

ROLE OF ATTRIBUTION IN RELATION TO
AFFECTIVE DIMENSIONS

By

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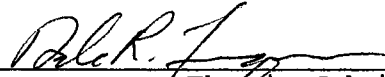
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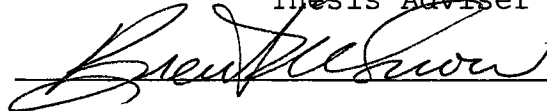
Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
July 1993

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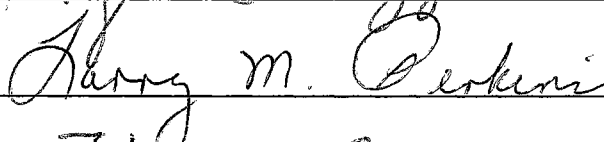
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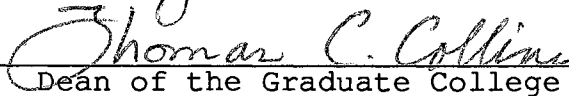
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DEDICATION

To my parents

Jane & Bob Hendrix Jim & Jackie Leonard

For without their love and support,

I would not have reached this goal.

ACKNOWLEDGEMENTS

I wish to express my appreciation and thankfulness to Dr. Dale Fuqua and Dr. Brent Snow for their support and guidance, not only through the dissertation process, but through my experience at Oklahoma State University.

To the other members of my dissertation committee: Dr. Al Carlozzi, Dr. Janice Williams, Dr. Larry Perkins. I am appreciative of their time, energy, and excellent feedback that made this truly a learning experience.

To my class members of 1988-1993: Theresa Johnson, Pam Fischer, Larry Vredenburg, and Randy Smith, who helped me endure the hard times and cherish the good times.

To my "surrogate parents", Pam and Frank Schloeder, thanks for the love, laundry, and laughs.

To the staff of the counseling center at Montana State University, and to my fellow interns, Midge Berkman, and Jeff Startzel, who with their support and friendship, helped me to realize that writing a dissertation on internship is possible.

To Mike Waldo, Barbara Honeyman for their mentoring and support.

And to my family, who know who they are, including Bobbie and Luka, who were constant reminders that there is life beyond school.

I wish to extend a jubilant "thanks" to all of these people, and to several others not listed here.

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CHAPTER I

INTRODUCTION

The literature offers several approaches to understanding the nature of affect. Arnold (1970) perceived theories on affect to be divided into the four categories of 1.) Biological theories; 2.) Physiological theories; 3.) Cognitive theories; and 4.) Psychological theories. Lazarus, Averill, and Opton (1970) classified theories of emotion into the three perspectives of biological, cultural, and cognitive. According to Lazarus et al. the biological perspective aligns emotions with the most "primitive", "animal-like", or instinctual of psychological phenomena. The biological perspective of emotion examines "the evolutionary significance or the adaptive value of behavior patterns associated with emotions" (Lazarus et al., 1970, p.214). Such theorists as Lindsley (1950), Bard (1950), and Maclean (1960) have associated emotions to more "primitive structures" (Lazarus et al., 1970). Lazarus and his associates defined the cultural perspective of emotion as:

The emotions are deeply rooted in man's cultural as well as his biological heritage. Viable social systems exist under the most diverse political and economic ideologies...but no

social system can long survive once it fails to provide for the emotional needs of its citizens (cf. Hebb and Thompson, 1954), or fails to control or channel those emotions in ways tolerable to or advantageous for the social system. (p. 215)

Perhaps present day examples of this include the rapid changes in the structure of Eastern European countries and the former Soviet Union. The complex interaction between society and emotions has been strongly emphasized by the major conflict theorist of personality, especially the Freudians and the Neo-Freudians (Maddi, 1989).

The cognitive perspective on affect advocates that emotions are a function of cognition (Lazarus et al., 1970). These authors stated that:

the person or infra-human animal must be regarded as an evaluating organism, one who searches his environment for cues about what he needs and wants, and evaluates each stimulus as to its personal relevance and significance. Emotions should be regarded as a function of such cognitive activity, each particular emotion presumably associated with a different evaluation. Biological and cultural determinants of emotion, as well as the individual's own past history and psychological structure,

can operate only through his immediate perception of objects and their significance for him. (p. 217)

The cognitive perspective of affect has enjoyed a prominent position in the understanding the nature of affect from Schachter and Singer's (1962) classic experiment to a reformulated learned helplessness theory of attribution (Abramson, Seligman, & Teasdale, 1978; Miller & Norman, 1979).

Understanding the nature of affect is not only theoretically pertinent, but it also has practical implications in the field of psychology. With few exceptions, most psychotherapies employ the concept of emotions. Additionally, two major categories of classification of diagnoses in the Diagnostic and Statistical Manual focus on mood and anxiety disorders (American Psychiatric Association [APA], 1987). Depression is reported as a major mental health problem in the United States (Ponterotto, Pace, & Kavan, 1989). Emotions are important in understanding the link between physical and mental health. This is evident in the fact that anger, aggression and hostility are important factors in the etiology of essential hypertension and coronary heart disease (Diamond, 1982). Therefore, understanding the nature of affect and emotion is vital to the work of the psychologist and other mental health professionals.

There is a known relationship between affect and

cognition based on numerous studies in the field; however, there are still questions to be examined concerning this relationship. One issue is concerned with the definitions and measurement of particular constructs. Affective dimensions such as depression, anger, and anxiety have often been examined in the literature; however, there seems to be confusion in the definitions of these constructs due to overlap among the constructs (Mook, Van Der Ploeg, & Kleijn, 1990). For example, Mook et al. recently examined the confusion between the constructs of anxiety and depression. A definition of an affective dimension relates mostly to the theoretical foundation that the definition is based upon. However, how can these different affective dimensions such as anger, anxiety, and depression be understood in relation to each other if each one is based upon a different theoretical foundation? In addition, assessment techniques for each of these affective dimensions are also based on the respective theoretical foundation. This leads to confusion and overlap of these affective constructs. It appears that it is necessary to pinpoint a common element within all of these affective dimensions. Attributional or explanatory style may act as that common element.

How does explanatory or attributional style play a role in understanding affective dimensions? Strube (1985) stated, "the importance of attributional styles has been demonstrated primarily by research conducted within the learned helplessness paradigm" (p. 500). According to the vast

wealth of literature on depression and attributional style, there appears to be some relationship between attribution and depression. One might ask, if attribution relates well to depression, how might it relate to other affective constructs such as anger and anxiety? In the past, research has been done exploring the relationship between other affective dimensions and cognition (Lazarus et al., 1970; Schachter & Singer, 1962). Studies employing the measures of attributional style, the Attributional Style Questionnaire or the Expanded Attributional Style Questionnaire, to understand the nature of emotions other than depression are few in number. This may be due to the fact that both measures were recently developed within the past eight years. However, one might wonder why have the other affective dimensions have not received as much attention in the literature in relation to attributional style?

The following study undertook the task of examining the relationship of attribution to affective dimensions. How does explanatory style relate to the experience of affect? Is there a relationship between the experience of state/trait affect and attributional style? Does gender play a role in the relationship between affect and cognition?

First, attribution and attributional style will be examined. Next an understanding of different theoretical conceptualizations of the affective dimensions of depression, anger, and anxiety will be explored. In addition, issues concerning the assessment of these constructs will be

discussed. Finally, a survey of the literature examining the relationship between attribution and these affective dimensions will be provided.

CHAPTER II

LITERATURE REVIEW

Attribution Theory

Shaw and Costanzo (1982) proposed that "attribution theory is typically concerned with the processes and schema invoked by the perceiver in assigning causes to these events" (p. 233). They added that through these causal analyses "the perceiver arrives at inferences about the disposition of other persons and himself/herself, as well as inference about the stability of environmental entities" (Shaw & Costanzo, 1982, p. 232). Two major theorists responsible for the formulation of attribution in its beginning stages are Fritz Heider and Harold H. Kelley.

Fritz Heider

The theory of attribution began with the ideas and concepts of Fritz Heider. When asked about the origins of his ideas concerning the beginning of attribution theory, Fritz Heider returned to the puzzle he was to solve offered to him by the philosopher Meinong (Heider, 1980a, p. 3). The puzzle was the following:

When the sun shines on a house and the light reflected by our eye, why do we say that we see the house? Since

light is caused by the sun, why don't we say that we see the sun?. (Heider, 1980a, p. 3)

Heider (1980a) offered in answering such a puzzle, that an individual will turn his/her attention to the perception of the outside world and the conditions of perception. Heider suggested, "the parts of the environment have differing degrees of causal importance - a kind of causal hierarchy exists" (p. 4). Heider proposed that because a causal hierarchy exists, it "allows our perception to extend beyond the limits of our bodies and allows us to learn something about the larger environment" (Heider, 1980, p.4). Heider added, "it also makes it possible for us 'to attribute' (zuschreiben) events and contents, that is to relate them to other events and contents" (p. 4). In examining people's roles in the perception of events, Heider offered, "persons are to a far greater extent than things the originators of events; they are the ones who direct changes and usually determine the occurrence of events" (p. 5). In defining attribution in terms of perception, Heider stated, "attribution is a relative of perception; it serves to anchor our impressions and the perceived changes in the conception of the more invariant sphere of relevant entities" (1980 b, p. 18). Heider also offered, "attribution often means a unit formation of belonging together between an event and a person" (1980 b, p. 18). Heider offered two general propositions in defining attribution. The first proposition is "interpersonal relations are primarily a function of

people's interpretations of the actions of others in the social field" (Shaw & Costanzo, 1982, p. 233). The second proposition offered by Heider is:

motivations underlying attributional processes inherent in people's strong needs to seek understanding of the transient events that they observe by attributing them to enduring dispositional properties of the actor/and or to the stable and invariant properties of the environment giving rise to the events. (Shaw & Costanzo, 1982, p. 233)

In examining attribution, Heider also suggested, "the adaptive significance of the individual's search for invariance in both social others and environmental entities is that such invariance allows for both the understanding of current events and people and the prediction of future events and personal activities" (Shaw & Costanzo, 1982, p. 233). Thus Heider gave the elements of understanding and predictability to attribution.

