

Lindenwood University

Digital Commons@Lindenwood University

---

Theses

Theses & Dissertations

---

1997

## An Examination of Personality Type and Anger Expression

James Brian Carroll

Follow this and additional works at: <https://digitalcommons.lindenwood.edu/theses>



Part of the Social and Behavioral Sciences Commons

---

**AN EXAMINATION OF PERSONALITY TYPE  
AND ANGER EXPRESSION**

**James Brian Carroll, B.A.**

**An Abstract Presented to the Faculty of the Graduate School  
of Lindenwood College in Partial Fulfillment of the  
Master of Art  
Degree**

## Abstract

The purpose of this study was to determine if there was a significant difference at the alpha level .05 in the means of the Anger-In, Anger-Out, and Anger Control scales scores of the State-Trait Anger Expression Inventory reported by extraverted and introverted participants. Thirty-nine undergraduate students enrolled in a community living course from a small, private, midwestern college served as participants in the present study. There were 16 males and 23 females who volunteered to participate in the present study (mean age=18.21). Participants completed the Myers-Briggs Type Indicator and the State-Trait Anger Expression Inventory. Three independent t-tests on unmatched samples were performed on the mean Anger-In, Anger-Out, and Anger Control percentage scores of the extraverted and introverted participants. The results indicated that there was no difference between the means of the two groups concerning Anger-In and Anger Control ( $t=-.31$ ,  $t=.46$ , respectively). However, there was a difference in the means of the two groups concerning Anger-Out ( $t=3.20$ ).

Committee in Charge of Candidacy:

Marilyn Patterson, Ed.D.

Chairperson and Advisor

Jesse B. Harris, Jr., Ph.D.

Adjunct Professor

Judith A. Tindell, Ph.D.

Adjunct Professor

## Dedication

To my family for their encouragement and to Tony.

## Acknowledgments

I would like to thank Dr. Jesse Harris and Dr. Judith Tindall for the help they offered throughout the process of completing this project. I would also like to thank Dr. Pamela Nickels for her help and assistance in getting me started on this project. A special thanks to Dr. Marilyn Patterson for her guidance, patience, and encouragement. I would like to thank Nikki for letting me talk about my thesis, again, and Michelle for reviewing the manuscript. Finally, I would like to thank Dr. Michael Mason for allowing me to use his classes.

## Table of Contents

Abstract	i
Committee in Charge of Candidacy	ii
Dedication	iii
Acknowledgments	iv
Table of Contents	v
List of Tables	vii
Chapter 1 Introduction	1
Statement of Purpose	3
Chapter 2 Review of the Literature	4
Jungian Theory of Personality Type	4
Personality Type of Briggs and Myers	8
Anger	11
Anger Arousal and the Role of Anger	13
Anger Expression and Physical Health	14
Anger Expression and Mental Health	16
Catharsis	20
Cognitive-Behavioral Approach	21
Young Adulthood	22
Chapter 3 Method	24
Participants	24
Materials	24
Dependent Variables	24
Procedure	28
Chapter 4 Results	29

Chapter 5	Discussion	36
	References	40
	Vita-Auctoris	44



## List of Tables

Table 1	Stem-and-Leaf of AX/In Scores	29
Table 2	Stem-and-Leaf of AX/Out Scores	30
Table 3	Stem-and-Leaf of AX/Con Scores	31
Table 4	Central Tendencies, Standard Deviations, and Ranges of AX/In, AX/Out, and AX/Con Scores	32
Table 5	T-Test Analysis of AX/In Means	34
Table 6	T-Test Analysis of AX/Out Means	34
Table 7	T-Test Analysis of AX/Con	35

# AN EXAMINATION OF PERSONALITY TYPE AND ANGER EXPRESSION

James Brian Carroll, B.A.

A Thesis Presented to the Faculty of the Graduate School  
of Lindenwood College in Partial Fulfillment of the  
Master of Art  
Degree

## CHAPTER 1

### Introduction

Writing nearly three-quarters of a century ago, Jung first proposed his theory of personality type in Psychological Types. Jung seemed to make the extraverted-introverted preference a basis of his theory of personality type. Jung (1990) defined the extraverted-introverted preference in terms of how an individual related to the world. For an extraverted individual, there is an objective truth and reality that is outside the individual that is used to perceive and judge. In contrast, for an introverted individual, it is the internal experience that is used to perceive and judge. Additionally, Jung (1990) hypothesized that there were four functional types (i.e., feeling, thinking, sensing, and intuitive). These four types, depending upon the preference, are also used by the individual in judging and perceiving and will be discussed in detail later in this study.

The research of Briggs and Myers (Myers & Myers, 1980) expanded and modified the work of Jung. In their theory of personality type, Briggs and Myers viewed personality type as composed of four preferences of opposite types (i.e., the extraverted-introverted preference, the sensing-intuitive preference, the thinking-feeling preference, and the judging-perceiving preference). Briggs' and Myers' view of the extraverted-introverted preference was similar to Jung's. Briggs and Myers (Myers & Myers, 1980) conceptualized the extravert as focusing on the outer world of people and things and as

focusing his or her perceptions and judgments on the outside environment. The introvert was conceptualized as focusing on the inner world of ideas and concepts and focuses his or her perceptions and judgments on the inner environment.

Additionally, Briggs and Myers maintained that there is a thinking preference, a feeling preference, a sensing preference, an intuitive preference, a judging preference, and a perceiving preference. Jung briefly described judging and perceiving, yet did not view them as a distinct preference. Briggs and Myers (Myers & Myers, 1980) reported that judging and perceiving were distinct preferences. Furthermore, Briggs and Myers expanded typology with the introduction of dominant and auxiliary processes. Briggs' and Myers' view of personality type will be discussed in detail later in this study.

The use of personality type in the assessment of anger expression issues may be beneficial to researchers, clinicians, and counselors. Research (Clay, Anderson, & Dixon, 1993; Dembroski, MacDougall, Williams, Haney, Blumenthal, 1985; Diamond, 1982; Fischer, Smith, Leonard, Fuqua, Campbell, & Masters, 1993; Greene, Coles, & Johnson, 1994; Kerns, Rosenberg, & Jacob, 1993; Kooper, 1993; Moreno, Fuhriman, & Selby, 1993) has shown a relationship between anger expression issues and physical health and mental health. Various approaches (e.g., gestalt and cognitive-behavioral) have been suggested for treatment of anger expression issues. However, the most beneficial intervention to use may depend on

the personality type of an individual.

