coping Style and for Males and Females.....	47
7	Cognitive Anger Minus Somatic Anger (Cog-Som) Scores by Group for Males and Females; Mean Difference.....	48
8	Factor Loadings for Factors from the Recovery Questionnaire.....	49
9	Table of Means (SD) for Recovery Questionnaire Items for Repressors (RC), Low-anxious (LA), High-anxious (HA), and Defensive High-anxious (DHA).....	50

CHAPTER I

INTRODUCTION

A substantial body of research has been directed toward the validation of the physiological correlates of the repressive coping style, as operationalized by Weinberger, Schwartz, and Davidson (1979)(see Weinberger, 1990). Recently, however, there has been growing interest in the psychological correlates of the repressive coping style, particularly negative affect, with a focus on this construct as an individual difference variable (e.g., Kreitler & Kreitler, 1990; Myers, 1996; Ritz & Dahme, 1996). The repressive coping style has been proposed as a dispositional style of unconsciously avoiding the experience of negative emotions and cognitions (Weinberger et al., 1979). Repressors have been found to avoid threatening information (Linden, Paulhus, & Dobson, 1986) and to report low levels of anxiety, depression, and anger (Asendorpf & Scherer, 1983; Davis & Schwartz, 1987; Linden et al., 1986; Weinberger et al., 1979). This personality style appears to be self-deceptive rather than a function of impression management (Millham & Kellogg, 1984) and has been implicated as a risk factor for disease (Jamner, Schwartz, & Leigh, 1988; Jensen, 1987; King, Taylor, Albright, & Haskell, 1990).

Weinberger et al. (1979) operationalized the repressive coping construct, defining repressors as individuals who

report low levels of trait anxiety, as measured by the Taylor Manifest Anxiety Scale (TMAS; Taylor, 1953), while also reporting high levels of defensiveness, as measured by the Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960, 1964). In a sample of male college students, Weinberger et al. used trait anxiety and defensiveness scores to construct a 2 X 2 table and differentiated four coping style groups as follows: (1) low-anxious/high-defensive (repressor); (2) low-anxious/low-defensive (low-anxious); (3) high-anxious/low-defensive (high-anxious); and (4) high-anxious/high-defensive (defensive high-anxious). By incorporating physiological measures of anxiety into their study, Weinberger et al. further differentiated repressors from truly low-anxious individuals, finding that repressors exhibited greater physiological reactivity than truly low-anxious as well as high-anxious individuals. The discrepancy between self-reported anxiety and physiological arousal is characteristic of repressors and has been well-documented in the literature (Asendorpf & Scherer, 1983; Gudjonsson, 1981; Kiecolt-Glaser & Greenberg, 1983; King et al., 1990; Levenson & Mades, 1980; Newton & Contrada, 1992; Tomaka, Blascovich, & Kelsey, 1992).

The theoretical framework underlying the construct of the repressive style postulates that repressors avoid negative affect in general, not just anxiety. It seems possible, however, that some individuals might tend to

repress anxiety but not anger, or vice versa. To date, little research has focused on the use of a measure of trait anger to classify repressors. Fritz, Spirito, and Yeung (1994) addressed the exclusive use of anxiety to categorize repressors and computed the concordance rate between methods of classifying repressors using a measure of anger expression and a measure of trait anxiety each combined with a measure of defensiveness. They found a concordance rate of 78% between these methods in a sample of asthmatic children (74% for boys and 85% for girls). No similar studies have been reported in healthy adult males and females and no studies have computed a concordance rate while defining repressors using a measure of trait anger, a construct more congruent with trait anxiety.

Two studies support the hypothesis that repressors can be identified using a measure of trait anger combined with a measure of defensiveness. Using cluster analysis, Miller (1993) identified a group of males who scored high on defensiveness and low on trait anger. He found that, relative to other groups, these individuals exhibited high physiological reactivity in response to an anxiety-provoking condition. In addition, Emerson and Harrison (1990) identified a group of females who scored high on a measure of trait anger and low on a measure of defensiveness. These individuals also exhibited greater physiological reactivity than the low-anger/low-defensive and high-anger/low-defensive

groups during several feedback conditions following an anxiety-provoking laboratory situation. The first goal of the present study, therefore, was to compute the concordance between methods of classifying repressors using (1) defensiveness and trait anxiety scores and (2) defensiveness and trait anger scores. Trait anger was measured using the Trait Anger subscale of the State-Trait Anger Expression Scale (STAXI-T; Spielberger, 1988). It was predicted that, consistent with the findings of Fritz et al. (1994), the concordance rate would be moderate to high for the entire sample and slightly higher for females than for males.

In their groundbreaking study, Weinberger et al. (1979) examined several indices of anxiety among coping style groups including the cognitive and somatic experiences of anxiety. Subjects were asked to complete the Cognitive-Somatic Anxiety Questionnaire (Schwartz, Davidson, & Goleman, 1978) which instructed them to rate statements describing how they respond when they become anxious. Weinberger et al. found that repressors reported less awareness of unpleasant thoughts about self or external stimuli (cognitive anxiety) than high-anxious individuals and similar levels as low-anxious individuals. Repressors also reported less awareness of physical changes (somatic anxiety) than both truly low-anxious and high-anxious individuals. Comparing cognitive and somatic anxiety within groups, Weinberger et al. also found that repressors reported significantly less cognitive than

somatic anxiety while the truly low-anxious and high-anxious subjects did not report a discrepancy between these aspects of the experience of anxiety.

Whether repressors report similar cognitive and somatic patterns with regard to the experience of anger is not known. According to Davidson and Schwartz (1976), each emotion consists of an idiosyncratic pattern of cognitive and physiological activities. Individual differences during the same emotional state, they argue, can be explained by this interactionist model. Although it is unclear how the mind and body interact, the Davidson-Schwartz model offers a general conceptual framework for understanding the subjective experience of emotions and the differences between specific emotions (Thompson, 1988). Anger has been distinguished phenomenologically as well as physiologically from other emotion including anxiety/fear (Ekman, Levinson, & Friesen, 1983; Schwartz, Weinberger, & Singer, 1981; Weerts & Roberts, 1976). Intense and unpleasant physiological arousal has been associated with anger, as it has been found to have a more profound effect on the cardiovascular system than other emotions (Ax, 1953; Schwartz et al., 1981; Weerts & Roberts, 1976).

The second goal of the present study was to investigate the cognitive and somatic components of anger across coping style groups as operationalized by Weinberger et al. (1979) and within groups. The Cognitive-Somatic Anger Questionnaire,

developed by Contrada, Hill, Krantz, Durel, and Wright (1986), was used to measure these two components of anger. Based on previous findings with regard to anxiety, it was predicted that repressors would exhibit a pattern of dissociation between cognitive and somatic anger similar to that observed with anxiety. It was also predicted that repressors would report less cognitive anger than low-anxious and high-anxious subjects. Repressors were also expected to report less somatic anger than high-anxious subjects. Consistent with the literature (e.g., Durel, Carver, Spitzer, Llabre, Weintraub, Saab, & Schneiderman, 1989), females were expected to report more somatic anger than males.