Harold H. Kelley

Harold H. Kelley is another important figure in the development of attribution theory. Kelley developed the theory of external attribution that "focuses upon those conditions which lead a perceiver to attribute cause to an environmental entity with which an actor or group of actors interacts." (Shaw & Costanzo, 1982, p. 241). Kelley's external attribution theory is composed of the two concepts

of causal schemata and causal principles which provide structure and order to the making of attributions. In the concept of causal schemata, Kelley offered two types: multiple sufficient causal (MSC) schemata and multiple necessary causal (MNC) schemata. The idea of multiple sufficient causal schemata "suggests that when there are two or more causes for a particular observed effect, knowledge of the presence of one of the causes reduces the plausibility that the other cause(s) is also present" (Shaw & Costanzo, 1982, p. 245-246). Multiple necessary causal schemata represents the idea that the "presence of one cause does not imply the absence of another plausible cause" (Shaw & Costanzo, 1982, p. 246). Kelley (1972) added that multiple necessary causal schemata does not apply as well to cases where effects are present versus when they are absent. Kelley's concept of causal principles offered a shorthand of sorts that allows a person to "sort" between causes of events in order to choose the most plausible one (Shaw & Costanzo, 1982). Three important causal principles developed by Kelley are the covariation principle, the discounting principle, and the augmentation principle. The covariation principle stated, "when there are two or more plausible causes for an effect, the one that the effect is consistently contingent with across time will be seen as the stronger cause" (Shaw & Costanzo, 1982, p. 247). The covariation principle allowed one to make attributions without other criteria. Kelley stated it another way in that "an effect is attributed to one of its possible causes with which, over time, it covaries"

(Kelley, 1971, p. 3). Kelley (1971) suggested the discounting principle occurred when "the role of a given cause in producing a given effect is discounted if other plausible causes are also present" (p. 8). The discounting principle is more likely to be used when an event is observed and one or more of the sufficient causes is known by the perceiver (Shaw & Costanzo, 1982). The augmentation principle proposed "if for a given effect, both a plausible inhibitory and a plausible facilitative cause are present, the role of the facilitative cause will be judged greater than if it alone were presented as a plausible cause of the effect" (Kelley, 1971, p. 12). Kelley (1980) discussed the management of causal attributions through the use of an analogy of a magic trick. Kelley stated, "the successful magic trick intimately involves the causal attribution process" (1980, p. 19). Kelley proposed that magic tricks are always an interactive, interpersonal event between the magician and the effect he/she wishes to make on the audience. Kelley proposed the magician's success is due to the fact that "magicians may have an implicit understanding of the attribution process that in some ways is superior to that of their audience" (1980, p. 20).

It appears that attribution may be necessary for understanding human experience in general, and specifically affect or emotions. How might the cognitive explanatory component of attribution play a role in understanding affect? Prior to considering this question thoroughly, the constructs of affect will be examined.

Depression

An Overview

Several sources report that depression may be one of the most common psychological disorders reported (Abramson & Martin, 1981). In addition, depression continues to be a major mental health problem in the United States (Ponterotto et al., 1989). Studies of incidence rates indicate that 4.5% to 9.3% of adult females and 2.3% to 3.2% of adult males suffer from depression at any given time (APA, 1987). Depression is reported to be the most prevalent major mental health problem, and it is the most frequently given diagnosis associated with psychiatric hospitalization (Dean, 1985).

Definitions of Depression

Clinical Definition

What may be defined as depression? According to the Diagnostic and Statistical Manual of Mental Disorders, Third Edition - Revised [DSM III - R] (APA, 1987), depression may fall into categories ranging from an adjustment disorder to a bipolar disorder with depressed mood. Central to these diagnosis is the classification of a major depressive episode. The central feature of a major depressive episode is "either depressed mood (or possibly, in children or adolescents, an irritable mood) or loss of interest or pleasure in all, or almost all, activities, and associated symptoms, for a period of at least two weeks" (APA, 1987, p. 218). The associated symptoms of a major depressive episode

include "appetite disturbance, change in weight, sleep disturbance, psychomotor agitation or retardation, decreased energy, feelings of worthlessness or excessive or inappropriate guilt, difficulty in thinking or concentrating, and recurrent thoughts of death, or suicidal ideation or attempts" (APA, 1987, p. 219). Diagnostic criteria for a major depressive episode require that at least five of the associated symptoms are present during a two week period, represent a change from previous functioning, have no basis in an organic factor or as a reaction to the death of a loved one (uncomplicated bereavement), no evidence of hallucinations or delusions before or after the symptoms occurred or remitted, and not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder NOS (APA, 1987).

Cognitive Approach To Depression

There appears to be a shift in understanding depression from a motivational-affective view to a more cognitive approach (Abramson & Martin, 1981). This is evident in the rise of cognitive therapies created by Beck, Ellis, and Glasser, to name a few (Belkin, 1987). Specifically, Beck's cognitive model of depression (Beck, Rush, Shaw, & Emery, 1979), the model of learned helplessness (Seligman, 1975), the reformulated model of learned helplessness and depression (Abramson, Seligman, & Teasdale, 1978) underlined, "the significance of maladaptive causal inference processes in the etiology and maintenance of depression" (Abramson & Martin,

1981, p. 71). These three models will now be examined.

Beck. Beck (1967) viewed depression as a syndrome made up of five categories of symptoms: affective, cognitive, motivational-behavioral, self esteem, and vegetative. The affective symptom is comprised of feelings of sadness or unhappiness. The motivational-behavioral symptom is comprised of "retarded initiation of voluntary responses and is reflected in passivity, intellectual slowness, and social impairment" (Abramson & Martin, 1981, p. 118). The "loss of self-esteem" symptom may be reflected in feelings of guilt and low self regard (Beck, 1967). The cognitive aspect of depression "consists of a 'negative cognitive set' that biases depressives to believe that their actions are doomed to failure" (Abramson & Martin, 1981, p. 118). Beck (1967) stated that no specific depressive symptom is necessary or sufficient to make a diagnosis of clinical depression. Though Beck listed several symptoms of depression, his theory relies more on the cognitive aspect. The basic idea underlying Beck's cognitive therapy is "the individual's primary problem has to do with his construction of reality" (Beck, 1985, p. 328). Beck believed that an individual's problems may be created from particular distortions of reality based on false assumptions and premises (Ritter, 1985). Based on this idea, specific emotions are caused by particular interpretations of reality, thus one's emotions will be consistent with the distortion of reality and not reality itself (Ritter, 1985). The goal of Beck's cognitive therapy is "to help a person unravel his or her distortions

in thinking and learn more realistic ways to formulate cognitive experiences" (Ritter, 1985, p. 42). In his work with depression, Beck developed the Beck Depression Inventory (BDI) that offers a standardized means of evaluating a client's depression (Belkin, 1987).

The Model of Learned Helplessness. Another conceptualization of depression is the learned helplessness model of depression. Abramson and Martin (1981) stated that many "clinicians and experimental psychologists have emphasized the role of helplessness and hopelessness in depression" (p. 119). Seligman presented a theory of helplessness in depression after observing and emphasizing similarities between changes in behavior elicited in humans and animal laboratory subjects after being exposed to aversive, uncontrollable events and the symptoms associated with human depression. Thus the concept of learned helplessness was described first by animal learning theorists at the University of Pennsylvania (Peterson, 1982). Seligman and his associates found that while dogs were given inescapable shocks while being immobilized, twenty four hours later showed a marked impairment characterized by a failure to initiate escape responses (motivational deficit), an inability to employ an occasionally successful escape response (cognitive or associative deficit), and a passive acceptance of the shock (emotional deficit) (Peterson, 1982). (See Maier and Seligman, 1976, for a review of learned helplessness experiments with animals).

According to the learned helplessness theory (Abramson,

Garber, and Seligman, 1980), learning that outcomes are uncontrollable leads to three deficits: motivational, cognitive, and emotional. The motivational deficit may be described as retardation in the initiation of voluntary responses. The cognitive deficit is seen as difficulty in learning that responses affect outcomes. The emotional deficit consists of depressed affect. In describing this phenomenon, Seligman and his associates used the label of learned helplessness. They proposed that during the exposure to the inescapable shocks, the dogs thought that their responses and outcomes (i.e. the shocks) were not related to each other (Peterson, 1982). In other terms, Abramson and Martin stated, "according to the learned helplessness model of depression, the expectation that one's responses do not control important outcomes is sufficient to produce the motivational-behavioral and cognitive symptoms of depression" (p. 120). Therefore, learned helplessness theory is primarily cognitively oriented. The theory stated cognitions (beliefs) are essential for the occurrence of learned helplessness. Instead of predicting that exposure to uncontrollable outcomes will lead to helplessness, the organism must expect that outcomes are uncontrollable for the behavioral deficits to occur.

Soon after learned helplessness was observed in laboratory animals, many researchers attempted to elicit the same response with human subjects (Peterson, 1982). After several early attempts failed to replicate learned helplessness (Wortman & Brehm, 1975), a number of

researchers, including Seligman, reported explicit demonstrations of the phenomenon in the literature (Peterson, 1982). Soon after these demonstrations, there were many attempts at applying the concept of learned helplessness in clinical settings (Peterson, 1982). In addition several studies were done in order to critique the theory of learned helplessness. Peterson summarized some of the suggested problems with the concept, and he stated, "in short, the simple explanation of the observed helplessness effects (e.g. uncontrollable events - expectation of responses - outcome independence - interference with objectively possible learning) seemed to fail to do justice to the complexity of human helplessness" (p. 99). Peterson stated that most critics of the learned helplessness model, as applied to human beings, lacks in sophistication, and he added that most critics believed that an attributional account of helplessness would correct that fault.

Reformulated Learned Helplessness Theory. Due to the complexity of human helplessness, it became apparent that the basic learned helplessness theory developed out of animal research was too simplistic to be strictly applied to humans. Out of the critiques of learned helplessness and a rising interest in attribution theory and its applications, came a reformulation of the theory of learned helplessness. Abramson and his associates introduced the reformulation of learned helplessness based on Seligman's earlier theory (Weiner, 1986). The theory perceived helplessness as "a consequence of perceptions of a noncontingency between one's

responses and desired outcomes." (Weiner, 1986, p. 217). Specifically, if the probability of a desired outcome is perceived as not being increased by one's actions, then helplessness will be the result (Weiner, 1986). A high expectancy of noncontingency (helplessness) was proposed to result in a depression, a general syndrome made up of cognitive, motivational and behavior deficits (Weiner, 1986). The reformulated theory stated that when a person finds himself/ herself in a situation where the outcomes are perceived as uncontrollable, this helplessness (uncontrollability) is attributed to a cause. Abramson et al. offered that there are three attributional dimensions of causality relevant to human helplessness: stable/unstable, global/specific, and internal/external (Murphey, 1986). Abramson, Seligman, and Teasdale (1978) proposed, "when a person finds that he is helpless, he asks why he is helpless. The causal attribution he makes then determines the generality and chronicity of helplessness as well as his later self-esteem" (p. 50). Abramson et al. (1978) classified the attribution for a response-outcome noncontingency on three dimensions of causality: internal/external, stable/unstable, and global/specific.