#### Statement of Purpose

The purpose of this study was to determine if there was a significant difference at the alpha level .05 in the means of the Anger-In (AX/In), Anger-Out (AX/Out), and Anger Control (AX/Con) scale scores reported by extraverted and introverted participants. These variables (AX/In, AX/Out, AX/Con) were interval level variables (percentage).

The first null hypothesis was that there was no significant difference in the mean AX/In scale scores of extraverted and introverted participants. The alternative hypothesis was that there was a significant difference in the mean AX/In scale scores of extraverted and introverted participants. The second null hypothesis was that there was no significant difference in the mean AX/Out scale scores of the extraverted and introverted participants. The alternative hypothesis was that there was a significant difference in mean AX/Out scale scores of extraverted and introverted participants. The final null hypothesis was that there was no significant difference in the mean AX/Con scale scores of extraverted and introverted participants. The alternative hypothesis was that there was a significant difference in the mean AX/Con scale scores of extraverted and introverted participants.

## CHAPTER 2

### Review of the Literature

#### Jungian Theory of Personality Type

Jung offered a rich theory of personality type. Jung (1990) wrote that personality types are found in all individuals. He argued that types are not a matter of individual choice because if it were the case, certain classes and groups of people would have similar personality types. Rather, Jung viewed types to be randomly distributed among people and argued that types had a "biological foundation." Jung further believed that types were manifested in both the consciousness and the unconscious. Additionally, he believed that there were two main types --- extraversion and introversion, with the thinking, feeling, sensing, and intuitive types being functions of these two main types. He believed that these types, extraversion and introversion, were the basis of how individuals viewed and interacted with the world. Two terms that are beneficial to understanding Jung's theory are "objective" and "subjective." For Jung, "objective" referred to the outside world or things outside the individual. "Subjective" referred to the inner world or inner processes of the individual (Jung, 1990).

In Psychological Types (1990), Jung provided descriptions of how he viewed each type. He described the "general attitude of consciousness" of the extraverted type as thinking, feeling, and behaving according to the outside world, specifically, in accordance to an external and objective reality

and truth. As the objective reality and truth of a society changes, the extravert would change to match this reality and truth.

Jung (1990) noted that the extravert's danger is "he gets completely sucked into objects and completely loses himself in them" (p. 198), with hysteria being the result. The basic punctuation of the hysteric extraverted type would be an "exaggerated rapport with persons...that amounts to imitation" (Jung, 1990, p. 198). Jung believed that the hysteric extravert compensated for this exaggeration in the attitude of the unconscious. That is, the unconscious would tend to become more introverted and produce primitive, infantile egocentric tendencies.

Concerning the functional types, Jung (1990) labeled the thinking type and the feeling type as rational or judging, and believed that both types were largely conscious processes. Both of these types are found in the extravert, as well as the introvert. However, they are characterized differently according to the type (i.e., extraverted or introverted). In the extravert, both the thinking and feeling types are characterized as being concerned with objective data. Specifically, the extraverted thinking type uses objective data to make a judgment with an objective criterion. For the extraverted feeling type, "the extrovert's feeling is always in harmony with objective values" (Jung, 1990, p. 208). That is, something is beautiful not because of an internal state; rather, it is beautiful because other's think it is beautiful and has been given the label of "beautiful."

The remaining functional types, sensing and intuitive, were labeled as irrational or perceptive types. Jung believed that these types were largely unconscious processes. In the extravert, the sensing and intuitive types are based on objective experience; that is, what is going on in the outside world. The extraverted sensing type's primary focus is on what is actually taking place in the outside world. For the extraverted intuitive type, the purpose is to envision the widest range of possibilities.

The second personality type, in regard to relating to the world, that Jung described was the introverted type. He believed that the introvert oriented himself or herself by subjective or internal factors (Jung, 1990). That is, the introvert receives information from the outside world and arrives at a decision using internal factors. Jung (1990) noted that these individuals could be considered egocentric by the lay person. However, he argued that this idea is not true because type is something that the individual is born with and, therefore, precedes the development of the ego; introversion is fundamental to the individual.

The attitude of the unconscious in the introvert is the converse of the attitude of the unconscious in the extravert. That is, for the introvert, the objective factors play an important role. Taken to the extreme, the introvert will develop a "fear of objects" and produce "power fantasies" in which the objective is ruled by the subjective.

As with the extraverted type, the introverted type has functional types. These functional types were labeled the



same as the functional types of the extravert. Specifically, in the introvert, the functional types of thinking and feeling were labeled rational or judging types and were conscious processes, and the sensing and intuitive types were labeled as irrational or perceptive types and were unconscious processes. However, Jung offered different descriptions of the functional types in the introverted type.

For the introverted thinking type, Jung (1990) declared the tendency for this type to rely on the subjective factor in making decisions. It is the subjective factor of the individual that creates a feeling of guidance that determines the judgement of the individual. Similarly, the introverted feeling type is guided by the subjective factor. Jung (1990) characterized this type as having a depth that is rarely seen on the surface, and "it is continually seeking an image which has no existence in reality, but which it has seen in a kind of vision" (p. 228).

Jung (1990) described the introverted functional type of sensation as different than the extraverted sensation type in that the introverted sensation type imposes a subjective factor on the objective factor. That is, what is perceived by the introverted sensation type does not reside in the object but is suggested. Additionally, the introverted intuitive type relies on the subjective factor. However, in distinguishing it from the extraverted intuitive type, Jung (1990) asserted that the unconscious images of the perceived objective are the guiding force in this type.

### The Personality Type of Briggs and Myers

Katherine Briggs and Isabel Briggs Myers expanded and modified Jung's typology. For Jung, eight types were possible. According to Briggs' and Myers' work, "...personality is structured by four preferences concerning the use of perception and judgment" (Myers & Myers, 1980, p. 8). Therefore, according to Briggs' and Myers' theory, sixteen types are possible. They asserted the four pairs were composed of opposites. These four pairs included: the extraversion-introversion preference, the sensing-intuitive preference, the thinking-feeling preference, and the judgment-perception preference.