When researchers have examined differences between coping style groups during stressful laboratory conditions, they have typically measured physiological and behavioral reactivity and subjects' reports about their experiences during the stressful conditions. A few studies have compared physiological reactivity among coping style groups during a recovery period following a stressor (e.g., Emerson & Harrison, 1990). No studies, however, have examined how individuals, classified according to the Weinberger et al. (1979) model, cope during a recovery period following a laboratory stressor. The third goal of the present study was, therefore, to explore how repressors, relative to nonrepressor groups, assess their behaviors, thoughts, emotions, and bodily reactions during a recovery period

immediately following the Anger Recall Interview (ARI). The ARI is a semi-structured discussion task salient to the exploration of the experience of anger which, as a discussion task, has the potential to be a better predictor of cardiovascular reactivity (indicative of stress) than mental arithmetic (Linden & Con, 1994). A brief Likert-type scale, the Recovery Questionnaire, was designed specifically for this study to explore subjects' reactions following the ARI.

As part of the investigation of the recovery phase of this study, state anger was assessed immediately following the ARI and again immediately following the recovery period after the ARI and compared among coping style groups. While no previous studies have reported a similar procedure, several studies assessed anxiety before and after a stressful condition and have indicated that groups vary in their reported levels of anxiety, as well as in their reports of anxiety pre- and post-stressor. For example, Asendorpf and Scherer (1983) found that a group of male repressors reported the least amount of anxiety after a phrase association task, followed by the low-anxious, defensive high-anxious, and high-anxious groups. Repressors reported similar levels of anxiety after both the baseline and the phrase association task while the other groups reported more anxiety after the task.

Kiecolt-Glaser and Greenberg (1983) also assessed self-reported discomfort following assertion role-play scenes and

found that repressors consistently reported lower discomfort than both low-anxious and all high-anxious subjects.

Weinberger et al. (1979) used the Bendig Short Form (Bendig, 1956) of the TMAS to assess self-report of trait anxiety immediately after subjects had observed their behavior during a phrase association task. Comparing group means pre- and post-stressor, they found that repressors viewed themselves as tending to be less anxious individuals following the stressor, while low-anxious individuals maintained their self-perceptions and high-anxious individuals viewed themselves as generally more anxious than they previously thought.

In a study which identified groups based, in part, on trait anger, Miller (1993) examined reports of state anger following the presentation of four different stressor tasks. Using cluster analysis to define groups, he found that individuals who were grouped according to low anger and high defensiveness scores reported lower state anger responses to all four stressors when compared to the other subjects. Based on the Miller findings and those previously mentioned with regard to anxiety, it was predicted that repressors would report less state anger than all other coping style groups immediately following the ARI as well as following the recovery period. It was also predicted that repressors would report lower state anger post-recovery than pre-recovery. Gender differences were examined, however, no hypotheses were

developed regarding gender because of the exploratory nature of this part of the study.

CHAPTER II

METHODS

Participants

The participants in this study were 194 undergraduate students enrolled in a public state university. The participants were introductory or other psychology students who were offered course credit for their participation. Two participants were dropped from the analysis because of incomplete TMAS or MCSDS data which prohibited their classification into a coping style group. The remaining subjects included 99 females who ranged in age from 18 to 41 years ($\bar{M} = 19.91$, $SD = 3.91$) and 93 males who ranged in age from 17 to 42 years ($\bar{M} = 20.20$, $SD = 3.63$).

In the present research, the mean score on the MCSDS for females ($\bar{M} = 17.35$, $SD = 5.51$) was slightly higher than for males ($\bar{M} = 16.10$, $SD = 5.86$). These findings are consistent with those previously reported for college students in the literature (Crowne & Marlowe, 1964; Cosentino & Kahn, 1967; O'Grady, 1988). The mean TMAS score was 8.35 ($SD = 4.75$) for females and 7.19 ($SD = 4.41$) for males. The mean STAXI-T score was 20.20 ($SD = 5.22$) for females and 21.12 ($SD = 4.41$) for males.

Procedure

The present study was part of a larger research project which was conducted in a Health Psychology laboratory at a

large public university. Upon arrival at the laboratory, subjects were greeted by experimenters and asked to read and sign the informed consent form. Subjects then completed a short demographic form and a battery of inventories for the larger study, including four questionnaires for the present study. Next, subjects were escorted individually into an acoustically controlled testing room which contained a reclining chair, a small table equipped with a tape recorder, and a straight back chair. Subjects were prepared for the recording of physiological parameters which were part of the larger study and asked to sit in the reclining chair. An unobtrusive intercom system was present in the room and used to monitor subjects' well-being throughout the experiment. All female subjects were tested by a female experimenter and all males were tested by a male experimenter.

The protocol for this study included calibration of the instrumentation followed by 10 minutes of rest for baseline measurements, 4 minutes of mental arithmetic, 5 minutes of rest, 4 minutes of anger recall interview (ARI), and 5 minutes of rest. Physiological measurements were automatically taken at various intervals during the entire procedure and monitored and recorded in an adjacent room. Subjects were presented with two laboratory stressors, mental arithmetic and an Anger Recall Interview (ARI), which were counterbalanced throughout the study. The mental arithmetic

protocol will not be described here because no data were used in the current study related to it.

During the ARI, subjects were instructed by the experimenter to recall a time when "you were really angry at someone close to you." Subjects were encouraged to speak for 4 minutes about a particular incident and were prompted with questions if they completed their disclosure before 4 minutes had elapsed. Questions included, "Exactly what was it about this situation that really made you angry?" and "What did you notice happening to you when you were angry?" Subjects' responses were tape-recorded. After the ARI task, subjects were asked to complete a Feelings Checklist. Upon completion of the questionnaire, the experimenter instructed subjects to relax for the next five minutes and left the room. After a five minute rest period, the experimenter reentered the room and asked the subjects to complete a Recovery Questionnaire.

Anger Recall Interview. The Anger Recall Interview (ARI) is a semi-structured interview which asks subjects to recall and talk about a time when they were angry at someone close to them. This social interaction task has been found to be emotionally arousing and useful as a predictor of ambulatory blood pressure (Linden & Con, 1994). The recall of an angry incident and accompanying physiological arousal provide the opportunity to investigate to what extent individuals repress the emotion of anger and how they cope following this emotion-provoking experience. The interpersonal nature of

this type of interview increases its ecological validity as a predictor of physiological responses (Linden & Con, 1994).