Abramson et al. (1978) used the dimension of locus of causality to differentiate personal from universal helplessness in that personal helplessness relates to an internal attribution for perceived noncontingency thus lowering self-esteem. On the other hand, universal helplessness "corresponds to an external perception of

causality and is based on the presumption that other persons in this situation also would not enhance their likelihood of goal attainment through personal responses" (Weiner, 1986, p. 218) Abramson et al. (1978) cited the example in which parents of children diagnosed with leukemia will often experience universal helplessness rather than personal. The importance of the distinction between personal versus universal helplessness is that Abramson et al. (1978) predicted that these two types of helplessness will make different impacts upon an individual's self-esteem. Situations that lead to evolution of personal helplessness are expected to result in a decrease in self-esteem. Situations that promote universal helplessness; however, are not predicted to have any effects on self-esteem. Abramson et al. added that both types, personal and universal, of perceived noncontingency would "result in passivity, negative beliefs about the future, and general negative effect" (Weiner, 1986, p. 218).

It is important to note the difference between the causal attributions of internality/ externality and locus of control. As described by Levenson (1981), the construct of locus of control refers to an individual's generalized expectancy to view reinforcement either as contingent on his/her own behaviors (i.e., internal control) or as the result of forces beyond his/her control, thus due to chance or powers outside the individual (i.e., external control). It is clear that an individual's locus of control is composed of causal attributions, perhaps internal and external. Due

to the substantial overlap between the locus of control construct and Abramson et al.'s (1978) concept of personal/universal learned helplessness, one might expect locus of control to be related to vulnerability to self-esteem loss. The locus of control construct has been examined in studies of learned helplessness (Sandler, Reese, Spencer, & Harpin, 1983); however, this construct has not been included in experimental research examining the personal/universal helplessness distinction (Morphey, 1986).

The Stability dimension is concerned with the extent an individual believes that the factors that produce helplessness are either long lasting or short-lived. Stability is a determinant of the chronicity of helplessness deficits. Morphey (1986) stated:

for example, a person who attributes his/her inability to solve a Rubik's Cube puzzle to difficulty concentrating because of a hangover (an unstable factor) is predicted to be less likely to show helplessness deficits in the future than a person who attributes his/her poor performance to difficulty of the puzzle (a stable factor). (p. 2)

Thus Stability/Instability dimension of learned helplessness refers to the chronicity of helplessness for the more stable the attribution, the more chronic the helplessness.

The global/specific dimensions of causal attributions

refers to the extent to which an individual believes that the cause of helplessness or uncontrollability are generalized across many situations or is limited to one or a few specific situations. The attributional dimension of Globality/specificity is proposed to determine the trans-situational generality of helplessness deficits. For example:

if a person attributed inability to solve a Rubik's Cube to poor three-dimensional visualization ability (a relatively specific factor), he/she would be predicted to show helplessness deficits only in situations in which this ability is important. On the other hand, if the poor performance were attributed to difficulty with logical reasoning (a relatively global factor), the helplessness deficits would be predicted to occur in a broader range of situations. (Murphey, 1986, p. 3)

The causality dimensions of Stability and Globality will influence the expectancy of future noncontingency thus holding implications for the generality and chronicity of helplessness (Weiner, 1986). It is proposed, "the more stable and global the perceived cause of the noncontingency, the more likely it is that the noncontingency will be expected in the future, and the greater the variety of situational cues that also will elicit perceptions of

noncontingency" (Weiner, 1986, 218-219).

Abramson et al. (1978) summarized their attributional approach to depression as follows:

1. Depression consists of four classes of deficits: motivational, cognitive, self-esteem, and affective.
2. When highly desired outcomes are believed improbable or highly aversive outcomes are believed probable, and the individual expects that no response in his repertoire will change their likelihood, (helplessness) depression results.
3. The generality of the depressive deficits will depend on the globality of the attribution for helplessness, the chronicity of the depression deficits will depend on the stability of the attribution for helplessness, and whether self-esteem is lowered will depend on the internality of the attribution for helplessness. (p. 68)

In summary, the relationship of depression to attribution has been well documented. However, certain questions still arise. Is there a consistent pattern between the type of attributions made and the nature of depression? How do the different dimensions of attributions interact with depression? In addition, this relationship between attribution and depression is heavily dependent on the measures of these constructs. Issues in the measurement of depression are central to understanding and operationalizing

the constructs.

Issues in the Measurement of Depression

Several concerns are associated with the assessment of depression. According to Ponterotto, Pace, and Kavan (1989), "an assessment or diagnosis of depression is usually made using one of three procedures: (a) specific operational criteria and structured clinical/diagnostic interviews; (b) semistructured interviews and clinical rating scales; (c) client self-report instruments" (p.301). Most instruments used in research are in the form of client self-reports. A major consideration about the measurement of depression is that instruments such as the BDI attempt to measure depression as a unidimensional concept while there is ample evidence that depression may be a multidimensional construct (Stoltz & Galassi, 1989). Stoltz and Galassi (1989) reexamined the reformulated learned helplessness model in terms of the internality/externality dimension of depression and self-esteem. Stoltz and Galassi argued that the role of internality in learned helplessness has never been fully explored. In addition, the authors proposed that other studies of depression and learned helplessness do not consider the two types of depression suggested by the reformulated learned helplessness model, one with low self-esteem and one without low self-esteem.

It appears that attributional style may enhance the understanding of the construct of depression. Perhaps, attributional style may influence the experience or form of

depression in the role of a mediator. Perhaps depression may be experienced and thus measured in terms of a characterological trait or situational state. It is proposed that the attributional constructs of Internality/Externality, Stability/Instability, and Globality/Specificity may determine whether depression is experienced in a state or trait mode. Though there is no "state-trait" depression scale out on the market as to date, it is an important concept to consider. Mook et al. (1990) addressed this issue in the following:

In contrast to affective states, surprisingly few studies have specifically directed their attention to the measurement and relationship of anxiety, anger, and depression on the trait level. One reason for this relative dearth of studies at the trait level may be that research in depression has been predominantly concerned with depression as a clinical state (or syndrome). Consequently, most measures of depression have been intended to be measures of the degree of current depression, i.e. are state measures (Dobson, 1985).
(p.18)

Perhaps the concept of attribution may help delineate state depression from trait depression. For example, individuals who experience depression in the form of a "trait" or characterological experience also tend to make

internal, global and stable attributions, while individuals who experience depression in the form of a "state" or situational experience may make external, specific, and unstable attributions. It appears that the understanding and treatment of depression in terms of state or trait dimensions would profit from such an investigation. Clinically, though it is beneficial to diagnose the chronicity of depression with scales similar to the BDI, it would be of profound importance if the clinician could determine the difference between situational depression and characterological depression for the treatment and prognosis would vary based on the diagnosis. In terms of a research scale, a clearer understanding of depression would arise based on studies using a state/trait depression instrument as opposed to an undimensional measure. In order to examine a complex construct, more sophisticated assessments are needed.

Anger

Theoretical Perspectives on Anger

Theoretical explanations of anger have not received the same attention as explanations of depression. The terms of anger, aggression, and hostility have been used interchangeably in the literature. Spielberger, Jacobs, Russell, and Crane (1983) defined the terms in the following ways. Anger is perceived as an elementary affective dimension that is associated with feeling states that vary from annoyance to rage. Hostility is defined as an

attitudinal set that provides the motivation for aggressive behavior. Aggression is described as a punitive or destructive behavior that is directed towards other persons or objects.

Throughout the literature, there appears to be a confusion as to what is an appropriate definition of the construct of anger. According to Maiuro, Cahn, Vitaliano, Wagner, and Zegree (1988), anger has been defined as an emotional reaction (Buss, 1961; Spielberger, Jacobs, Russell, & Crane, 1983) that "may be conceptually differentiated from behavioral acts of aggression, such distinctions are difficult to operationalize because aggression is commonly associated with anger in clinical and natural settings (Diamond, 1982)" (p. 17). Spielberger and his associates attempted to clarify these constructs through the use of the "AHA! Syndrome" (i.e. anger, hostility and aggression). Spielberger, Jacobs, Russell, and Crane (1983) stated:

The concept of anger usually refers to an emotional state that consists of feelings that vary in intensity, from mild irritation or annoyance to intense fury and rage. Although hostility usually involves angry feelings, this concept has the connotation of a complex set of attitudes that motivate aggressive behaviors directed toward destroying objects or injuring other people. . . While anger and hostility refer to feelings and attitudes, the concept of aggression generally implies destructive or punitive behavior directed towards other persons or objects. (p.16)

It is evident that definitions of anger vary in nature and scope. The physiological, psychoanalytic, and social learning theory perspectives on anger will be reviewed.

Physiological Definitions of Anger

In physiology, anger and aggression are important concepts in that "almost all species of animals engage in aggressive behaviors, which involve threatening gestures or actual attack directed toward another animal" (Carlson, 1986, p. 480). Understanding the physiological basis of anger and aggression has been fruitful in understanding these constructs. Carlson (1986) categorized the five most important types of aggression as the following:

1. Social Aggression - the attack of an individual animal on another member of the same species and can be stimulated by several means.
 2. Self-Defense - when an animal is attacked by another and fights back.
 3. Maternal Aggression - is displayed by a lactating mammal when disturbed near her nesting site or near her young.
 4. Infanticide - refers to the killing of very young animals by adults.
 5. Predatory Aggression - is different from all the others, and some investigators do not consider it to be a form of aggression. When a lion attacks a zebra... the predator does not appear to be angry at its prey.
- (p.480)

In addition, Carlson (1986) stated that electrical stimulation of different regions of the brain may elicit three types of aggressive behavior: affective attack, predatory attack, and fear-induced attack. According to Carlson, "affective attack is dramatic and certainly indicates strong feelings" (p. 481). The image of a cat adopting a "Halloween Cat" posture with an arched back, erect fur on neck and back, dilated pupils, and bared teeth is a good example of affective attack (Carlson, 1986). Moyer (1976) set forth another classification scheme for aggression and anger. Moyer defined aggression as overt behavior, that is either direct or indirect, with the intent to inflict noxious stimulation or to act destructively toward another organism. On the other hand, Moyer described anger as "an aroused state involving particular autonomic and muscle tone patterns" in which "during anger the individual's threshold for aggression is lowered" (1976, p. 3). This definition of anger is similar to the "Fight or Flight" (Selye, 1936) arousal of an organism when faced with threat.