Concerning the extravert-introvert preference, Briggs and Myers (Myers & Myers, 1980) viewed the extravert as concerned with the outer world of people and things, and the introvert as concerned with the inner world of ideas and concepts. Briggs and Myers (Myers & Myers, 1980) described the extravert as afterthinkers, they cannot understand life until they have lived it; as having a relaxed and confident attitude; understandable, accessible, and sociable; expansive; and tend to unload their emotions. Conversely, Briggs and Myers (Myers & Myers, 1980) described the introvert as forethinkers, they cannot live life until they understand it; as having a reserved and questioning attitude; subtle, impenetrable, and are often viewed as shy; intense and passionate; and tend to "bottle up" their emotions. Furthermore, extraverts outnumber introverts three to one (Myers & Myers, 1980).

The sensing-intuitive preference is the second preference in Briggs' and Myers' typology. Briggs and Myers viewed the sensing type as dependent on their senses for perception, and the intuitive type as concerned with possibilities that arise from the unconscious. Briggs and Myers (Myers & Myers, 1980) characterized sensing types as craving enjoyment; intensely aware and dependent upon the external environment; and living in the present. Conversely, the intuitive type was described as craving inspiration; having a desire for opportunities and possibilities; and being future oriented. Briggs and Myers (Myers & Myers, 1980) noted that sensing types outnumber intuitive types three to one. Interestingly, they observed that the proportion of intuitive types increased with level of education.

The thinking-feeling preference is the third preference in Briggs' and Myers' typology. These two types are concerned with judgment (Myers & Myers, 1980). Briggs and Myers (Myers & Myers, 1980) described the thinking type as impersonal and concerned with the objective truth. Additionally, thinking types are characterized as valuing logic; generally more interested in things; and having a tendency to suppress, undervalue, and ignore feelings that are incompatible with thinking judgments. Conversely, Briggs and Myers described the feeling type as personal and sympathetic of other people. Furthermore, the feeling type was described as valuing sentiment; interested in people; and having a tendency to suppress, undervalue, and ignore thinking that is incongruent with feeling judgments.

The final preference in Briggs' and Myers' typology is the judging-perceiving preference. Briggs and Myers (Myers & Myers, 1980) described the judging type as preferring to settle things and coming to a conclusion. Whereas, the perceiving type prefers to keep their options as open as possible. A judging type can be described as more decisive; living according to plans and standards; being rational; and tending to like to have matters settled. A perceiving type can be described as curious; living according to the situation of the moment; being empirical; and keeping decisions open as long as possible.

Briggs and Myers (Myers & Myers, 1980) asserted that an individual could be described in part by their four preferences (e.g., INTP). The values, interests, and needs are a result of the set of preferences.

Briggs and Myers further elaborated on the role of the dominant and auxiliary processes. The purpose of the dominant process is to unify the life of the individual and give direction (Myers & Myers, 1980). For the extravert, the dominant process is dependent upon the judging-perceiving preference. The extravert's dominant process prefers the outside world. If the extravert has a judging preference, the dominant process would be either thinking or feeling (a judging preference). As with the extravert, the introvert's dominant process is dependent upon the judging-perceiving preference. However, the introvert does not use the dominant process in dealing with the outside world. If the introvert has a judging preference, the dominant process

would be a perceptive preference (i.e., sensing or intuitive). If the introvert has a perceptive preference, the dominant process would be a judging preference (i.e., thinking or feeling). The role of the auxiliary process is to balance the individual, particularly the extraversion and introversion of an individual (Myers & Myers, 1980).

### Anger

The word "anger" has many nuances for people. For some individuals, the word "anger" may bring to mind an emotional state --- a feeling of vengeful madness. For others, "anger" may bring to mind certain behaviors. For example, an individual with a tightened jaw and clenched fist pounding on a table.

Several researchers (Biaggio, 1980; Spielberger, 1996) have pointed out that one problem in studying anger is defining and assessing the emotion. Specifically, what is anger? Does anger have an emotional aspect, or a behavioral aspect, or a cognitive aspect, or is anger a combination of these three aspects?

Contributing to this problem are the definitions offered for anger. Some definitions offered for anger are broad, while other definitions are specific. To illustrate this point, the following three definitions are offered for anger. According to Izard (1977), anger is a primary emotion that arises when the attainment of a goal or the fulfillment of a need is blocked.

Another definition was offered by Russell and Mehrabian. Russell and Mehrabian (1974) studied the distinguishing factors of anger and anxiety. In their study, the researchers

conceptualized emotions as "... derivative concepts and are definable as regions in a three-dimensional space" (Russell & Mehrabian, 1974, p. 79). These regions included a pleasure to displeasure dimension, an arousal to nonarousal dimension, and a dominance to submissiveness dimension. It was found that anger and anxiety consisted of high levels of arousal and low levels of pleasure. The distinguishing factor between these two emotional states involved the dominance to submissiveness dimension. The difference that was found was that anger involved a high level of dominance, and anxiety involved submissiveness.

A third definition of anger was proposed by Spielberger. Spielberger (1996) conceptualized anger as being composed of two components. The first component is state anger. State anger is defined as "an emotional state marked by subjective feelings that vary in intensity from mild annoyance or irritation to intense fury and rage" (Spielberger, 1996, p. 1). The second component is trait anger. Spielberger (1996) defined trait anger "as the disposition to perceive a wide range of situations as annoying or frustrating and the tendency to respond to such situations with more frequent elevations in state anger" (p. 1).

One can see the varying degrees of complexity in the definitions offered for anger. These differences contribute to the problem of operationally defining anger in research. For the purpose of this study, the definition offered by Spielberger was used.

### Anger Arousal and the Role of Anger

Other researchers (Biaggio, 1980; Novaco, 1975) have turned their attention to factors involved in anger arousal, and the role anger plays in an individual's behavior. Biaggio (1980) used four measures in her research on the assessment of anger arousal. These measures included: the Buss Durkee Hostility Inventory (BDHI), the Reaction Inventory (RI), the Anger Self-report (ASR), and the Anger Inventory (AI). The BDHI is a self-report inventory designed to measure eight types of hostility. The eight types of hostility include: assault, guilt, indirect hostility, irritability, negativism, resentment, suspicion, and verbal hostility. The RI was designed to measure specific situations which result in anger. The ASR is an instrument measuring an individual's awareness and expression of aggression. Finally, the AI is a measure of anger reactions to a range of provocations.

Biaggio (1980) hypothesized that there would be significant correlations between the scales and subscales. Additionally, it was hypothesized that individuals who used acts of hostility, as measured by the BDHI and the ASR, would have a low need for approval. Furthermore, in Biaggio's (1980) study, it was hypothesized that men and women would differ amongst the four measures.