Instruments

Taylor Manifest Anxiety Scale. Trait anxiety was measured in the present study using the Bendig (1956) Short Form of the Taylor Manifest Anxiety Scale (TMAS; Taylor, 1953). This scale consists of 20 true/false statements. A survey of studies using this short form of the TMAS shows the median internal consistency reliability of this scale to be .76 (Bendig, 1956). The intercorrelation between the 50-item TMAS and the Bendig Short Form is .93 (Bendig, 1956).

Spielberger's Trait Anger Scale. Trait anger was measured in the present study using the Trait Anger subscale of the State-Trait Anger Expression Scale (STAXI-T; Spielberger, 1988). Individuals who score high on this scale are expected to perceive a wider range of situations as anger provoking (Spielberger, Johnson, Russell, Crane, Jacobs, & Worden, 1985). The 15-item version of the Trait Anger Scale has an internal consistency of .87 for both males and females. The present study used the 10-item version of this scale, however, which correlates with the larger version at .97 (Emerson & Harrison, 1990) and eliminates items which have been found to correlate highly with anxiety (Spielberger, Jacobs, Russell, & Crane, 1983). Items on this scale are rated by subjects on a scale from 1 to 4 with responses ranging from "almost never" to "almost always,"

respectively. Responses were summed to yield an index of trait anger.

Marlowe-Crowne Social Desirability Scale. The Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960) was originally designed to measure social desirability or an individual's need to respond in culturally sanctioned ways (Crowne & Marlowe, 1960). Crowne and Marlowe (1964) reconceptualized the MCSDS, however, as a measure of "defensiveness and protection of self-esteem" (p. 206) based on research which indicated that rather than measuring a response style, the MCSDS measures an individual difference dimension reflective of the need for approval. Crowne and Marlowe (1960) reported an internal consistency of .88 and test-retest reliability of .89 on this 33-item true/false instrument. High internal consistency and test-retest reliability have also been reported by Evans (1982) and Stickland and Crowne (1963). O'Grady (1988) found that the internal consistency is similar for males and females. In addition, college females tend to score slightly higher than college males on this scale (Crowne & Marlowe, 1964; Cosentino & Kahn, 1967; O'Grady, 1988). The MCSDS is negatively correlated with measures of trait anxiety (Asendorpf & Scherer, 1983; Boor & Schill, 1967; Tomaka et al., 1992).

Cognitive-Somatic Anger Questionnaire. The Cognitive-Somatic Anger Questionnaire (Contrada et al., 1986) was

included in the present study in order to assess subjects' somatic and cognitive experiences of anger. This inventory consists of two subscales which each contain 10 items. Subjects are asked to rate how they generally act or feel when they become angry or furious using a 4-point Likert-type response format with options including: (1) "almost never," (2) "sometimes," (3) "often," and (4) "almost always." The somatic scale measures bodily reactions to anger including rapid and forceful heartbeat, muscular tension, and rapid breathing. Items on this scale include: "I get hot and flushed." The cognitive scale measures thoughts about the circumstances which instigated an angry incident as well as expectations regarding outcomes. Items on this scale include "I keep thinking about how unfair the situation is." Durel et al. (1989) suggest that these two scales measure not only the propensity to experience each of these two aspects of the experience of anger but also the intensity of anger experienced in these two ways. Factor analysis suggests that the cognitive and somatic components of this inventory may be differentiated even though the interscale correlation indicates a moderate degree of overlap (Contrada et al., 1986; Durel et al., 1989). Internal reliabilities of both scales have been found to be acceptable (Contrada et al., 1986; Durel et al., 1989).

Feelings Checklist. The Feelings Checklist is an inventory developed for this study for the purpose of

assessing several moods and their intensities. Using a 4-point Likert-type scale, subjects are asked to respond to seven statements describing their feelings or mood following the ARI. In the present study, the statement "I felt angry after this task" was used as a measure of state anger. Subjects were asked to what extent each statement described their feelings and were given the following response options: (1) "definitely does not," (2) "cannot decide," (3) "somewhat describes," and (4) "definitely does."

Recovery Questionnaire. The Recovery Questionnaire was designed for this study to assess subjects' awareness of several possible somatic, cognitive, and emotional reactions they may have experienced during the five minute rest period following the ARI. The inventory consists of 10 statements (listed in Table 8, in Appendix) which subjects rated using a 4-point Likert-type response format with the following options: (1) "definitely does not," (2) "cannot decide," (3) "somewhat describes," and (4) "definitely does."

Statistical Analyses

Subjects were classified into four coping style groups using trait anxiety and defensiveness scores. They were also classified into groups using trait anger and defensiveness scores. The same extreme selection criteria were used in both methods of classification. Concordance between these two methods was determined by adding the number of subjects classified by both scales as repressors to the number

classified as nonrepressors by both scales, then dividing this sum by the total number of subjects in the study.

The cognitive and somatic aspects of anger were compared among the four coping style groups categorized based on their trait anxiety and defensiveness scores. Cognitive anger, somatic anger, and the difference between cognitive and somatic anger (cognitive minus somatic) were examined using a series of 4 (Group) X 2 (Gender) analyses of variance (ANOVAs). Follow-up Tukey HSD post hoc tests for multiple comparisons (two-tailed tests of significance) were also used. State anger was examined immediately following the ARI and immediately following the recovery period using two ANOVAs with Group and Gender as between subjects factors. The change in state anger during the recovery period was also examined using a 4 (Group) X 2 (Gender) ANOVA with Group and Gender as between subjects factors. Tukey HSD post hoc tests were used for multiple comparisons.

Items on the Recovery Questionnaire were submitted for factor analysis with the initial extraction method of maximum likelihood and varimax rotation. Factors were retained using the minimum eigenvalue of 1 cutoff. The two factors identified were examined using two ANOVAs with Group and Gender as independent variables. Group and Gender differences for each questionnaire item were examined using ten ANOVAs with follow-up Tukey HSD post hoc tests.

CHAPTER III

RESULTS

The first step in data analysis was to examine the relationships among trait anxiety, trait anger, cognitive anger, somatic anger, state anger (pre-recovery), state anger (post-recovery), and defensiveness using Pearson product-moment correlation coefficients. All of the correlations were significant and are presented in Table 1.* Consistent with the literature, the MCSDS was significantly and negatively correlated with the various measures of the different aspects of anger as well as with the TMAS. The moderate overlap between the STAXI-T, the Cognitive Anger subscale, the Somatic Anger subscale, and the TMAS suggest that these scales measure different aspects of negative affect which have a common core. The Cognitive Anger and Somatic Anger subscales, which appear to measure different aspects of the anger experience, were correlated fairly strongly with each other. State anger pre- and post-recovery were moderately correlated with each other and moderately correlated with the other forms of negative affect.