The implications of a physiological understanding of anger and aggression suggest that anger and aggression in animals, as well as humans, is instinctive and adaptive for survival. Darwin suggested that the origins of all human emotions could be found in lower animals, and that emotional expression served the same adaptive purpose (Tavris, 1989). Darwin (1872) contended that rage is a simple response to threat, and that the animal is required to become aroused to defend itself.

Psychoanalytic Definition of Anger

The psychoanalytic school of thought addresses anger from a different perspective. Freud perceived aggression as one of the basic life forces or instincts that acts within a hydraulic system in search of discharge (Hall, 1979). Freud believed that the libido was a finite source of energy that fueled one's internal battles. Sabini (1978) stated, "undischarged drives contribute their energy to the id, the reservoir of sexual and aggressive instincts...when the level has reached a critical point, overt aggression results" (p. 344). Freud applied the concept of catharsis directly to aggression as an explanation as to why individuals, who were governed by violent instincts, were not attacking each other regularly. Catharsis was the mechanism that emptied the emotional reservoir (Tavris, 1989). Tavris argued that Freud's concept of the expression and management of aggression through repression, sublimation, and guilt was simplified and generalized in its use currently. She stated that many of Freud's successors labeled repression, sublimation, and guilt as negative, and that these concepts were to be done away with (Tavris, 1989). Bowlby (1973) explained that anger is a response to separation from a parent figure. In psychoanalysis, anger plays a special role in the form of transference and countertransference (Belkin, 1987). Belkin stated, "one of the most powerful resistances is to the expression of hostile feelings toward the analyst" (p. 69). In order for therapy to be effective, the therapist must make use of the projected hostile feelings when working

with the client. It appears that the psychoanalytic perspective on aggression focused on these concepts as fixed and inevitable. Tavris (1989) wrote:

Although Freud, like Darwin, regarded aggression as an ineradicable part of the human biological heritage, Freud emphasized the destructive, violent aspect of aggression, whereas Darwin saw aggression as self-defending and adaptive. Curiously, neither scientist paid much attention to anger. If they wrote about it at all, it was a subcategory or weaker expression of the basic aggressive drive. (p. 39)

Social Learning Theory

Another perspective of anger and aggression is provided by Social Learning theory. As opposed to the physiological and psychoanalytic perspectives that proposed that anger and aggression are innate, social learning theory stated that aggression is a learned phenomenon. Social Learning theorists such as Bandura (1973) suggest a social learning component to aggression and emotion in general. Bandura reported, "people are not born with preformed repertoires of aggression behavior...they must learn them in one way or another" (1978, p. 31). Bandura (1978) defined aggression as "behavior that results in personal injury and in destruction of property" (p. 30). To support his theory, Bandura conducted several studies on aggression related to vicarious learning via models.

Bandura (1978) proposed three main components to

social learning theory. The three components are the acquisition of aggressive behavior, the aggressive elicitors, and the reinforcers of aggression. In the acquisition of aggressive behavior, Bandura (1978) outlined three main modes of acquiring aggressive behavior through observational learning. Observational learning may develop from "three major sources of aggressive behavior - family influences, subcultural influences, and symbolic modeling" (1978, p. 34).

Bandura believed that though an individual learned aggressive behavior through observation, he/she would not necessarily act on the learning unless the aggressive patterns are activated and channeled. Bandura (1973) wrote, "affective modeling cues can give definitions to emotional states of uncertain origin, or in ambiguous situations where people know the source of their arousal but are unsure how they are supposed to react to it" (p. 55). Aggressive elicitors may take different forms. Bandura (1978) stated, "people who are repeatedly exposed to combative models tend to be more physically assaultive in their social interactions than those who observe nonviolent styles of content" (p. 40). An example of this is that many children who are physically abused grow up to abuse themselves. In addition, Bandura (1978) included other aggressive elicitors as aversive treatment, physical assaults, verbal threats and insults, thwarting of goal-directed behavior, instructional control, and delusional control. In order to sustain a pattern of aggressive behavior, Bandura (1978) proposed the reinforcers of aggression. Bandura (1978) wrote, "aggressive modes of

response, like other forms of social behavior, can be induced, eliminated, and reinstated when the effects they produce are altered" (p. 47). Sources of reinforcement for aggressive behavior may be direct external reinforcement such as tangible, social and status rewards. Aggressive behavior may also be reinforced through the alleviation of aversive treatment. Bandura stated, "defensive forms of aggression are often reinforced by their capacity to terminate humiliating and painful treatment" (p.49). Patterson, Littman, and Bricker (1967) documented this concept in studies that show children who are victimized but terminate the maltreatment through successful counteraggression, will eventually become highly aggressive behaviorally. Other reinforcers of aggressive are vicarious and self reinforcement (Bandura, 1978). Vicarious reinforcement conveys information about the types of behaviors that are approved or disapproved of and the specific conditions these behaviors may be preformed under (Bandura, 1978). Self-reinforcement of aggressive behaviors rests on the notion that humans can and do regulate their own actions (Bandura, 1978). Bandura stated, "by engaging in self-absorbing practices, humane and moral people can behave cruelly without self-condemnation" (1978, p. 54). Bandura (1978) proposed that the self-exoneration may take many forms. One tactic is to minimize one's aggressive behavior by comparing it to more outrageous conduct. Another technique is to justify aggression through euphemistic labeling, thus construing one's aggression in terms of higher powers. Other methods of

self-exoneration are displacement of responsibility, diffusion of responsibility, dehumanization of victims, attribution of blame to victims, misrepresentation of consequences, and graduated desensitization (Bandura, 1978).

The implications of Bandura's theory suggest that aggression is a learned behavior based on an individual's perception of the act. Though Bandura addressed aggression in his work, the concept of anger is rarely mentioned. It is apparent that social learning theory concentrates on the aggression behavior, and not on the underlying emotion.

It is interesting to note that as in depression, there is learned helplessness that is a learned perspective based on experiences and observations, that perhaps there is a corollary in the understanding of anger. Based on Bandura's notion that anger and the expression of it is determined through learning, perhaps it is a "learned aggressiveness" in which an individual makes a decision on how to act based on his/her attributions of the model or of their own behavior. Bandura's and the learned helplessness theorist may have a similar approach to understanding affect.

As there are many different theoretical approaches to anger, there are also several different issues concerning the approaches to assessing the construct of anger.

Issues in the Measurement of Anger

As there are many different theoretical approaches to anger, there are also issues in the assessment of anger in relation to the construct of anger. The measurement of anger

has not been as distinct as the measurement of depression. The recent history of the measurement of anger begins in the 1970's with the emerging interest in the Type A behavior pattern (Friedman & Rosenman, 1974). During that time, three anger measurement scales were developed: The Reaction Inventory (Evans & Strangeland, 1971), The Anger Inventory (Novaco, 1975), and the Anger Self-Report (Zelin, Adler, & Myerson, 1972). After reviewing the research on these measures, Spielberger, Krasner and Solomon (1988) concluded, "there is a great deal of conceptual ambiguity in current theoretical interpretations of anger, hostility, and aggression and in the methods by which they are measured" (p.104).

Spielberger

Spielberger (1988) developed the State-Trait Anger Expression Inventory (STAXI) as a measure of anger, hostility and aggression. Spielberger developed the STAXI for two primary purposes:

- 1.) to provide a method of assessing components of anger that could be used for detailed evaluations of normal and abnormal personality, and 2.) to provide a means of measuring the contribution of anger to the development of medical conditions, including hypertension, coronary heart disease, and cancer. (p.1)

The STAXI was developed to measure the experience of anger as having two major components of state and trait

anger. Spielberger defined state anger as "an emotional state marked by subjective feelings that vary in intensity from mild annoyance or irritation to intense fury and rage" (p.1). Spielberger added that state anger usually goes hand in hand with muscular tension and the arousal of the autonomic nervous system. The intensity of state anger will vary over time as a "function of perceived injustice, attack or unfair treatment by others, and frustration resulting from barriers to goal-directed behavior" (Spielberger, 1988, p. 1). Spielberger defined trait anger as a propensity to perceive a wide spectrum of events as annoying or frustrating and with the tendency to respond to such events with more frequent elevations in state anger. Spielberger (1988) wrote, "individuals high in trait anger experience state anger more often and with greater intensity than individuals low in trait anger" (p. 1). Spielberger not only wished to measure the experience of anger, but also the expression of anger. Spielberger (1988) described anger expression with three major components: anger-out, anger-in, and anger-control. Anger-out is the expression of anger towards others or objects in the external world. Anger-in is the suppression of angry feelings turned inward. Anger-control constitutes the individual differences in terms of the extent an individual will attempt to control their expression of anger. For a more detailed description of the STAXI see Spielberger, 1988.

Through the construction of the STAXI, Spielberger implied that anger is a multi-dimensional construct based on

an individual's experience and expression of anger. Since the development of the STAXI, several studies examining its psychometric properties have been conducted. Fuqua, Leonard, Masters, Smith, Campbell, and Fischer (1991) examined the factor structure of the STAXI to see if the multidimensional structure of the items held up across all seven scales.

Fuqua et al. , surprised by the results, reported:

Frankly, the nature of the factors reported...provides much more evidence of the structural validity than expected. Moreover, these results lend substantial credibility to the multidimensional theoretical treatment of the anger construct represented by the STAXI. (p. 445)

Therefore, the STAXI presents a multidimensional perspective of anger that may fit well with the theoretical construct of anger.

Anxiety

Theories of Anxiety

Anxiety is a concept that has generated a great deal of theoretical formulations and research (Sheldletsky & Endler, 1973). Several different theoretical orientations have different definitions and explanations of what anxiety represents. The clinical, psychoanalytic, physiological, learning, and state-trait perspectives approach anxiety differently.

Multiple constructs of anxiety are offered as:

- 1.) A conflict between energy systems of the brain experienced as an unpleasant affective state or condition (Freud, 1936).
- 2.) A reaction to an internal or external source of danger that result in disequilibrium of the energy systems (Freud, 1936).
- 3.) A maladaptive response to disrupted relationships with others (Sullivan, 1953).
- 4.) A physiological state of arousal caused by stimulus conditions in the environment and interpreted by the individual (Schachter, 1964).
- 5.) A learned drive that creates neurotic conflict and the reduction of (drive) which can reinforce the learning of new experiences (Dollard & Miller, 1950; Mowrer, 1953).
- 6.) A condition of apprehension precipitated by a threat to values or characteristics basic to an individual's personality (May, 1950). (Shedelsky & Endler, 1973, p. 511)

With so many varying perspectives of anxiety, it is apparent that it is a complex construct that requires further study.