The results tended to support the hypotheses. Interestingly, the researcher (Biaggio, 1980) conducted a factor analysis for the total variance and resulted in five factors. The first factor was a willingness to experience and express anger (58.9% of the total

variance). The second factor involved overt anger expression (16.8% of the total variance). The third factor was composed of an attitude of resentment, mistrust, and guilt (10.9% of the variance). The fourth factor involved anger-provoking situations (7.4% of the total variance). Finally, the fifth factor represented negativism (6.0% of the total variance).

While Novaco (1975) studied anger arousal (a reactive condition of disturbance), he also pointed out the functions of anger and asserted that anger has adaptive functions. Such functions include: the energizing of behavior, serving as a communicative function for the expression of negative feelings, and a defensive function.

Novaco (1975) stated that in competitive situations anger could be used to energize behavior. He noted that under these types of situations, anger could bring about productive behaviors that would otherwise be inhibited in ordinary situations. In a communicative function, anger could be used to express negative feelings or to give negative feedback to other individuals.

Novaco (1975) noted that this ability is a necessary precondition of conflict resolution; specifically, the ability to express anger in such a way that does not escalate the situation. Finally, as a defensive function, anger can be used to protect an individual from physical or mental harm.

### Anger Expression and Physical Health

While there are positive outcomes of anger, there are negative outcomes of anger, as well. A body of research has



been conducted examining anger expression and physical health (Dembroski, et al., 1985; Diamond, 1982; Kerns, et al., 1994). In Dembroski et al.'s study, the relationship between Type A coronary-prone behavior pattern (TABP) and the severity of an individual's coronary disease was studied. Specifically, the researchers examined what elements of TABP were related to the severity of coronary disease. Dembroski et al. (1985) defined TABP as "an environmentally induced action - emotion complex or syndrome consisting of vigorous voice and psychomotor mannerisms, hard-driving and time-pressured job involvement, competitiveness, impatience, and easily aroused anger and hostility" (p. 219).

The elements of TABP included: loudness, explosiveness, rapid or accelerated speech, response latency, potential for hostility, anger-in, verbal competitiveness, time pressure, hard-driving behavior, speed of activity, competitiveness, and anger-impatience. Of all these variables, the researchers (1985) found that the variables of potential for hostility and anger-in were significantly associated with coronary disease severity. The researchers went further and defined these two variables. They (1985) defined hostility as "...a relatively stable predisposition in a variety of circumstances to experience varying degrees and combinations of anger, irritation, disgust, annoyance, contempt, resentment, and the like that may or may not be associated with overt behavior directed against the source of a frustration" (p. 230). Anger-in was viewed as independent of hostility.

Anger-in was defined as an unwillingness to express hostility and/or anger overtly.

Similarly, in a study of 142 chronic pain patients conducted by Kerns et al. (1994), it was found that individuals who internalized feelings of anger reported higher levels of pain. Additionally, individuals who outwardly expressed their anger or controlled their anger did not report significantly higher levels of pain. The results of these findings suggested that the suppression of anger has negative consequences for an individual's physical health.

#### Anger Expression and Mental Health

Several researchers (Clay et al., 1993; Greene et al., 1994; Moreno et al., 1993; Kooper, 1993) have studied the relationship between anger expression and mental health. Clay et al. (1993) studied the relationship between anger expression and stress in predicting depression. The researchers (Clay et al., 1993) noted from their review of the literature concerning stress, that stress accounts for approximately 10% of the variance in depression scores. Due to this finding, the researchers turned their attention to other variables that may be related to depression. The researchers noted that anger had received increased attention in the literature.

Accordingly, the researchers (Clay et al., 1993) hypothesized that increases in stress and anger turned inward would be related to increases in depression. As predicted, the results of the study supported the hypothesis.

In a similar study conducted by Moreno et al. (1993), the

researchers examined the variables of hostility and anger in depressed and nondepressed subjects. Additionally, the researchers (Moreno et al., 1993) examined the reliability and validity of an earlier version of the instrumentation used in the study. The following instrumentation was used in their study: the Hamilton Rating Scale for Depression (HRSD), the Beck Depression Inventory (BDI), the Buss Durkee Hostility Inventory (BDHI), the Hostility and Direction of Hostility Questionnaire (HDHQ), and the State-Trait Anger Scale (STAS).

The HRSD is a measure of depression conducted via interview that assesses 21 variables related to depression (Moreno et al., 1993). Another measure of depression used was the BDI. The BDI is a self-report measure containing 21 items assessing cognitive, affective, behavioral, and somatic aspects of depression (Moreno et al., 1993). The BDHI is a measure of hostility and has been previously discussed. Another measure of hostility used was the HDHQ. The HDHQ contains 48 items taken from the Minnesota Multiphasic Personality Inventory (MMPI) and consists of the following four subscales: intropunitiveness, extrapunitiveness, direction of hostility, and general hostility (Moreno et al., 1993). The STAS is a measure of state anger and trait anger.

As predicted and consistent with the findings of Clay et al. (1993), the researchers (Moreno et al., 1993) found a significant correlation between anger and depression. Additional correlations were found to be significant for hostility and

depression. For the purposes of the present study, only the results concerning the validity and reliability of the STAS will be discussed, as this instrument was revised and renamed the State-Trait Anger Expression Inventory (STAXI) and was used as a measure in the present study.

The highest correlations found were between the trait-anger scale on the STAS and the BDHI Total (.83) and between the trait-anger scale on the STAS and the HDHQ General (.74). Correlations were found between the state-anger scale on the STAS and the subscales of the HDHQ, with the exception of the Direction of Hostility subscale, and the BDHI (Moreno et al., 1993). Additionally, correlations were found between both the scales of the STAS and the HRSD (.46 for state-anger and .41 for trait-anger) and the BDI (.54 for state-anger and .44 for trait-anger) (Moreno et al., 1993). Test-retest coefficients were reported for the state-anger scale (-.02) and the trait-anger scale (.80). It should be noted that the coefficient for that state-anger scale was -.02 possibly due to the operational definition of state-anger. That is, state-anger fluctuates over time.

The results of the findings of a study conducted by Kooper (1993) supported the findings of the previously discussed research; specifically, there is a relationship between anger expression and depression. Kooper also examined the variables of gender and sex role identity in her study. It was found that gender was not a determining variable in anger expression. This finding is consistent with the findings of Fischer et al. (1993).