Classification of Coping Styles

In the current study, subjects were classified into four coping style groups according to the Weinberger et al. (1979) typology using extreme cutoff scores on anxiety and

* All tables may be found in the Appendix.

defensiveness scales (TMAS and MCSDS). The selection criteria for the coping style groups were similar to those employed in previous studies with a goal of maximizing the distinction between coping style groups (e.g., Asendorpf & Scherer, 1983; Newton & Contrada, 1994; Weinberger et al., 1979; Weinberger & Schwartz, 1982 cited in Weinberger, 1990). In the present study, the repressor group ($n = 28$) was composed of individuals who scored in the lower third of the sample distribution on anxiety and the upper quartile of the sample distribution on defensiveness. The low-anxious group ($n = 12$) was composed of individuals who scored in the lower third of the sample distribution on anxiety and in the lower third of the sample distribution on defensiveness. The high-anxious group ($n = 37$) was composed of individuals who scored in the upper third of the sample distribution on anxiety and in the lower third of the sample distribution on defensiveness. The defensive high-anxious group ($n = 18$) was composed of individuals who scored in the upper third of the sample distribution on anxiety and in the upper third of the sample distribution on defensiveness. The following combinations of cutoff scores defined the four groups: repressors, $\text{MCSDS} \geq 21$ and $\text{TMAS} < 5$; low-anxious, $\text{MCSDS} < 14$ and $\text{TMAS} < 5$; high-anxious, $\text{MCSDS} < 14$ and $\text{TMAS} \geq 9$; and defensive high-anxious, $\text{MCSDS} \geq 19$ and $\text{TMAS} \geq 9$. The final sample ($N = 95$) consisted of 45 males and 50 females. Similar numbers of males and females met the selection criteria for the repressor, low-

anxious, and high-anxious categories; however, a greater number of females than males were classified as defensive high-anxious. Mean and standard deviation scores for the TMAS and MCSDS are presented in Table 2 for males and females in each of the four coping style groups.

Concordance of Repressor Classifications

In order to examine the agreement between classifying repressors using trait anxiety and using trait anger, subjects were classified into coping style groups using scores on the trait anger subscale of the STAXI-T combined with scores on the MCSDS. In order to be consistent with the classification described previously using trait anxiety and defensiveness, extreme cutoff scores on the MCSDS and the STAXI-T were used to classify repressors. Repressors were defined as individuals who scored in the lower third of the sample distribution on trait anger and in the upper quartile of the sample distribution on defensiveness. The cutoff scores defining repressors were ≥ 21 on the MCSDS and < 18 on the STAXI-T. This method of classifying repressors was compared with the first method in this study which used measures of trait anxiety and defensiveness. Tables 3, 4, and 5 show the concordance between these two methods of classifying repressors for the entire sample, for males, and for females, respectively.

The percentage of agreement in classifying repressors using anxiety and defensiveness scores ($n = 25$) vs. using

anger and defensiveness scores ($n = 26$) was extremely high (92.2%). Of the 26 subjects classified as repressors using trait anger and 25 subjects classified as repressors using trait anxiety, 18 subjects (7 males and 11 females) were classified as repressors according to both methods. In their study of asthmatic children, Fritz et al. (1994) reported a higher concordance rate for girls than for boys. In the current study of healthy adult males and females, however, this finding was not replicated. The concordance rate was 92.5% for males and 91.9% for females.

Cognitive and Somatic Anger

In order to determine whether repressors differed from the other coping style groups in their reports of both cognitive and somatic anger, two separate ANOVAs were computed on measures of these constructs using Group and Gender as the independent variables. Trait anxiety and defensiveness were used to categorize coping style groups, consistent with the literature. For cognitive anger, there was a main effect for Group, $F(3, 87) = 12.35, p < 0.001$; and for somatic anger there was also a main effect for Group, $F(3, 87) = 8.61, p < 0.001$. As shown in Table 6, Tukey HSD post hoc tests revealed that repressors reported significantly less cognitive anger than individuals in each of the other three groups (p levels are reported in Table 6). Repressors also reported less somatic anger than individuals in the defensive high-anxious and high-anxious groups (p

levels are reported in Table 6). There was no main effect for Gender and no interaction between Group and Gender for either cognitive or somatic anger. There was a trend, however, for females to report greater somatic anger than males ($p < 0.055$).

Replicating Weinberger et al.'s (1979) examination of cognitive and somatic anxiety, t tests were used to compare cognitive and somatic anger for each group. An initial t test comparing cognitive anger ($M = 23.44$, $SD = 5.40$) and somatic anger ($M = 23.85$, $SD = 6.63$) for the entire sample ($N = 194$) revealed no difference in the means of these two constructs, $t(191) = 1.027$, $p < .306$, suggesting that they could be compared. Paired t tests comparing cognitive and somatic anger for each coping style group revealed no significant difference between these two constructs for any coping style group. The difference between cognitive and somatic anger (cognitive minus somatic) for the coping style groups defined in this study was computed using an ANOVA with Group and Gender as the independent variables. There was no significant difference between cognitive and somatic anger for any coping style group. There was, however, a significant main effect of Gender, $F(1, 87) = 5.92$, $p < 0.02$. Females consistently reported greater somatic anger than cognitive anger, while males consistently reported the opposite (see Table 6). Table 7 shows the difference between cognitive and somatic anger

(cognitive minus somatic) by Gender and Group as well as the mean difference between these constructs.

Weinberger et al. (1979) sampled only males in their study and defined three coping style groups (repressor, low-anxious, and all high-anxious). In order to approximate the Weinberger et al. study for comparison purposes, all high-anxious male subjects in the present study were combined into one group. A one-way ANOVA computed with the three coping style groups (repressor, low-anxious, and all high-anxious) using cognitive anger as the dependent variable revealed a main effect for Group, $F(2,42) = 8.73$, $p < 0.001$. Another one-way ANOVA computed with these three groups using somatic anger as the dependent variable also revealed a main effect for Group, $F(2,42) = 7.49$, $p < 0.002$. Repressors in this male sample reported significantly less somatic anger ($p < .047$) and cognitive anger ($p < .001$) than all high-anxious males and significantly less cognitive anger ($p < .001$) than the low-anxious males. There was no difference between cognitive and somatic anger (cognitive minus somatic) for any coping style group.

Recovery Period

The recovery period following an anger-relevant interpersonal stressor (the ARI) was explored using ten items on the Recovery Questionnaire and by comparing reports of state anger pre- and post-recovery. State anger was obtained from an item on the Feelings Checklist immediately following

the ARI and again five minutes later from an item on the Recovery Questionnaire administered following the recovery period. Two ANOVAs were conducted, one on each of the state anger measures using Group and Gender as between subjects factors. There were no differences for Group or Gender.