Clinical Definitions

Classification of anxiety as a mental disorder is complex with several distinctions among different types of

anxiety. The characteristic features of the anxiety disorders are symptoms of anxiety and avoidance behavior (American Psychiatric Association, 1987). Clinically, anxiety may be diagnosed ranging from organic anxiety syndrome, panic disorders with or without agoraphobia, social or simple phobia, obsessive compulsive disorder, post-traumatic stress disorder, and generalized anxiety disorder (American Psychiatric Association, 1987). The Diagnostic and Statistical Manual of Mental Disorders, Third Edition - Revised (American Psychiatric Association, 1987) stated, "recent studies indicate that Anxiety Disorders are the most frequently found in the general population, Simple Phobia being the most common Anxiety Disorder in the general population, but Panic Disorder the most common among people seeking treatment" (p. 235). It is apparent that anxiety, in one form or another, is one of the major mental health issues to be dealt with.

Psychoanalytic Theory

Anxiety is central to psychoanalytic theory in terms of understanding human behavior. Freud proposed two separate theories of anxiety. The first formation described neurotic anxiety as the result of blockage of unconscious impulses. When these impulses are repressed, they become susceptible to transformation into neurotic anxiety (Davison & Neale, 1982). However, the first theory on anxiety takes into account the situations around the repression of an unconscious impulse (Davison & Neale, 1982). In Freud's second theory of

anxiety, he made more explicit the circumstances surrounding the repression of an unconscious impulse. Davison and Neale stated:

according to the first theory, neurotic anxiety develops through repression of impulses. In the second, anxiety about impulses signals the need for their repression. In a sense, according to the first theory we become anxious because we want things that we do not get; according to the second we are anxious because we fear our wants. (p. 43)

Freud's second theory viewed anxiety as playing a functional role by signaling the ego to take action before becoming overwhelmed by overstimulation by id impulses (Davison & Neale, 1982). An example of the functionality of anxiety is that after the development of the ego in the first year of life, an individual is warned through anxiety that he or she may be "in danger of being reduced to an infantile state of helplessness through overstimulation by id impulses and other forces" (p. 43). Therefore, according to Freud, it is anxiety that protects the individual from giving in to the id impulses.

Freud believed anxiety to be synonymous with fear, and he differentiated among three types of anxiety: objective, neurotic and moral anxiety (Hall, 1954). Objective anxiety is defined as the ego's reaction to danger in the real, external world. For example, objective anxiety is felt when one's life is in real jeopardy (Davison & Neale, 1982), as in an

impending car accident, physical assault, or dissertation defense. Objective anxiety is realistic fear. Moral anxiety is experienced by the ego as guilt or shame. It is the ego's fear of punishment from the superego resulting from the failure to follow the standards of moral conduct (Davison & Neale, 1982). Neurotic anxiety is "the fear of the disastrous consequences that are expected to follow if a previously punished id impulse is allowed expression" (Davison & Neale, 1982, p. 44). Hall (1954) noted:

neurotic anxiety is based upon reality anxiety in the sense that a person has to associate an instinctual demand with an external danger before he learns to fear his instincts. As long as instinctual discharge does not result in punishment, one has nothing to fear from [the instincts]....However, when impulsive behavior gets the person into trouble, as it usually does, he learns how dangerous the instincts are. (p. 67)

Neurotic anxiety is expressed in several forms such as free-floating anxiety, phobias, and panic reaction. During free-floating anxiety, an individual appears to be apprehensive most of the time with no apparent form of reasonable danger. The theory of free-floating anxiety assumes that the individual is afraid of his/her own id, which is always with him/her (Davison & Neale, 1982). Phobias are described as the "intense irrational fear and avoidance of specific objects and situations, such as kittens, open spaces, closed spaces, and nonpoisonous snakes"

(Davison & Neale, 1982, p. 44). The feared objects and situations the phobias are based on are symbolic representations of an object or situation that was chosen earlier to gratify the id. Hall (1954) stated, "behind every neurotic fear there is a primitive wish of the id for the object of which one is afraid" (p. 65). The last form of neurotic anxiety described is the panic reaction. Davison and Neale (1982) defined the panic reaction as "a sudden and inexplicable outburst of severe and prolonged fear" (p. 45).

According to Freud, neurotic and sometimes moral anxiety may be reduced through defense mechanisms (Davison & Neale, 1982). A defense mechanism is an unconsciously utilized strategy which functions to protect the ego from anxiety. The most important defense mechanism is repression where unacceptable thoughts and impulses are pushed into the subconscious (Davison & Neale, 1982). Other types of defense mechanisms are projection, displacement, reaction formation, regression, and rationalization (Hall, 1954).

It is evident that the psychoanalytic treatment of anxiety views anxiety as functional and necessary for the survival of the psyche. However, anxiety management through the use of defense mechanisms can be crippling to an individual; therefore, the goal of psychoanalysis is to work through the initial conflict. Davison and Neale (1982) stated, "psychoanalytic therapy attempts to remove the earlier repression and to help the patient face the childhood conflict and resolve it in the light of adult reality" (p. 45).

Physiological Theory

Physiological theorists examine anxiety in the context of experimental science to understand the relationship between social and physiological correlates of anxiety (Henry & Ely, 1980). Selye's (1956) non-specific arousal response comes from this research orientation. The learning and behavioral theorists focus on proximal causes of stimuli of anxiety (Kaplan, 1974). Thus "anxiety and avoidance behavior are responses elicited and maintained by specifiable proximal stimuli" (Bootzin & Max, 1980, p. 37). Other studies in this area focus on the relationship between anxiety, stress, and coping behavior (Brady, 1980). Brady stated that the experimental analysis of stress and anxiety have focused on two general models. These models were labeled the concurrent model and the contingent model. Brady wrote, "the more traditional concurrent model emphasizes the effects of previous or accompanying environmental-behavioral interactions as determinants of psychophysiological stress and anxiety responses" (1980, 207). Classical examples of such laboratory studies is the early work of Pavlov (1879) and Cannon (1915) in which autonomic changes were related to environmental antecedents (Brady, 1980). Current applications of the concurrent model "extend the analysis of both respondent and operant conditioning effects on a broad range of biochemical, physiological, and behavioral processes (Brady and Harris, 1976)" (Brady, 1980, 207). The more contemporary contingent model focused on the environmental-behavioral interactions that follow psychophysiological

stress and anxiety responses (Miller, 1978). Brady stated:

Experimental approaches within the framework of both concurrent and contingent models continue to provide a vigorous and productive research base for laboratory studies of both psychophysiology the the psychopathology of stress and anxiety.

Such investigative activities emphasize the effects of aversive learning and conditioning procedures on visceral and autonomic processes, and the broad range of laboratory experiments involved can be differentiated on the basis of the temporal ordering of behavioral and physiological events. (1980, p. 208).

Physiological measures of anxiety utilized in these studies were heart rate, systolic and diastolic blood pressure elevation, corticosteroid levels, and plasma norepinephrine and epinephrine levels (Brady, 1980) and electrodermal lability (Katkin, 1975) as observed in humans and laboratory animals. Though it seems that understanding the physiological aspect of anxiety is worthwhile and important, one is left to wonder how the cognitive aspect of anxiety would tie into this understanding.

State-Trait Theory of Anxiety

One model of anxiety that appears to stand up well in measurement is the state-trait anxiety model (Spielberger, 1966). Cattell and Scheier (1961) provided empirical

evidence for the state-trait model through factor analysis for they extracted two distinct factors: trait anxiety and state anxiety. Spielberger (1972) defined state anxiety as a complex and unique emotional reaction "consisting of unpleasant, consciously-perceived feelings of tension and apprehension, with associated activation or arousal of the autonomic nervous system" (p. 29). Spielberger (1966) stated that trait anxiety measures a persons general tendency to perceive a wide spectrum of situations as threatening.

In addition to the understanding of the concept of anxiety, the issue of assessment of anxiety raises several issues about the construct.

Issues in the Measurement of Anxiety

The issue of the measurement of anxiety has perplexed psychometrists for decades. This may be due to the fact that several different theoretical orientations offer many different definitions of the construct. Shedeltsky and Endler (1973) concluded, "it becomes apparent that measurement tools of anxiety devised on the basis of divergent theories might then reflect the theoretical confusion within the realm of research" (p. 511-512).

Anxiety and Depression

Another important issue in the measurement of anxiety is the overlap in measurement of the two constructs of anxiety and depression. Bramley, Easton, Morley, and Snaith (1988) provided:

the separation of these categories is unsatisfactory since their definitions are not mutually exclusive, frequently being based upon symptoms which may occur in either state. Moreover etiology and treatment response may sometimes be the same for both categories. (p. 133)

This is an important issue to consider when attempting to understand both affective dimensions, so caution must be used when interpreting measures of both. The discussion will now focus on gender differences in affective dimensions.

Gender and Affect

Do men and women differ in how they experience affective states? In the last two decades, a great deal of literature in both the popular and professional press has focused on the differences between men and women concerning emotions. Do women experience a higher proportion of depression and anxiety than men due to the differences in social and political conditions between the genders? Psychotherapists with a feminist orientation suggested that women had displaced and internalized anger as a result of feeling powerless in a patriarchal society (Greenspan, 1983; Lerner, 1985). In addition, Jean Baker Miller (1985) wrote that the sort of rage that leads to mental illness arises from the weight of accumulated experience. However; a review of the literature provides only limited empirical support for these hypotheses (Fischer, Smith, Leonard, Fuqua, Campbell, &

Masters, 1993). Weisman and Klerman (1985) reported that women compose a majority of patients with the diagnosis of depression. In addition, Chino and Funabiki (1984) reported significant gender differences in the expression and experience of depression. While a number of studies reported documentation of gender differences concerning the relationship to proneness to depression (Abramson & Andrews, 1982; Repetti & Crosby, 1984; Robbins & Tanck, 1984), criticisms exist of the meaningfulness and methodology of these findings (Fischer, in press, et al.).

Gender differences in regard to other affective dimensions received the same results. Shope, Hedrick, and Green (1975) studied sex differences associated with the expression of anger; and they found that while women appear to be unable to express anger physically, they can be aggressive verbally. Biaggio (1980) wrote that men manifest greater overt expressions of anger. McCann and Biaggio (1980) found sex differences in terms of men showing greater physical and overall expressions of anger. However, Frodi, Macauley, and Thome (1977), based on a literature review, found that the hypothesis that men are more physically aggressive while women were more indirect in their expression of anger was not supported in the research. Biaggio (1989) found no significant gender differences in self-reports of behavioral reactions to the provocation of anger, and Averill (1982) reported no significant difference in gender concerning anger. With regards to anxiety, Barker and Barker (1977) suggested that women present an "anxiety proneness." In addition, Simon and Thomas (1983) reported that women had

higher levels of both state and trait anxiety. In a study examining differences among genders looking at state/trait anger, state/trait anxiety, and depression, Fischer et al. (1993) found minimal differences among men and women. It appears that the issue of the differences in how men and women experience or express affect is still under examination. Perhaps other issues including attributional style will shed more light on this subject.