However, Kooper (1993) found that there was a significant relationship between sex role identity and anger expression. That is, individuals with a masculine sex role identity were more likely to express anger outwardly than to suppress or control their anger. Whereas, individuals with a feminine sex role identity were more likely to suppress their anger or control their anger than express their anger outwardly. Furthermore, Kooper (1993) examined sex role identity and depression. As expected, individuals with feminine sex role identities obtained higher depression scores, and individuals with masculine sex role identities obtained lower depression scores.

Greene et al. (1994) conducted a study concerning psychopathology, anger expression, and domestic violence offenders. It should be noted that the STAXI was an instrument used in this study. Concerning the anger expression pattern of domestic violence offenders, it was found that these individuals had higher levels of anger expression than the normal population. Anger expression is defined as the frequency that anger is expressed, regardless of the direction of the expression (i.e., outwardly or inwardly).

As has been discussed, certain types of anger expression have serious consequences for physical and mental health. The next section will provide the reader with information regarding various treatment approaches to anger.

## Catharsis

The use of catharsis dates back to the ancient Greeks. The word "catharsis" comes from the Greek word "katharsis," literally meaning purification (Jackson, 1994). During these times, catharsis had a broader meaning, specifically, "as purification to free the person from uncleanness" (Jackson, 1994, p. 473). Such purification could include a physical, medical, mental, or spiritual cleaning through such practices of washing the body, prayer, or a sacrifice. For example, Aristotle was concerned with the "catharsis of passions" and believed that the use of music and drama could achieve this goal (Jackson, 1994; Lewis & Bucher, 1992).

A widely accepted belief is that the release of stored up emotions will benefit an individual (Jackson, 1994; Lewis and Bucher, 1992; Marshall, 1972). Marshall (1972) noted that in a review of 300 group psychotherapy articles, a majority of the researchers indicated that some type of catharsis was an important component in their therapy. It should be noted that this article does not mention whether it was important to the therapist or client. Additionally, there are individual therapies that make catharsis an important part of the therapy (Jackson, 1994). Gestalt therapy and Primal therapy are examples. It seems that an extraverted individual, as opposed to an introverted individual, based on the descriptions offered by Briggs and Myers, would best benefit from this type of intervention.

### Cognitive-Behavioral Approach

Several researchers (Glick & Goldstein, 1987; Hains & Szyjakowski, 1990; Novaco, 1975) have argued that a cognitive-behavioral approach best serves individuals with anger expression issues. Glick and Goldstein (1987) developed a training program for aggressive adolescents. The program consisted of three sections. The first section consisted of beginning social skills (e.g., introducing oneself), advanced social skills (e.g., apologizing), skills for dealing with feelings (e.g., fear), alternatives to aggression (e.g., negotiating), skills in dealing with stress (e.g., dealing with an accusation), and planning skills (e.g., goal setting). The second section consisted of anger control training by identifying triggers (i.e., what provokes anger responses), identifying cues (e.g., clenched fists), using reminders (i.e., self-statements, such as "stay calm"), using reducers (e.g., deep breathing), and using self-evaluation (i.e., how effective did one respond). The third section consisted of moral education.

Another cognitive-behavioral program was developed by Hains and Szyjowski (1990). Their program consisted of three phases (i.e., a conceptualization phase, a skill acquisition and rehearsal phase, and an application phase). The conceptualization phase consisted of identifying irrational cognitions that promote anger. The acquisition and rehearsal phase required the participant to learn how to challenge and restructure irrational cognitions. Additionally, during this phase, the participants were taught how to use self-instructions as an additional method of coping. Finally, the

application phase involved the practice of previously learned skills.

Novaco (1975) suggested that a combination of a cognitive-behavioral approach and relaxation training best served the individual with anger expression issues. Novaco's cognitive-behavioral program was similar to the previously mentioned programs (i.e., that is identifying irrational cognitions that contribute to anger arousal, learning anger management skills, and practicing these skills). The relaxation portion of Novaco's program consisted of having participants visualize anger arousing situations and taking deep breaths and visualizing oneself as being calm and relaxed in the situation.

This type of approach to anger management seems to be somewhat the opposite of a cathartic approach. Instead of "getting the anger out," the individual is required to use internal controls (i.e., self-instruction and visualization) to manage anger. This approach would seem to be the treatment of choice for introverted individuals, based on the description offered by Briggs and Myers.

#### Young Adulthood

Briggs and Myers noted that by the time children reach the seventh grade, their type can be accurately measured (Myers & Myers, 1980). However, this age group does not fully have the ability to foresee the consequences of their actions (Newman & Newman, 1995). Part of anger control is the utilization of this ability. For this reason, this age group was eliminated as possible participants in the present study.

Newman and Newman (1995) noted that there was a change



in thinking during the period of adolescence to early adulthood. Thinking becomes more abstract, with the individual gaining the ability to think about several dimensions of a situation at once. Additionally, the authors noted that the individual gains the ability to think about the logical sequence of events and foresee the consequences of their actions. With these reasons, it was determined that this age group would be suitable participants in the present study.

## CHAPTER 3

### Method

#### Participants

Thirty-nine undergraduate students enrolled in a community living course from a private, midwestern college that offers a curriculum to undergraduate and Masters level students served as participants in the present study. The community living course is a 16-week, one credit course required of all incoming freshman. There were 16 males and 23 females who volunteered to participate in the present study. The participants ages ranged from 18 to 20 (mean=18.21).

#### Materials

One instrument that was employed in this study was the Myers-Briggs Type Indicator (MBTI), form G, self-scorable (revised). The MBTI is a 94-item, paper and pencil, self-report measure designed by Myers and Myers (1993). The MBTI consists of two parts. The first part consists of 49 questions. The second part is made up of 45 word pairs. The MBTI classifies individuals on four theoretically-based dimensions, with each dimension having two polar preferences (Myers & Myers, 1993). Combinations of the four types yield a possibility of 16 types.