Factor analysis of the Recovery Questionnaire resulted in the identification of two distinct factors presented in Table 8. Factor 1 included items which related to the awareness of changes in the body as well as attempts to change one's thoughts and physical experience ("Coping"). Factor 2 included items which related to negative affective states ("Negative Affect"). Items 2 and 10 were eliminated from discussion because they were demonstrated to be too ambiguous. Two separate ANOVAs examining Factor 1 and Factor 2 with Group and Gender as independent variables did not reveal a main effect for either Group or Gender for either factor 1 or factor 2.

Ten separate ANOVAs computed on the 10 questionnaire items using Group and Gender as the independent variables revealed a significant main effect for Group for Item #6 ("I felt unhappy"), $F(3,87) = 4.088$, $p < .009$. Follow-up Tukey HDS post hoc tests showed that repressors reported feeling significantly less unhappy than high-anxious subjects ($p < .007$). There was also a significant main effect for Group for Item 9 ("I tried to change my thoughts to something else"), $F(3,87) = 3.450$, $p < .02$. Follow-up Tukey HDS post hoc tests

showed that high-anxious subjects reported that they tried to change their thoughts more than did the low-anxious subjects ($p < .057$). For Item #3 ("I felt angry"), the overall F test was significant at the .05 level, however, no pairwise comparisons among Groups were large enough to be detectable. Groups did not differ in their responses to the other 7 items. A main effect for Gender was found for Item #10 ("I felt relieved"), $F(3,87) = 3.99$, $p < .05$. Males ($M = 2.39$) reported feeling more relieved than females ($M = 1.92$). No other items had significant main effects for Gender. The mean and standard deviation scores for the 10 questionnaire items are reported in Table 9.

CHAPTER IV

DISCUSSION

The overall goal of this research was to expand the understanding of the relationship between several aspects of the experience of anger and the repressive coping style. To explore the generalizations made based on trait anxiety to other negative affect with regard to the repressive coping style, repressors were categorized using a measure of trait anxiety combined with defensiveness and again using a measure of trait anger combined with defensiveness. Concordance rates between these two methods of classification were determined for the entire group and for each gender. Fritz et al. (1994) found a high concordance rate comparing the classification of repressors using a measure of trait anxiety and using a measure of anger expression in a sample of asthmatic children. In the present study, a high percentage of agreement was also demonstrated between the use of trait anxiety and trait anger in the classification of repressors. From a psychometric point of view, these findings suggest that the repressive coping construct can be identified by measures of at least two forms of negative affect, trait anger and trait anxiety. From a theoretical point of view, these findings indicate that individuals who repress one negative affect are also likely to repress other negative

affects. According to the current findings, the same group of individuals tend to avoid both anger and anxiety.

Fritz et al. (1994) also found that the concordance rate between classifying repressors using anger expression and trait anxiety was higher for females than for males. Concordance rates for males and females were computed in the current study and were found to be nearly equal. The difference in the current results and those of Fritz et al. could be due to several factors including the use of different measures of anger (anger expression vs. trait anger), the difference in age groups studied (children vs. adults), the influence of disease processes (asthma vs. healthy), or sampling error. The current findings should be viewed with caution because of the moderate correlation between the STAXI-T and TMAS which suggests that, rather than measuring two discrete concepts (i.e., anger and anxiety), these scales may both be measuring a broader construct of negative affectivity. The significant and positive correlations between the various measures of the different aspects of anger used in the current study and trait anxiety suggest some overlap between these forms of negative affect.

Repressors' reports of cognitive and somatic anxiety have been found to vary significantly from those of low-anxious and high-anxious individuals (Weinberger et al., 1979). Cognitive and somatic aspects of anger were examined among the four coping style groups, defined in the current

study using trait anxiety and defensiveness, in order to investigate whether the patterns observed with respect to cognitive and somatic anxiety generalize to cognitive and somatic aspects of anger. Consistent with the Weinberger et al. findings with regard to anxiety, repressors reported less cognitive anger than all the other groups and less somatic anger than both high-anxious groups. These results indicate that, relative to other individuals, repressors' report fewer thoughts of getting even, of being deliberately provoked, of being treated unfairly, and of being caught up with their anger. Clinicians might consider such lack of acknowledgment of anger by a client an indication that the client may be unconsciously employing a repressive coping style and avoiding negative affect in general.

While Weinberger et al. (1979) found that repressors exhibited a dissociation between cognitive anxiety and somatic anxiety, no dissociation was found in the current study with regard to cognitive anger and somatic anger. Repressors' congruent experiences of the cognitive and somatic components of anger suggest that they interpret the physiological arousal associated with anger, such as quickened pulse, changes in breathing, clenched fists, tightness in the stomach and throat, and pounding heart, as indications that they are angry. One might speculate from these results that the more intense physiological response patterns associated with anger get the attention of

repressors while the arousal associated with anxiety does not. These results should be interpreted with caution, however, because of the substantial correlation between cognitive and somatic anger in the current study as in previous studies (Contrada et al., 1986; Durel et al., 1989). The overlap between cognitive and somatic anger suggests that these scales are measuring similar constructs rather than independent constructs. Because cognitive and somatic anxiety were not measured in the current study, it is impossible to know if repressors in this study would have reported similar cognitive and somatic anxiety.

In a study of the associations of blood pressure with various measures of anger, Durel et al. (1989) found that females reported greater somatic than cognitive anger. This pattern was also observed in the current study. Women may be more aware of their physical reactions to anger and willing to report such; however, they appear to be less willing to report what they think about being angered, perhaps because of cultural pressures. These results might also be interpreted to suggest that women tend to somaticize rather than acknowledge their anger. Interestingly, males in the current study reported more cognitive than somatic anger. While females may tend to somaticize their anger, males appear to do the opposite. Males seem to experience more intense thoughts about the circumstances instigating their

anger and possible outcomes of their anger experience than females.

The current study was unique in that it investigated the reactions of repressors and nonrepressors during the recovery period immediately following a stressful laboratory condition. State anger was examined pre- and post-recovery period and, contrary to predictions, no difference was found among coping style groups in their reports of anger either following the ARI or following the recovery period. In addition, there was no difference in the report of anger across time for any coping style group. Repressors did not report less anger than nonrepressors, as expected based on previous studies of anxiety (see Asendorpf & Scherer, 1983; Kiecolt-Glaser & Greenberg, 1983). Gender was not found to be a factor in the report of anger. It is not clear whether these results are specific to the experience of anger, are the result of an unsuccessful attempt to create a stressful condition, or are due to sampling error. In the current study, subjects tended to report moderate to low levels of state anger overall. As mentioned in the introduction, the ARI has previously been associated with cardiovascular arousal (Linden & Con, 1994) suggesting that it is a useful laboratory stressor.