Recent Studies in Attributional Style and Affect

Attributional style and depression have been linked together since Seligman's original work. However, there have been developments in the study of attributional style in relation to depression and other emotions (Flett, Pliner, & Blankstein, 1989; Ganellen, 1988; Stoltz & Galassi, 1989). Understanding the relationship between attributional style and affect is important in understanding the nature of affect. In addition, treatment of affective disorders will benefit from a better understanding of the attributional component of emotion.

Attributional Style and Depression

What does the current research report about the relationship between depression and attribution? Attribution and depression has been an active and growing field of interest in social psychology and counseling psychology in the past two decades (Antaki & Brewin, 1982). Is the reformulated theory of learned helplessness effective in

predicting an attributional style? Several studies have been done in the past few years in the area of depression and attribution. Tennen and Herzberger (1987) examined "the extent to which self esteem may be an important determinant of attributional style" (p. 72). Tennen and Herzberger reported evidence that suggested that the attributional style among depressed subjects is also prevalent among low self-esteem subjects. Ickes and Layden (1978) cited the comparisons between the research linking self-esteem and attributional preferences and with that linking depression and attributional style. Ickes and Layden stated, "the self-esteem level and attributional style of clinically depressed patients appear to be essentially similar to those of the normal but low self-esteem subjects who were studied in our research" (p. 144). It appears that low self-esteem and depressed subjects make internal attributions for success and failure (Tennen & Herzberger, 1987). Tennen and Herzberger found that individual's tendency "to make internal attributions for failure and external, unstable, and specific attributions for success is characteristic of individuals with low self-esteem independent of depression status" (p. 77). In fact, when Tennen and Herzberger deleted depression from the prediction model, self-esteem still accounted for the above attribution measures. This raises the question of which component accounts for a negative attributional style, self-esteem or depression. Also, what do these two constructs have in common?

Weary, Elbin, and Hill (1987) proposed a study designed

to examine the consequences for depressed and nondepressed individuals who receive comparison feedback regarding their causal attributions of an event. Weary et al. (1987) found that depressed and nondepressed subjects did not differ in their attributions of hypothetical events; however, they found that depressed subjects responded "with more positive evaluations to the similar comparison other, and with more negative evaluations to the dissimilar comparison other, than did nondepressed subjects" (p. 609). It appears that the depressed individuals were hypersensitive to the differences between themselves and others, resulting in self consciousness. Weary et al. offered explanations for these findings in that depressed individuals may be more motivated to engage in or more sensitive to social comparison information due to a chronic lack of control and a resulting heightened sense of uncertainty.

Riskind, Rholes, Brannon, and Burdick (1987) offered a confluence hypothesis in which "the predictive capacity of attributional style is contingent on the degree of correspondence between attributions and expectations; specifically, it stated that the working combination of a highly negative attributional style and negative outcome expectations represents the worst case of risk for future depression" (p. 350). Riskind et al. (1987) offered many reasons for this confluence hypothesis. First, any expectations for positive outcomes buffer an individual by partially blocking the negative attributional style mechanism. Second, Riskind et al. (1987) reasoned that "the

impact of expected negative outcomes on depression depends on a person's attributional style and on the meanings attributed to the outcomes" (p. 350). Finally, Riskind et al. (1987) believed that negative expectations about outcomes may act as a buffer to protect an individual from depression when an individual has a healthy attributional style. Riskind et al. longitudinal study discovered that an attributional style may predict future levels of depressive symptomatology, and the authors indicated their study supported the reformulated helplessness model of Abramson, Seligman, and Teasdale (1978).

Brown and Siegel (1988) examined the role of perceived control in the reformulated helplessness model. Brown and Siegel stated, "there is reason to suspect that controllability attributions moderate the relation between depression and the negative attributional style identified by Abramson, Seligman, and Teasdale (1978)" (p. 317). Concluding from their study, Brown and Siegel found that a negative attributional style predisposes one to depression depending on the perceived controllability of the event. Brown and Siegel believed their findings indicated that the relationship between attribution and depression depends on whether events are attributed to uncontrollable or controllable events, and that affective reactions to events may be determined by perception of control. Finally, Brown and Siegel believed the results supported others "who have claimed that the controllability dimension is an important element in the link between attribution and depression

(Weiner & Litman-Adizes, 1980; Wortman & Dintzer, 1979)"
(p. 319).

Attribution theory and depression have had a long and productive relationship over the past two decades while theorists strive to understand the correlation between the two. There are several studies in the literature that employ the use of attribution with clinical issues and populations including couples (Fincham, Beach, & Baucom, 1987), adjustment to rape (Meyer & Taylor, 1986), use of paradoxical interventions (Hills, Gruszkos, & Strong, 1985), alcoholism (Dowd, Lawson, & Petosa, 1986), spousal abuse and responsibility (Schutte, Bouliege, Fix, & Malouff, 1986), incest blame (Jackson & Sandberg, 1985), and anxiety (Alden, 1987). It appears that attribution plays a significant role in the affective dimension of depression. Otherwise, why would the literature be so flooded with so many studies connecting the two?

How might attributional style relate to other affective dimensions? Where does the relationship lie between affective dimensions and attributional style? It seems logical that if there is such a strong relationship between attributional style and the experience of depression, that there is apt to be a similar relationship between attribution and other emotions?

Attributional Style, Anger, and Anxiety

While the affective dimension of depression has enjoyed a prosperous relationship with attributional style in the

literature, the relationship of the affective constructs of anger and anxiety to attributional style has not been nearly as well addressed. Strube (1985) stated, "the importance of attributional styles has been demonstrated primarily by research conducted within the learned helplessness paradigm" (p. 500). Much of the research on anger focuses in on an association between aggression and coronary heart disease (CHD) (Spielberger, Krasner, & Solomon, 1988). In relation to anger and attributional style, a few studies have examined the effectiveness of attributional style in the understanding of the Type A Coronary-Prone Behavior Pattern (Rhodewalt, 1984; Strube, 1985)

With the use of state-trait theory, it seems that the affective dimension of anger may relate well to attribution. As stated before with the concept of depression, how might the experience of state-trait anger relate to attributional style of an individual? However, no study to this date has examined the relationship between the STAXI and the ASQ or the EASQ. This may be due to the fact that the STAXI is a relatively new instrument.

As with anger, few studies have examined the relationship between attribution and anxiety. A few studies exist that explore attribution and anxiety (Ganellen, 1988); however, the literature goes no further in that area. As with anger, while using the state-trait theory of anxiety, it is believed that this construct would mesh well with attributional style.

Anxiety and depression have been linked clinically (APA,

1987), and definitionally (Mook et al, 1990), therefore, anxiety may interact with attributional style in a similar way as does depression. Additionally, social learning theory ties anger to the perspective and learning of anger; therefore, one might argue that such a conceptualization of anger would mesh with attributional style. Attribution is based upon observation and past experiences of causality. Social learning theory's foundation is concept of learning through observation and past experiences. Therefore, there may be a link between the experience of anger and attributional style, as there is one between depression and attributional style.

Purpose of the Study

The present study was conducted to identify the relationship of attribution to affective dimensions. Much of the literature on depression tied this affective dimension to attribution in explaining the cognitive component of the emotion. However; little of the literature has focused on other affective dimensions and attribution. One problem is that these affective dimensions suffer due to difficulty in defining these constructs, thus leading to ambiguity in assessment of these dimensions. However, the instruments have demonstrated some validity and reliability in the measurement of these affective dimensions and attribution.

The present study examined the relationship of attribution to the affective experience, especially with reference to depression, anxiety and anger. It was

hypothesized that attributional style will play a mediating role in the experience of these affective dimensions.

Research Questions

1. Does attributional style account for a significant proportion of variance in the affective dimensions of anger, depression, and anxiety? Does affect account for a significant proportion of variance in the cognitive dimensions of Globality, Internality, and Stability?

Null Hypothesis One: There is no significant relationship between the sets of cognitive and affective variables.

2. Does attributional style relate differentially to state and trait aspects of these affective dimensions? Is there a clear pattern of relationships between state or trait affect and style of attribution.

Null Hypothesis Two: There is no difference in patterns of relationships among state or trait affect and style of attribution.

3. Is there a gender difference among these findings?

Null Hypothesis Three: There are no significant gender differences in relation to attributional style and affect.

CHAPTER III

METHODS

Subjects

The sample consisted mainly of undergraduate students enrolled in a large Midwestern University. Out of the 300 subjects surveyed, there were 254 completed protocols with no item omissions; therefore, the pool of subjects consisted of 254 valid cases. 58% (147) were females and 42% (107) were males. The subjects ages ranged from 18 to 59 years of age; however, the bulk of the subjects (79%) ranged in age from 18 to 22 years of age, and the median age was 20 years of age. The majority of the subjects were single (85%) and Caucasian (77%). The majority of the subjects were classified as Sophomores (35%), Freshmen (23%), Juniors (22%), and Seniors (17%). This sample described a traditional undergraduate student population.

Instruments

There are several instruments available to measure concepts as depression, anger, and anxiety. The measures chosen for this study are the State-Trait Anger Expression

Inventory (Spielberger, 1988), the State-Trait Anxiety Inventory (Spielberger, 1983; Spielberger, Gorsuch, & Lushene, 1970), The Beck Depression Inventory (Beck, 1972), and the Expanded Attributional Style Inventory (Peterson & Villanova, 1988). These instruments were chosen for several reasons. First, the instruments were believed to represent the constructs utilized in the study. Secondly, the instruments were believed to be reliable and possess moderate evidence for the validity for the instruments for the purpose of this study. Following is a description of each instrument.