The first dimension, the extraversion (E) - introversion (I) dimension, classifies an individual's attitude toward the world. Specifically, an individual who would be classified as an extravert would tend to focus on the outer world of people

and objects; whereas, an individual who would be classified as an introvert would tend to focus on the inner world of ideas (Myers & Myers, 1993). The sensation (S) - intuition (I) dimension classifies how an individual prefers to perceive things. That is, an individual who has been classified as a sensing type would tend to focus on the present and sensory-based information. An individual classified at the other end of this dimension, or intuitive, would tend to focus on the future and the organization of things (Myers & Myers, 1993). The third dimension, the thinking (T) - feeling (F) dimension, classifies how an individual processes information and comes to a decision. Specifically, an individual classified as a thinking type would tend to process information and reach a decision by using logic and objective analysis; conversely, a feeling type would use their personal values and subjective experience in processing information and arriving at a decision. (Myers & Myers, 1993). Finally, the judging (J) - perceiving (P) dimension is similar to the T - F dimension in that it classifies how an individual arrives at a decision. Additionally, this dimension is used to determine whether the S - N dimension or the T - F dimension is the dominant or auxiliary preference of the individual. An individual classified as a judging type would tend to take a planned and organized approach to life. Conversely, an individual classified as a perceiving type would tend to keep options open in his or her life (Myers & Myers, 1993). Several researchers (Carlson, 1985; Carlyn, 1977) have reported that the

MBTI possesses satisfactory validity and reliability.

Another instrument used in this study was the State-Trait Anger Expression Inventory, form HS . The STAXI is a 44-item, paper and pencil, self-report measure designed by Spielberger (1996). It consists of six anger scales and two anger subscales. The six anger scales are as follows: State Anger (S-Anger), Trait Anger (T-Anger), Anger-in (AX/In), Anger-out (AX/Out), Anger Control (AX/Con), and Anger Expression (AX/EX). The two anger subscales include: Angry Temperament (T-Anger/T) and Angry Reaction (T-Anger/R).

The S-Anger scale measures the intensity of angry feelings at a particular time. The T-Anger scale measures an individual's disposition to experience anger. The frequency in which angry feelings are suppressed is measured by the AX/In scale. The AX/Out scale measures the frequency in which an individual expresses his or her anger toward other people or objects. The AX/Con measures how often an individual attempts to control his or her angry feelings. The frequency that anger is expressed, regardless of the direction of the expression, is measured by the AX/Ex scale. The T-Anger/T subscale measures an individual's disposition to experience and express anger without a specific provocation. Finally, the T-Anger/R subscale measures an individual's disposition to express anger when criticized (Spielberger, 1996).

Reliability of the STAXI was measured by eight- and ten-week test-retest correlations that ranged from .58 to .75.

Validity was measured by Cronbach's alpha coefficients that ranged from .70 to .84 (Spielberger, 1996). Several researchers (Collins & Hailey, 1989; Greene et al., 1994; Moreno et al., 1993) have reported that the STAXI has satisfactory validity and reliability.

Furthermore, SPSS/PC+ Studentware Plus was used to perform the statistical analysis of the data. SPSS/PC+ Studentware Plus is a student version of the SPSS/PC+ system. It provides tools for describing and tabulating data, hypothesis testing, and for regression and correlation analysis. The software requires 640K of memory (RAM) and version 3.0 or later of PC/DOS or MS/DOS on an IBM PC/XT, PC/AT, PS/2, or closely compatible computer with a hard drive (Norusis, 1991).

#### Dependent Variables

The dependent variables in this study were the results of the AX/In, the AX/Out, and the AX/Con scales of the STAXI. As mentioned previously, the AX/In scale measures the degree to which angry feelings are held in or suppressed; the AX/Out scale measures the degree to which angry feelings are expressed; and AX/Con measures the degree to which an individual attempts to control angry feelings.

#### Procedure

In the present study, the researcher explained the purpose of the study and obtained permission from faculty members to come into their classroom to administer the STAXI and the MBTI. At an agreed (between the faculty member and the

researcher) upon date and time, the researcher came to the participants' class and explained the purpose of the study. Additionally, it was explained to the participants by the researcher that the completion of the STAXI and the MBTI would constitute their consent to participate in the study. Participants were given instructions as to how to complete the STAXI and the MBTI according to each instrument's manual. Participants were asked to complete the STAXI followed by the MBTI. Participants used classroom time to complete the measurements. The researcher collected completed questionnaires and did the scoring. The results of the STAXI can be presented using percentage or *T* scores. In the present study, the percentage was used. The scores were entered into a computer and a data analysis was performed using SPSS/PC+ Studentware Plus software. Finally, confidentiality was maintained throughout the study.

## CHAPTER 4

### Results

Stem-and-leaf plots, a table of central tendencies, and the results of the three t-tests were used to provide the reader with visual representations of the data. Additionally, the stem-and-leaf plots and the table of central tendencies was used to "build a case" for using the t-test statistic.

The stem-and-leaf plot is a method for displaying data in a visually meaningful way. The first digit, or leading digit, of each score is taken and forms the stem of the display. The remaining digits, or trailing digits, form the leaf of the display.

---

Table 1

Stem-and-Leaf of AX/In Scores

Extraverted Participants		Introverted Participants
	0	8
6 6 5 5 5 5	1	1 5 6
5 5 2	2	2
4	3	
2 2 1	4	1 2
2	5	2
8 8 0	6	0 0
	7	7
9 9 6 2	8	2 9
9 9 8	9	3 3

---

A stem-and-leaf demonstrates the AX/In score distribution frequency in Table 1. As can be seen from Table 1, there appears to be a nonsymmetrical distribution in AX/In scale scores in extraverted and introverted participants.

Table 2 is a stem-and-leaf display showing the AX/Out scale score distribution frequency. Extraverted AX/Out scale scores appear to have an unsymmetrical distribution and to be negatively skewed. This negative skewness may be accounted for by the extreme scores in the distribution. With introverted AX/Out scores, there appears to be somewhat of a symmetrical distribution.

---

Table 2

Stem-and-Leaf of AX/Out Scores

Extraverted Participants		Introverted Participants
	0	3 3
	1	3
2	2	2 2
2	3	2 3 8
3 2	4	
5 4	5	4
4 4 4 4 3 2	6	4 5
9 8 8 8 8 3	7	9
5	8	8
8 6 5 4 4 2	9	4

---



A stem-and-leaf demonstrates the AX/Con scale score distribution frequency in Table 3. Again, there appears to be a nonsymmetrical distribution in AX/Con scale scores in extraverted and introverted participants. The most one could conclude from the stem-and-leaf displays is the symmetry and skewness, if any, of the distribution of the scores because of the

Table 3

Stem-and-Leaf of AX/Con Scores		
9 6	0	2
9	1	6 6
5	2	3 5
9 9 1	3	9
	4	
8 2 2 2 1	5	0
4	6	
7 7 3 0	7	2 9 9
8 5 4 4 4	8	2
9 9 2	9	5 9 9

small sample size.