Responses to the Recovery Questionnaire, designed to assess subjects' reports of their awareness of behaviors, thoughts, emotions, and bodily reactions during the recovery

period, suggested that repressors react in a manner similar to nonrepressors following a stressor. Analysis of the two factors extracted by factor analysis from this inventory revealed no differences among the coping style groups in the way they coped or experienced negative affect during the recovery period. The analysis of individual questionnaire items, however, indicated that repressors reported less unhappiness than high-anxious individuals. This finding is consistent with the pattern of avoiding negative affect characteristic of repressors.

In summary, the findings of this study fit well into the theory that repressors tend to avoid negative affect in general. Repressors' tendency to report similarly low levels of both trait anger and trait anxiety implies that measures of both of these constructs may be used in the classification of repressors. Importantly, repressors' tendency to report that they experience less cognitive anger than all other coping style groups has major implications for clinicians as they attempt to identify repressors in a clinical setting and to develop therapeutic interventions. The current findings also suggest that, although repressors experience relatively less cognitive and somatic anger than other groups, they appear to be able to interpret cues from their bodies that they are angry, contrary to their experience of anxiety.

The current research focused on psychological correlates of the repressive coping style and did not include

physiological measurements. However, future research should include physiological measurements in order to determine whether this group of individuals who tend to report low anger and low anxiety also exhibit heightened physiological response patterns. The cognitive and somatic aspects of both anger and anxiety should also be investigated in a sample of healthy adults. Although the exploration of the recovery period yielded no major results, it seems important to continue investigating this period of time in order to determine whether various coping style groups use different strategies to cope following a stressful situation. Future research should explore the recovery period following a variety of laboratory stressors which provoke anger and anxiety. The Recovery Questionnaire was designed to examine specific parameters of interest to this researcher. Future research should include other measures of coping to determine whether repressors differ from other coping style groups in the strategies they employ or do not employ. The investigation of the relationship between the repressive coping style and the experience of anger warrants further study considering the health implications associated with both of these psychological variables (see Friedman & Booth-Kewley, 1987; Weinberger, 1990). These factors as well as recovery strategies could have a major impact on health psychology and behavioral medicine.

REFERENCES

References

- Asendorpf, J. B., & Scherer, K. R. (1983). The discrepant repressor: Differentiation between low anxiety, high anxiety, and repression of anxiety by autonomic-facial-verbal patterns of behavior. Journal of Personality and Social Psychology, 45(6), 1334-1346.
- Ax, A. F. (1953). The physiological differentiation between fear and anger in humans. Psychosomatic Medicine, 15, 433-442.
- Bendig, A. W. (1956). The development of a short form of the Manifest Anxiety Scale. Journal of Consulting Psychology, 20, 384.
- Boor, M., & Schill, T. (1967). Digit symbol performance of subjects varying in anxiety and defensiveness. Journal of Consulting Psychology, 31, 600-603.
- Contrada, R. J., Hill, D. R., Krantz, D. S., Durel, L. A., & Wright, R. A. (1986, August). Measuring cognitive and somatic anger and anxiety: Preliminary report. Paper presented at the meeting of the American Psychological Association, Washington, DC.
- Cosentino, F., & Kahn, M. (1967). Further normative and comparative data on the Repression-Sensitization and Social Desirability Scales. Psychological Reports, 20, 959-962.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 24, 349-354.

Crowne, D. P., & Marlowe, D. (1964). The approval motive: Studies in evaluative dependence. New York: Wiley.

Davidson, R. J., & Schwartz, G. E. (1976). The psychobiology of relaxation and related states: A multi-process theory. In D. I. Mostofsky (Ed.), Behavior control and modification of physiological activity (pp. 399-442). Englewood Cliffs, NJ: Prentice-Hall.

Davis, P. J., & Schwartz, G. E. (1987). Repression and the inaccessibility of affective memories. Journal of Personality and Social Psychology, 52, 155-162.

Durel, L. A., Carver, C. S., Spitzer, S. B., Llabre, M. M., Weinbraub, J. K., Saab, P. G., & Schneiderman, N. (1989). Associations of blood pressure with self-report measures of anger and hostility among black and white men and women. Health Psychology, 8(5), 557-575.

Ekman, P., Levinson, R. W., & Friesen, W. (1983). Autonomic nervous system activity distinguished among emotions. Science, 221, 1208-1210.

Emerson, C. S., & Harrison, D. W. (1990). Anger and denial as predictors of cardiovascular reactivity in women. Journal of Psychopathology and Behavioral Assessment, 12(4), 271-283.

Evans, R. G. (1982). Clinical relevance of the Marlowe-Crowne scale: A review and recommendations. Journal of Personality Assessment, 46, 415-425.

Friedman, H. S., & Booth-Kewley, S. (1987). The "Disease-prone personality": A meta-analytic view of the construct. American Psychologist, 42(6), 539-555.

Fritz, G. K., Spirito, A., & Yeung, A. (1994). Utility of the repressive defense style construct in childhood. Journal of Clinical Child Psychology, 23(3), 306-313.

Gudjonsson, G. H. (1981). Self-reported emotional disturbance and its relation to electrodermal reactivity, defensiveness and trait anxiety. Personality and Individual Differences, 2, 47-52.

Jamner, L. D., Schwartz, G. E., & Leigh, H. (1988). The relationship between repressive and defensive coping styles and monocyte, eosinophile and serum glucose levels: Support for the opioid-peptide hypothesis of repression. Psychosomatic Medicine, 50, 567-575.

Jensen, J. R., (1987). Psychobiological factors predicting the course of breast cancer. Journal of Personality, 55, 317-342.

Kiecolt-Glaser, J. K., & Greenberg, B. (1983). On the use of physiological measures in assertion research. Journal of Behavioral Assessment, 5(2), 97-109.

King, A. C., Taylor, C. B., Albright, C. A., & Haskell, W. L. (1990). The relationship between repressive and defensive coping styles and blood pressure responses in healthy, middle-aged men and women. Journal of Psychosomatic Research, 34(4), 461-471.

Kreitler, S., & Kreitler, H. (1990). Repression and the anxiety-defensiveness factor: Psychological correlates and manifestations. Journal of Personality and Individual Differences, 11(6), 559-570.

Levenson, R. W., & Mades, L. L. (1980). Physiological response, facial expression, and trait anxiety: Two methods for improving consistency. Paper presented at the Society for Psychophysiological Research, Vancouver, British Columbia, October.

Linden, W., & Con, A. (1994). Laboratory reactivity models as predictors of ambulatory blood pressure and heart rate. Journal of Psychosomatic Research, 38(3), 217-228.

Linden, W., Paulhus, D. L., & Dobson, K. S. (1986). Effects of response styles on the report of psychological and somatic distress. Journal of Consulting and Clinical Psychology, 54(3), 309-313.