State-Trait Anger Expression Inventory

State-Trait Anger Expression Inventory (STAXI), a relatively new instrument, is a 44 item self report measure of the expression and experience of anger. The theoretical basis for the STAXI has been well developed in several articles (Spielberger, Johnson, Russell, Crane, Jacobs, & Warden, 1985; Spielberger, Krasner, Solomon, 1988; Spielberger, Jacobs, Russell, & Crane, 1983). The commercial form of the STAXI provides for the scoring of eight scale scores. These scales are operationalized in the manual for the STAXI (Spielberger, 1988) as follows:

- a. State Anger (S-Anger) - A 10 item scale which the intensity of angry feelings at a particular time.
- b. Trait Anger (T-Anger) - A 10 item scale which measures a general propensity to experience anger. T-

Anger has two subscales:

1. Angry Temperament (T-Anger/T) - A 4 item T-Anger subscale which measures a general propensity to experience and express anger with out specific provocation.
2. Angry Reaction (T-Anger/R) - A 4 item T-Anger subscale that measures the disposition to express anger when criticized or treated unfairly.
- c. Anger-In (AX/In) - An 8 item anger expression scale that measures the frequency with which angry feelings are held in or suppressed.
- d. Anger-Out (AX/Out) - An 8 item anger expression scale that measures how often an individual expresses anger toward other people or objects.
- e. Anger-Control(AX/Con) - An 8 item scale that measures the frequency with which an individual attempts to control the expression of anger.
- f. Anger Expression (AX/EX) - A research scale based on the responses to the 24 items of the AX/In, AX/Out, and AX/Con scales which provides a general index of the frequency that anger is expressed, regardless of the direction of expression. (p.1)

Coefficient alphas for the eight scales ranged from .73 to .93 (Spielberger, 1988) indicating adequate internal consistency for research purposes. The STAXI manual indicated that the test-retest reliability of the eighth scales has been examined; however, this information has not

yet been published. Validity data in the STAXI manual include correlations with personality measures and blood pressure (Spielberger, 1988). Factorally, the structure of the STAXI is consistent with the multidimensional theoretical concepts of anger (Fuqua et al., 1991). In addition, several other validity studies are cited in the manual. Convergent validity of the trait-anger scale was evaluated in terms of correlations with the Buss-Durkee Hostility Inventory (BDHI, 1957), and the Hostility (HO; Cook & Medley, 1954) and the Overt Hostility (HV; Schultz, 1954) scales of the Minnesota Multiphasic Personality Inventory. Spielberger (1988) reported "significant correlations were found across samples for both males and females, providing strong concurrent validity of the T-Anger scale as a measure of anger" (p. 12). Spielberger (1988) found moderate correlations between the Trait-Anger scale and the Trait-Anxiety and the Eysenck Personality Questionnaire's (EPQ) Neuroticism scales that are consistent with clinical theory and observations in that persons high in trait-anxiety and neuroticism usually experience angry feelings that they are unable to readily express. Spielberger (1988) reported low positive correlations between the Trait-Anger scale and the EPQ Psychoticism scale. This finding would indicate that persons with high scores on psychoticism experience anger somewhat more frequently than persons with low psychoticism scores. Spielberger (1988) found low to moderate correlations between the State-Anger scale and the Trait-Anxiety and the EPQ Neuroticism and Psychoticism scales.

These findings indicated "individuals with psychopathological personality traits experienced more intense angry feelings than emotionally stable people at the time they were tested" (Spielberger, 1988, p. 12). Spielberger (1988) reported moderately high correlations between State-Anger and State-Anxiety for both sexes. Spielberger felt that this relationship reflects an important aspect of the American socialization process. Spielberger elaborated that "if aggressive behaviors in young children are motivated by angry feelings, and such behaviors are consistently punished, an association will develop between feelings of anger and anxiety so that feeling angry will elicit elevations in S-Anxiety in anticipation of punishment" (p. 12).

Due to the strong evidence of a relationship between Trait-Anger and measures of hostility, and the important differences between hostility and anger as personality constructs as suggested in the research literature, Spielberger (1988) wished to further evaluate the relationship between the Trait-Anger scale and hostility measures. Spielberger (1988) performed a factor analysis of items comprised of the Trait-Anger scale, the State-Trait Personality Inventory's (STPI, Spielberger, 1979) Trait-Anxiety and Trait-Curiosity scales. These items were factored with such marker variables as the Trait-Anger score, the BDHI total and subscale scores, the MMPI HO and HV scale scores, and the STPI Trait-Anxiety and Trait-Curiosity scale scores. Spielberger (1988) found in a three factor solution that "the first factor was clearly an Anger-Hostility factor

with T-Anger and Buss-Durkee total scores having the highest loadings" (p. 12). Factor two was labeled Trait-Anxiety with the highest loadings being the Trait-Anxiety scales the HO scale, and the BDHI Guilt, Irritability, Suspicion, and Resentment scales. Spielberger (1988) reported that the third factor was defined primarily by the Trait-Curiosity scale, with a negative secondary loading on Trait Anxiety. In a four factor solution, Spielberger found that Factor One (Anger-Hostility) in the three factor solution divided into two separate factors. In the four factor solution, Factor One became Anger, and Factor Four became Hostility. Both the three factor and four factor solutions yielded similar results for males and females (Spielberger, 1988). Overall, the validity of the STAXI scales appears to be encouraging for research applications.

State-Trait Anxiety Inventory

Form Y of the State-Trait Anxiety Inventory

(STAI) is made up of two twenty item scales. One is designed to measure anxiety as a situational experience (State), and the second scale measures a general disposition to respond with anxiety across situations (Trait). In the STAI manual, Spielberger (1983) reported a median coefficient alpha of .93 for State Anxiety and .90 for Trait Anxiety. Trait Anxiety reported test-retest reliabilities in the moderate to high range. State Anxiety reported significantly lower test-retest reliabilities which one would expect given the situational nature of the construct.

The STAI manual (Spielberger, 1983) reported a number of indicators of validity of the STAI scales. Martuza and Kallstrom (1974) found evidence of validity of the STAI scales within a graduate educational level environment. Martuza and Kallstrom provided results that support the State-Trait construct of anxiety in their validity study. In addition, the authors found "positive evidence of the validity of State-Trait Anxiety Inventory scales for measuring individual A-State and A-Trait differences among graduate students in education when under varying degrees of academic stress" (p. 366). Hedberg (1971) reported that the validity data of the STAI provided good support for the theoretical basis of the state-trait structure of anxiety. Concurrent validity is demonstrated with other anxiety measures as the Taylor Manifest Anxiety scale and the IPAT Anxiety scale, yielding correlations between .75 and .85 for college students and psychiatric patients (Hedberg, 1971). Hedberg reported "construct validity is demonstrated by the fact that the A-State items consistently vary with different experimental states of stress while the A-Trait items do not" (p. 389).

In a review of the STAI, Hedberg (1971) summarized the strengths of the inventory:

The STAI has numerous strengths to commend it as significant measure of anxiety. For example, it is brief, inexpensive, and easy to administer, score, and interpret. It has been carefully developed both methodologically and theoretically. The high degree of

internal consistency and the reporting of critical ratios for each item allows for the wise choice of items when designing an abbreviated version of the scale for special use for dividing the items into two parallel forms when independent repeated measures are desired. Its unique contribution is the dual measure of A-Trait and A-State anxiety by means of a brief, reliable, objective, and practical inventory. (p. 390)

Levitt (1967) concluded, after evaluating several anxiety inventories, that the STAI was the most carefully developed anxiety inventory from both the methodological and theoretical standpoints. It appears that the STAI is an effective measure of state-trait anxiety.

Beck Depression Inventory

The Beck Depression Inventory (BDI) consists of twenty one items designed to measure the general syndrome of depression. The items are rated on a 4 - point scale (0 - 3) of intensity. The BDI is scored by totaling the ratings across items. The total BDI score will be used in this study.

The BDI is a frequently used instrument that was designed to measure the intensity of depression (Ponterotto, Pace, & Kavan, 1989). The BDI was originally developed by Beck, Ward, Mendelson, Mock, and Erbaugh (1961), and it was subsequently revised by Beck (1979). The BDI's psychometric

properties are well established as it has been used in over 500 reported studies (Ponterotto et al., 1989). Beck, Steer, & Garbin (1988) reported the BDI as having coefficient alphas ranging from .76 to .95 with a mean of .86 for 25 studies using a variety of clinical and nonclinical samples.

Sacco (1981) questioned whether the BDI measures state or trait depression. Beck et al. (1988) suggested that the changes in the administration instructions which were introduced at the time of the BDI's revision have successfully addressed this issue. As evidence, the authors reported 10 studies assessing the BDI's stability over varying lengths of time. These authors reported test-retest reliabilities for the BDI ranging from .48 to .86 for psychiatric populations, and ranging from .60 to .83 for nonpsychiatric populations. This reflected that the BDI possessed adequate stability for the purposes of this study.

The validity of the BDI has been examined in literally hundreds of studies. Beck et al. (1988) cited several studies supporting the concurrent, content, discriminate, construct, and factorial validity of the BDI. Beck et al. provided evidence for concurrent validity by citing several studies that correlate the BDI with the Clinical Rating of Depression, the Hamilton Rating Scale, The Zung Self-Rating Scale, the MMPI-D Scale, and various other methods of measuring depression. Beck et al. concluded that the BDI demonstrates acceptable levels of concurrent validity. Ponterotto et al. (1989) provided evidence for content validity of the BDI by stating " the BDI covers a wide range

of symptoms associated with depression, including affective, cognitive, physiological, and social or behavioral symptoms" (p. 304). In terms of discriminate validity, Beck et al. stated that the BDI had been successful in its ability to distinguish between psychiatric and nonpsychiatric groups. However, the BDI had been less successful in distinguishing between different depressive disorders. The construct validity of the BDI had been ascertained due to its ability to detect a variety of relationships between depression and other variables. Beck et al. provided evidence in studies that find BDI scores to be inversely related to an indicator of sleep difficulty (REM latency). In addition, the BDI correlated significantly with self-report measures of anxiety. The BDI has been able to distinguish between groups diagnosed from the DSM-III-R as primary major depression and dysthymic disorder and primary generalized anxiety disorder.

According to factor analysis studies using various extraction methods, the number of factors ranged from three to seven (Beck et al., 1988). Beck et al. cited a latent structure analysis that suggests the BDI represents one underlying general syndrome of depression. This general syndrome of depression can be broken down into three highly intercorrelated factors that include: a) negative attitudes toward self, b) performance impairment, and c) somatic disturbance. According to the numerous validity studies, the BDI has earned general acceptance as a research scale.