The main purpose of the study was to determine if there was a significant difference in the mean AX/In, AX/Out, and AX/Con percentage scores reported by extraverts and introverts. Table 4 provides the central tendencies, standard deviations, and ranges of AX/In, Ax/Out, and Ax/Con percentage scores. The

mean AX/In percentage score for the extraverted participants was 49.52. This score was obtained by adding all the AX/In percentage scores and dividing by 25 (total number of extraverted participants, with a standard deviation (SD) of 31.33. The median, when the numbers are arranged in order and the point that corresponds to the score that falls in the middle, was 42. The mode, the most commonly occurring score, was 15.

According to Howell (1992) the SD is the positive square root of the variance. The SD allows one to know how much of that data falls around the mean. That is, 68.26% of the data falls within plus or minus one SD of the mean; 95.44%

---

Table 4  
Central Tendencies, Standard Deviations, and Ranges of  
AX/In, AX/Out, and AX/Con Scores

	Extraverted Participants			Introverted Participants		
	AX/In	AX/Out	AX/Con	AX/In	AX/Out	AX/Con
Mean	49.52	69.88	60.36	52.79	43.57	55.43
Median	42	73	64	56	35.5	61
Mode	15	64/78	52/84	60	3/22	16/79/99
SD	31.33	20.70	27.75	31.47	30.62	34.75
Range	84	76	93	85	91	97

---

SD of the mean; 95.44% of the data falls within plus or minus two SD of the mean; and 99.72% of the data falls within plus or minus three SD of the mean. The range of the AX/In percentage scores

of the extraverted participants was 84. The range is obtained by subtracting the minimum score from the maximum score.

In comparison, the introverted participants' AX/In mean percentage score was 52.79 (N=14); the median was 56; and the mode was 60. The SD of the AX/In percentage scores of the introverted participants was 31.47, with a range of 85. It appears that the introverted participants' AX/In percentage scores were slightly higher than the extraverted participants' AX/In percentage scores.

The mean AX/Out percentage score of the extraverted participants was 69.88. The median score was 73. This distribution of cores was bimodal, with modes of 64 and 78. The SD of the AX/Out percentage scores of the extraverted participants was 20.70, with a range of 76.

In comparison, the introverted participants' AX/Out mean percentage score was 43.57. The median percentage score was 35.5. Similar to the extraverted participants' AX/Out percentage scores, the distribution of the introverted participants' AX/Out percentage scores was bimodal, with modes of 3 and 22. The SD of the percentage scores was 30.62 and a range of 91. It appears that the AX/Out percentage scores of the extraverted participants were slightly elevated in comparison to the AX/Out percentage scores of the introverted participants.

Finally, the mean AX/Con percentage score of the extraverted participants was 60.36; the median was 64; and the modes were 52 and 84. The SD was 27.75 and the range was 93.

The mean AX/Con percentage score of the introverted participants was 55.43. The median percentage score of this group was 61. The introverted participants had a trimodal distribution, with modes of 16, 79, and 99. The SD of the AX/Con percentage scores of the introverted participants was 34.75, with a range of 97. It appears that the AX/Con percentage scores of the introverted participants was slightly higher than the AX/Con percentage scores of the extraverted participants.

Levene's test for equality of variance was run to determine that the variance of the extraverted and introverted participants' AX/In, AX/Out, and AX/Con percentage scores were equal. Alpha was set at .05. The significance obtained was .793 for AX/In, .034 for AX/Out, and .106 for AX/Con. When the significance obtained is less than alpha of .05, the null hypothesis concerning the equality of variances of the two groups must be rejected (Norusis, 1991). Therefore, the results of AX/In percentage scores indicted that the null hypothesis relative to the variances was rejected. That is, the groups did not have homogeneous variances. Additionally, the results of the AX/Out percentage scores indicted that the null hypothesis relative to the variances was accepted, implying homogeneous variance. Finally, the results of the AX/Con percentage scores indicted that the null hypothesis relative to the variances was rejected.

Three independent t-test on unmatched samples were then performed on the mean AX/In, AX/Out, and AX/Con scores of

the extraverted and introverted participants to determine if a significant difference existed. Alpha was .05. Table 5 provides a visual representation of the results of the t-test for the dependent variable AX/In. The calculated t-test value ( $t=-.31$  with 26.93

Table 5

## T-Test Analysis of AX/In Means

					95%
variance	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
unequal	-.31	26.93	.758	10.489	(-24.79, 18.26)

degrees of freedom and a calculated probability of .758) is not significant at alpha .05. Therefore, the null hypothesis that there is no significant difference in the mean AX/In scale scores of extraverted and introverted participants must be accepted.

Table 6

## T-Test Analysis of AX/Out Means

					95%
variance	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
equal	3.20	37	.003	8.23	(9.63, 42.99)

The calculated value of the t-test value ( $t=3.20$  with 37 degrees of freedom and a probability of .003) is significant at alpha .05. The null hypothesis must be rejected. Therefore, the alternative hypothesis that there is a significant difference in mean AX/Out

scale scores of extraverted and introverted participants is accepted. As mentioned previously, the t-test value was 3.20. There is a 95% confidence level that a mean difference of 3.20 falls within the confidence level 9.63 to 42.99 (see Table 6).

Finally, Table 7 provides a visual representation of the results of the dependent variable AX/Con. As can be seen the

---

Table 7  
T-Test Analysis of AX/Con Means

					95%
	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
variance unequal	.46	22.4	.65	10.82	(-17.51, 27.3)

---

the calculated t-test value ( $t=.46$  with 22.4 degrees of freedom and a calculated probability of .65) is not significant at alpha .05. Accordingly, the null hypothesis, that there is no significant difference in the mean AX/Con scale scores of extraverted and introverted participants is accepted.

## Chapter 5

### Discussion

The results support the idea that extraverts and introverts do not differ in suppressing or holding in angry feelings, or the ability to control feelings of anger. However, extraverts are more likely to express anger than are introverts. While the ability to generalize the results of this study are limited, it is interesting to note that the results of the AX/In scores of extraverts and introverts do not support the part of the description offered by Briggs and Myers. That is, introverts tend to "bottle up" their feelings. The results of this study indicate introverts are no more likely to "bottle up" their feelings than extraverts are.