Miller, S. B. (1993). Cardiovascular reactivity in anger-defensive individuals: The influence of task demands. Psychosomatic Medicine, 55, 78-85.

Millham, J., & Kellogg, R. W. (1980). Need for social approval: Impression management or self-deception? Journal of Research in Personality, 14, 445-457.

Myers, L. B. (1996). The attributional style of repressive individuals. The Journal of Social Psychology, 136(1), 127-128.

Newton, T. L., & Contrada, R. J. (1992). Repressive coping and verbal-autonomic response dissociation: The influence of social context. Journal of Personality and Social Psychology, 62(1), 159-167.

O'Grady, K. E. (1988). The Marlowe-Crowne and Edwards Social Desirability Scales: A psychometric perspective. Multivariate Behavioral Research, 23, 87-101.

Ritz, R., & Dahme, B. (1996). Repression, self-concealment and rationality/emotional defensiveness: The correspondence between three questionnaire measures of defensive coping. Personality and Individual Differences, 20(1), 95-102.

Schwartz, G. E., Davidson, R. J., & Goleman, D. J. (1978). Patterning of cognitive and somatic processes in the self-regulation of anxiety: Effects of meditation versus exercise. Psychosomatic Medicine, 40(4), 321-328.

Schwartz, G. E., Weinberger, D. A., & Singer, J. A. (1981). Cardiovascular differentiation of happiness, sadness, anger and fear following imagery and exercise. Psychosomatic Medicine, 43, 343-364.

Spielberger, C. D. (1988). State-trait anger expression inventory professional manual. Odessa, TX: Psychological Assessment Resources.

Spielberger, C. D., Jacobs, G. Russell, S., & Crane, R. (1983). Assessment of anger: The State-Trait Anger Scale. In J. N. Butcher & D. C. Spielberger (Eds.), Advances in

Personality Assessment (Vol.2, pp. 161-189). Hillsdale, NJ: Erlbaum.

Spielberger, C. D., Johnson, E. H., Russell, S. F., Crane, R. J., Jacobs, G. A., & Worden, T. J. (1985). The experience and expression of anger: Construction and validation of an anger expression scale. In M. A. Chesney, and R. H. Rosenman, (Eds.), Anger and Hostility in Cardiovascular and Behavioral Disorders (pp. 5-30). New York: McGraw-Hill.

Strickland, B. R., & Crowne, D. P. (1963). Need for approval and the premature termination of psychotherapy. Journal of Consulting Psychology, 27, 95-101.

Taylor, J. A. (1953). A personality scale of manifest anxiety. Journal of Abnormal and Social Psychology, 48, 285-290.

Thompson, J. G. (1988). The psychobiology of emotions. New York: Plenum Press.

Tomaka, J., Blascovich, J., & Kelsey, R. M. (1992). Effects of self-deception, social desirability, and repressive coping on psychophysiological reactivity to stress. Personality and Social Psychology Bulletin, 18(5), 616-624.

Weerts, T. C., & Roberts, S. R. (1976). The physiological effects of imagining anger-provoking and fear provoking stresses. Psychophysiology, 73, 174.

Weinberger, D. A. (1990). The construct validity of the repressive coping style. In J. L. Singer (Ed.), Repression and dissociation: Implications for personality theory, psychopathology, and health (pp. 337-386). Chicago: University of Chicago Press.

Weinberger, D. A., & Schwartz, G. E. (1982). Patterns of emotional responses to affective situations: II. Interactions of anxious and repressive coping styles. Department of Psychology, Stanford University. Typescript.

Weinberger, D. A., Schwartz, G. E., & Davidson, R. J. (1979). Low-anxious, high-anxious, and repressive coping styles: Psychometric patterns and behavioral and physiological responses to stress. Journal of Abnormal Psychology, 88, 369-380.

APPENDIX

Table 1

Intercorrelation Matrix using Pearson Correlations of Personality Traits and Anger Measures (N = 192): Marlowe-Crowne Social Desirability Scale (MCSDS), Spielberger's Trait Anger Scale (STAXI-T), Cognitive Anger (COG), Somatic Anger (SOM), State Anger After the Recovery Period (RA3), and State Anger After the ARI (FA4).

	MCSDS	STAXI-T	COG	SOM	RA3	FA4
TMAS	-0.417**	0.491**	0.533**	0.450**	0.184*	0.269**
MCSDS		-0.511**	-0.394**	-0.248**	-0.143*	-0.167*
STAXI-T			0.457**	0.464**	0.175*	0.251**
COG				0.586**	0.237**	0.302**
SOM					0.225**	0.284**
RA3						0.585**

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 2

Means (SD) for the Bendig Short Form of the Taylor Manifest Anxiety Scale (TMAS) and the Marlowe-Crowne Social Desirability Scale (MCSDS) for Males and Females by Group

Group	Personality Measures	
	TMAS	MCSDS
Repressors		
Males (n = 14)	2.79 (1.67)	24.64 (3.08)
Females (n = 14)	2.43 (1.28)	24.43 (2.47)
Low-anxious		
Males (n = 7)	2.57 (1.27)	11.00 (2.00)
Females (n = 5)	4.00 (1.00)	11.60 (2.51)
High-anxious		
Males (n = 20)	12.70 (3.10)	9.65 (3.07)
Females (n = 17)	14.00 (3.35)	9.82 (2.98)
Defensive High-anxious		
Males (n = 4)	11.50 (2.38)	20.25 (1.50)
Females (n = 14)	11.57 (2.38)	21.21 (2.12)
Total Sample (N = 95)	8.54 (5.53)	16.42 (7.18)

Table 3

Table of Concordance Classifying Repressors using the Bendig Short Form of the Taylor Manifest Anxiety Scale (TMAS) and the Trait Anger Subscale of the State-Trait Anger Expression Scale (STAXI-T) for the Entire Sample (N = 192)

		<u>Anger</u>		
		<5 Repressor	≥ 5 Nonrepressors	Total
<u>Anxiety</u>	<18 Repressors	18	7	25
	≥18 Nonrepressors	8	159	167
	Total	26	166	192

Table 4

Table of Concordance Classifying Repressors using the Bendig Short Form of the Taylor Manifest Anxiety Scale (TMAS) and the Trait Anger Subscale of the State-Trait Anger Expression Scale (STAXI-T) for Males (n = 93)

		<u>Anger</u>		
		<5 Repressor	≥ 5 Nonrepressors	Total
<u>Anxiety</u>	<18 Repressors	7	5	12
	≥18 Nonrepressors	2	79	81
	Total	9	84	93

Table 5

Table of Concordance Classifying Repressors using the Bendig Short Form of the Taylor Manifest Anxiety Scale (TMAS) and the Trait Anger Subscale of the State-Trait Anger Expression Scale (STAXI-T) for Females (n = 99)

		<u>Anger</u>		
		<5 Repressor	≥ 5 Nonrepressors	Total
<u>Anxiety</u>	<18 Repressors	11	2	13
	≥18 Nonrepressors	6	80	86
	Total	17	82	99

Table 6

Means (SD) for Cognitive and Somatic Components of Anger by
Coping Style and for Males and Females

Groups	Components of Anger	
	Cognitive M (SD)	Somatic M (SD)
Repressors		
Males	19.14 (4.57)	18.86 (5.33)
Females	19.29 (4.43)	21.07 (5.38)
Total	19.21 (4.42)	19.96 (5.38)
Low-anxious		
Males	25.43 (8.14)	22.14 (8.17)
Females	23.60 (5.03)	27.40 (7.80)
Total	24.67 (6.80) [p<.02]	24.33 (8.12)
High-anxious		
Males	27.40 (5.20)	27.30 (5.54)
Females	27.59 (6.20)	28.18 (5.87)
Total	27.49 (5.60) [p<.001]	27.70 (5.63) [p<.001]
Defensive High-Anxious		
Males	24.00 (4.70)	23.25 (6.65)
Females	24.07 (5.18)	26.29 (6.73)
Total	24.06 (4.94) [p<.017]	25.61 (6.64) [p<.015]

p values compare repressor mean scores with other group mean scores using Tukey's HSD post hoc test.

Table 7

Cognitive Anger Minus Somatic Anger (Cog-Som) Scores by
Group for Males and Females; Mean Difference

Group	Sex				Difference Between Means for <u>Genders</u>
	<u>Males</u>		<u>Females</u>		
	<u>N</u>	Cog-Som	<u>N</u>	Cog-Som	
Repressor	14	0.29	14	-1.79	2.08
Low-anxious	7	3.29	5	-3.80	7.09*
High-Anxious	20	0.10	17	-0.59	0.69
Defensive High- Anxious	4	0.75	14	-2.21	2.96
Total (<u>N</u>)	(55)	0.71	(50)	-1.70	(95) -0.56**

* $p < .047$.

** $p < .017$.

Table 8

Factor Loadings for Factors from the Recovery Questionnaire

Factor Items	<u>Factor Loading</u>	
	Factor 1	Factor 2
<u>Factor 1 Items, Coping</u>		
4. I was aware of my breathing and any changes in it.	.747	.089
5. I tried to breathe deeper.	.723	.117
7. I was aware of increased muscle tension in my body.	.587	.212
8. I felt my heart pounding.	.558	.172
9. I tried to change my thoughts to something else.	.437	.142
<u>Factor 2 Items, Negative Affect</u>		
1. I thought about the anger discussion task.	.110	.436
6. I felt unhappy.	.237	.728
3. I felt angry.	.198	.877
<u>Items not Loading Heavily on Either Factor</u>		
2. I tried to relax.	.289	-.092
10. I felt relieved.	.228	-.318

Table 9

Table of Means (SD) for Recovery Questionnaire Items for Repressors (RC), Low-anxious (LA), High-anxious (HA), and Defensive High-anxious (DHA)

Coping Style Group

Questionnaire Items	Coping Style Group			
	RC	LA	HA	DHA
1. Thought about the anger task.	2.55 (1.10)	3.08 (0.79)	2.89 (1.07)	2.44 (1.25)
2. Tried to relax.	3.61 (0.57)	3.08 (0.79)	3.30 (0.78)	3.39 (0.61)
3. Felt angry.	1.93 (1.09)	1.92 (1.08)	2.41 (1.09)	1.78 (1.06)
4. Aware of my breathing.	2.25 (1.11)	2.58 (0.90)	2.05 (1.13)	2.44 (1.15)
5. Tried to breathe deeper.	2.07 (1.05)	2.08 (0.90)	2.32 (1.23)	1.78 (1.17)
6. Felt unhappy.	1.54 (0.79)	1.92 (1.00)	2.32 (1.03)	2.06 (1.06)
7. Aware of increased muscle tension in my body.	2.11 (1.17)	2.17 (0.83)	2.19 (1.02)	2.17 (1.29)
8. Felt my heart pounding.	1.93 (1.12)	1.83 (0.94)	2.11 (1.10)	2.00 (1.19)
9. Tried to change my thoughts.	2.64 (1.16)	2.33 (1.23)	3.22 (0.85)	2.83 (1.10)
10. Felt relieved.	2.40 (0.96)	2.00 (0.95)	2.14 (1.00)	2.17 (1.04)

VITA

Elizabeth Godwin was born in New York City, New York on May 24, 1949, where her father was completing his medical training. Her family returned to Atlanta, Georgia where she attended Fernbank Elementary School, The Lovett School, and Druid Hills High School. She was involved in music programs at both church and school and volunteered as a "candy striper" at Egleston Children's Hospital. She graduated from Druid Hills High School in the top 10% of her class in June, 1967. She entered Southern Methodist University in Dallas, Texas in September, 1967, where she was a member of Zeta Tau Alpha Sorority and Beta Beta Beta, a national biology honor society. She received the Bachelor of Arts degree in Biology in May, 1971. In September, 1971, she entered the physician's assistant program in anesthesia at Emory University in Atlanta, Georgia and graduated with the Master of Medical Science degree in June, 1973.

In April, 1973, she married Dr. Paul D. Seabrook, Jr. and lived in Beaufort, South Carolina; Charlotte, North Carolina; and Atlanta, Georgia. She gave birth to and raised two children, John Bradley Seabrook, who graduated from Wofford College in South Carolina in May, 1997, and Jennifer Elizabeth Seabrook, who attends Furman University, also in South Carolina. While raising a family, Elizabeth volunteered

with the Junior Committee of the Charlotte Symphony, the Junior League of Atlanta, Festival of Trees of Atlanta, and the Shakespeare Festival of Atlanta. She worked as the director of the billing and insurance department in a pathology laboratory from 1983-1990.

In January, 1988, she entered the Master's program in Counseling Psychology at Georgia State University in Atlanta, Georgia where she completed an internship at the Alcohol and Drug Treatment Unit of Brawner Psychiatric Institute. She received the Master of Science degree in Education in December, 1989. After graduating, she continued to work as a case manager/therapist on the inpatient Alcohol and Drug Treatment Unit at Brawner. In August, 1990, she entered the doctoral program in Counseling Psychology at the University of Tennessee, Knoxville. She received a Hilton A. Smith Graduate Fellowship and was initiated into Phi Kappa Phi. She completed a pre-doctoral internship at the University of Tennessee Student Counseling Services Center with an external rotation at the Sexual Assault Crisis Center in Knoxville. She worked as a graduate assistant counselor at the University of Tennessee Student Counseling Services Center while finishing her dissertation. The doctoral degree was received May, 1997.