An explanation for this may possibly come from the results of the AX/Con scores. Again, there is no difference between mean AX/Con scores of extraverts and introverts. That is, extraverts and introverts are just as likely to attempt to control their angry feelings. It is possible that the introvert may attempt to control his or her angry feelings using some type of "internal mechanism" that other individuals are not able to recognize.

The results of the AX/Out scores of extraverts and introverts tend to support part of the description of extraversion offered by Briggs and Myers. Specifically, extraverts are more likely than introverts to express angry feelings toward people or objects in the outside world.

Though limited in its application, the results of this study

may have implications for counselors working with anger expression issues. Specifically, the type of intervention used in dealing with this issue may be affected by the personality type of the individual. That is, introverts may find a cognitive-behavioral approach more helpful in dealing with anger expression issues, and extraverts may find a cathartic or a cognitive-behavioral approach helpful.

One of the limitations of this study was that a convenience sample was used. This limits the external validity of the study (Huck & Cormier, 1996). That is, the generalization of the results of the study to young extraverted and introverted adults (18 to 20).

Another issue may be due to the small sample size used in the present study. This limited sample size makes generalizations about anger expression (i.e., anger in, anger out, or anger control) questionable.

A final limitation is that the researcher collected the data. This may confound the results of the study, as the researcher had an idea as to what would be revealed in the present study and may have unwittingly conveyed these thoughts and wishes to the participants of the study.

Suggestions for future studies include providing treatment for extraverted and introverted individuals with anger expression issues and using the results of a pre- and post-test of the STAXI to assess the helpfulness of the approach (e.g., cognitive-behavioral, or cathartic). Additionally, anger expression patterns of an individual and levels of depression may be examined. That is, are



suppressed anger and depression related. A final possibility may be to examine gender, sex role identity, and anger expression patterns.

## References

- Biaggio, M. K. (1980). Assessment of anger arousal. Journal of Personality Assessment, 44, 289-298.
- Carlson, J. G. (1985). Recent assessments of the Myers-Briggs Type Indicator. Journal of Personality Assessment, 49, 356-365.
- Carlyn, M. (1977). An assessment of the Myers-Briggs Type Indicator. Journal of Personality Assessment, 41, 461-472.
- Clay, D. L., Anderson, W. P., & Dixon, W. A. (1993). Relationship between anger expression and stress in predicting depression. Journal of Counseling and Development, 72, 91-94.
- Collins, S. W. & Hailey, B. J. (1989). The anger expression (AX) scale: Correlations with the state-trait personality inventory and subscale intercorrelations. Educational and Psychological Measurement, 49, 447-455.
- Dembroski, T. M., MacDougall, J. M., Williams, R. B., Haney, T. L., & Blumenthal, J. A. (1985). Components of type a, hostility, and anger-in: Relationship to angiographic findings. Psychosomatic Medicine, 47, 219-233.
- Diamond, E. L. (1982). The role of anger and hostility in essential hypertension and coronary heart disease. Psychological Bulletin, 92, 410-433.
- Fischer, P. C., Smith, R. J., Leonard, E., Fuqua, D. R., Campbell, J. L., & Masters, M. A. (1993). Sex differences on affective dimensions: Continuing examination. Journal of Counseling and Development, 71, 440-443.

- Glick, B. & Goldstein, A. P. (1987). Aggression replacement training. Journal of Counseling and Development, 65, 356-362.
- Greene, A. F., Coles, C. J., & Johnson, E. H. (1994). Psychopathology and anger in interpersonal violence offenders. Journal of Clinical Psychology, 50, 906-912.
- Hains, A. A. & Szjakowski, M. (1990). A cognitive stress-reduction intervention program for adolescents. Journal of Counseling Psychology, 37, 79-84.
- Howell, D. C. (1992). Statistical methods for psychology. (3rd ed.). Belmont CA: Duxbury Press.
- Huck, S. W. & Cormier, W. H. (1996). Reading statistics and research. New York: HarperCollins.
- Izard, C. (1977). Human emotions. New York: Plenum Press.
- Jackson, S. W. (1994). Catharsis and abreaction in the history of psychological healing. Psychiatric Clinics of North America, 17, 471-491.
- Jung C. G. (1990). Psychological types (R. F. C. Hull, Trans.). In V. de Laszlo (Ed.), The basic writings of C. G. Jung (pp. 187-241). Princeton University Press.
- Kaplan, R. M. (1975). The cathartic value of self-expression: testing, catharsis, dissonance, and interference explanations. The Journal of Social Psychology, 97, 195-207.
- Kerns, R. D., Rosenberg, R., & Jacob, M. C. (1994). Anger expression and chronic pain. Journal of Behavioral

Medicine, 17, 57-67.

Kooper, B. A. (1993). Role of gender, sex role identity, and type a behavior in anger expression and mental health functioning. Journal of Counseling Psychology, 40, 232-237.

Lewis, W. A. & Bucher, A. M. (1992). Anger, catharsis, the reformulated frustration-aggression hypothesis, and health consequences. Psychotherapy, 29, 385-392.

Marshall, J. R. (1972). The expression of feelings. Archives of General Psychiatry, 27, 786-790.

Moreno, J. K., Fuhriman, A., & Selby, M. J. (1993). Measurement of hostility, anger, and depression in depressed and nondepressed subjects. Journal of Personality Assessment, 61, 511-523.

Myers, I. B. & McCaulley, M. H. (1985). Manual: A guide to the development and use of the Myers-Briggs Type Indicator. Palo Alto, CA: Consulting Psychologists Press

Myers, I. B. & Myers, P. B. (1980). Gifts differing: Understanding personality type. Palo Alto, CA: Davies-Black Publishing.

Myers, P. B. & Myers, K. D. (1993). Myers-Briggs Type Indicator, Form G Self-scorable (revised). Palo Alto, CA: Consulting Psychologists Press, Inc.

Norusis, M. N. (1991). SPSS/PC+ studentware plus. Chicago, SPSS, Inc.

Novaco, R. W. (1975). Anger control: The development and evaluation of an experimental treatment. Lexington, MA: D. C.

Heath.

Russell, J. A. & Mehrabian, A. (1974). Distinguishing anger and anxiety in terms of emotional response factors. Journal of Consulting and Clinical Psychology, 42, 79-83.

Spielberger, C. D. (1996). State-Trait Anger Expression Inventory. Odessa, FL: Psychological Assessment Resources, Inc.

Spielberger, C. D. (1996). STAXI professional manual. Odessa, FL: Psychological Assessment Resources, Inc.