The Expanded Attributional Style Questionnaire

The Attributional Style Questionnaire (ASQ), as developed by Peterson, Semmel, Metalsky, Abramson, von Baeyer, and Seligman (1982), was designed to assess explanatory style by means of a self-report questionnaire (Peterson & Villanova, 1988). Subjects are given six good and six bad hypothetical events involving themselves (e.g. you go out on a dinner date and it goes poorly). Then the subject will write in his/her own words representing "one major cause" of each event. Next the subject rates each cause along 7-point scales according to its Internality, Stability and Globality. ASQ scores for each dimension are calculated by averaging ratings across events, separately for good and bad events. The ASQ is reported to have a modest reliability. Internal consistency of each dimension ranges from .4 to .7, and as a result, most researchers combine the scores from all three dimensions to improve reliability (Peterson & Villanova, 1988). As a result of this modest reliability, Peterson and Villanova (1988) have introduced a new form of the ASQ, by the name of the Expanded Attributional Style Questionnaire (EASQ). The Authors attempted to improve the reliability by lengthening the ASQ to include 24 bad events. Peterson and Villanova stated, "because the helplessness reformulation is not explicitly concerned with good events, we did not include them" (p. 87). As they expected, the reliabilities of the individual dimensions of the EASQ did improve. Internal consistencies, as estimated by Cronbach's (1951) coefficient alpha were

reported as .66 for internality, .85 for Stability, and .88 for Globality. Stability and Globality of attributional style were highly correlated and largely independent of internality (Peterson, 1988). In addition, all three dimensions of explanatory style correlated significantly with depressive symptoms as measured by the BDI (Peterson & Villanova, 1988). The Authors found support for predictive validity due to the correlations between the dimensions of explanatory style and ratings of actual bad events. Other studies since have used the EASQ (Riskind, Rholes, Brannon, & Burdick, 1987; Stoltz & Galassi, 1989).

Procedure

Subjects were surveyed during the summer of 1991 at a large Midwestern university. Subjects were obtained from mid-size (40) to large (80) service courses in History, Political Science, English, and Human Sexuality. The two researchers approached the instructors of these courses for permission to survey their students. After instructor consent was given, times were arranged to conduct the survey. After the researcher was introduced by the instructor, he/she followed several standardized steps to insure consistent gathering of data. At first, the subjects were informed that participation in this study was voluntary on part of the subject. Next the researcher read aloud the consent form while participating subjects completed and signed the form. The signed forms were collected by the researcher, while the subjects kept a consent form of their own. Next the

researcher passed out the survey packet to the subjects containing a demographics sheet and the four questionnaires. The researcher explained the demographic form, and he/she pointed out each survey and the accompanying answer sheet. The researcher asked the subjects refrain from putting their name on the any part of the protocol. The researcher reminded the subjects that their responses would remain anonymous throughout the procedure. The cover of the packet was a brief demographic questionnaire to assess age, gender, marital status, grade level, and ethnic status. Next the packet consisted of the STAI, STAXI, BDI, and the EASQ. The order of these instruments were sequenced in equal proportions in as many possible combinations. Response times of the subjects varied from 25 minutes to 50 minutes. After the subject had completed the packet, they returned it to the researcher, who thanked them for their assistance.

Design of the Study

According to Stevens (1986), "canonical correlation is another means of breaking down the association for two sets of variables, and is appropriate if the wish is to parsimoniously describe the number and nature of mutually independent relationships existing between the two sets" (p. 373). In response to research question one, canonical correlations were employed to examine the relationship between the set of affective variables (Scales of the STAXI, STAI and BDI) and the set of cognitive variables (Scales of the EASQ: Internality, Globality and Stability). In

addition, three exploratory multiple regressions were employed as a follow up to the canonical correlation. In response to research question two, an analysis of the loadings on the variates of state and trait variables, in addition to an examination of the multiple r - squared between the state measures and the trait measures, was examined. In response to research question three, T-Tests for each gender were examined. For the entire study, alpha was set at .05. The data was analyzed using the SPSS statistical package (SPSS,1990).

CHAPTER IV

RESULTS

To examine the relationship between attributional style and affect, a sample of 300 subjects were administered a series of self-report measures: the STAI, the STAXI, the BDI, and the EASQ. The data were analyzed through a series of statistical procedures. After the data were coded and entered, it was apparent that only 254 protocols were complete in terms of responses; therefore only 254 valid cases were statistically analyzed. A canonical correlation analysis was utilized to examine whether a relationship existed between the sets of cognitive and affective variables. To further investigate the relationship between the sets of variables, a multiple regression analysis was performed. To determine if there were gender differences in the sample, t-tests were employed. The following section will present the results of the data analysis for this study.

Research Question One

Does attributional style account for a significant proportion of variance in the affective dimensions of anger, depression, and anxiety? Does affect account for a significant proportion of variance in the cognitive dimensions of Globality, internality, and stability? Null Hypothesis One: There is no significant relationship between the sets of cognitive and affective variables. To investigate Research Question One, a canonical correlation analysis was performed. However; before the results are shown, a discussion of the canonical correlation analysis is provided.

Discussion of the Canonical Correlational Analysis Procedure

A discussion of the nature and interpretation of a canonical correlation analysis will be presented. A canonical correlation analysis was performed to determine if there are relationships, and what nature of relationships exist between the cognitive and affective sets of variables. Stevens (1986) stated, "the canonical correlation is still another example of the mathematical maximization procedure (as were multiple regression and principle components), which partitions the total association through the use of uncorrelated pairs of linear combinations" (p. 375). According to Stevens (1986), the canonical correlation analysis first searches for two linear combinations which possess the maximum Pearson correlation. Stevens (1986)

wrote, "the maximized correlation for the scores on the two linear composites ($r_{u_1v_1}$) is called the largest linear canonical correlation, and we denote it by R_1 " (p. 373). Next, the canonical correlation procedure looks for a second pair of linear combinations that is uncorrelated with the first pair, and the Pearson correlation between this pair is the next largest possible correlation. The second largest canonical correlation is denoted by R_2 . Stevens added, "when we say that this second pair of canonical variates are uncorrelated with the first pair, we mean that (1) the canonical variates within each set are uncorrelated, i.e. $r_{u_1u_2} = r_{v_1v_2} = 0$ and (2) the canonical variates are uncorrelated across sets, i.e. $r_{u_1v_2} = r_{v_1u_2} = 0$ " (p. 375). How many canonical correlations are possible within sets of variables? Stevens (1986) explained, "if one has p variables in one set and q in the other set, the number of possible canonical correlations is $\min(p, q) = m$ (cf. Tatsuoka, 1971, p. 186 as to the reason why)" (p. 375).

After one determines if the canonical correlation is significant, the squared canonical correlation coefficient is examined to determine the amount of variance shared by the sets of variables. Thompson (1984) stated, "a squared canonical correlation coefficient indicates the proportion of variance that the two composites derived from the two variable sets linearly share" (p. 14). In order to examine the amount of relationship that exists between the sets of variables, the squared canonical correlation coefficient will be analyzed.

Thompson reported, "when a statistically significant canonical correlation is identified, the researcher will want to interpret the extent to which the various variables contributed to the identified multivariate relationship" (p. 21). In order to interpret the canonical function, several other coefficients may be calculated to aid in interpretation (Thompson, 1984). Stevens (1986) proposed two methods to interpret the canonical variates: 1. "Examine the standardized coefficients. 2. Examine the canonical variate-variable correlations" (p. 379) or structure coefficients. The standardized coefficients may be obtained "by multiplying the raw coefficient for each variable by the standard deviation for that variable" (Stevens, 1986, p. 235). A structure coefficient may be defined as the correlation between the variable and the canonical variates (Stevens, 1986). However, both of these methods are unreliable unless the $N/\text{total number of variables}$ is at least 42/1 if interpreting the the largest two canonical correlations, and around 20/1 if interpreting only the largest canonical correlation (Stevens, 1986). In addition, Stevens (1986) wrote that the degree of multicollinearity, along with the $N/\text{total number of variables}$ ratio, must be investigated to determine how much confidence one may place in the results.

Several authors argued for the use of structure coefficients as opposed to the standardized coefficients as a reliable interpretation aid (Kerlinger & Pedhazur, 1973; Levine, 1977; Meredith, 1964; Thompson, 1984). Meredith

(1964) suggested, "if the variables within each set are moderately intercorrelated the possibility of interpreting the canonical variates by inspection of the appropriate regression weights [standardized coefficients] is practically nil" (p. 55). In addition, Levine (1977) stated, "I specifically say that one has to do this [interpret structure coefficients] since I firmly believe as long as one wants information about the nature of the canonical correlation relationship, not merely the computation of the [canonical function] scores, one must have the structure matrix [emphasis in original]" (p. 20). Kuylen and Verhallen (1981) stated the main reason for choosing the structure coefficients over the standardized coefficients. They wrote:

In the first place these weights [function coefficients] may be unstable due to multicollinearity. Some variables may obtain a small weight or even a negative weight because of the fact that the variance in a variable has already been explained by other variables. In this type of situation the weights do not give a clear picture of the relevance of the variables. (p. 219)

If there is a moderate amount of multicollinearity, use of standardized coefficients will confuse interpreting the nature of the canonical variates. For that reason, Thompson (1984) remarked that the structure coefficients are important. Structure coefficients may be interpreted in the same manner as factor analysis loadings in factor analysis

(Stevens, 1986). A structure matrix with structure coefficients will be utilized in the interpretation of this study's results.

Interpretation of the Canonical Correlation Analysis

The interpretation of the canonical correlation analysis for this study is as follows. The ratio of N/total number of variables for this sample was around 23/1 (254/11). In the process of examining the data using a canonical correlation analysis, a single significant pair of canonical variates was extracted. ($R_c = .38$, $p < .05$). Due to the fact that only one significant canonical correlation was found, the ratio of subjects to variables will be sufficient for reliable interpretation of the results. Based on the squared canonical correlation coefficient ($R_c^2 = .14$), it is evident that these variates shared 14% of the common variance. Therefore; a significant relationship does exist between the sets of variable. Thus Null Hypothesis One was rejected.

Research Question Two

Does attributional style relate differentially to state and trait aspects of these affective dimensions? Is there a clear pattern of relationships between state or trait affect and style of attribution. Null Hypothesis Two: There is no difference in patterns of relationships among state or trait affect and style of attribution. Further examination of the canonical correlation analysis through the structure coefficients and a multiple regression analysis were analyzed to investigate Research Question Two.

Structure Coefficient Analysis

The next question is what is the nature of that relationship? In order to determine the nature of the canonical covariates, an analysis of the structure coefficients was performed. It appears that of the affective set of variables, Trait Anxiety (Traxtot) loaded most heavily on the variate with a structure coefficient of $-.9657$. In fact, Trait Anxiety accounted for most of the variate. This indicated that Trait Anxiety accounted for most of the variance on the variate. In other words, Trait Anxiety strongly related to the linear composite of the attributional style variables. In addition, State Anxiety (Staxtot), Depression (Becktot), and Anger-In (AXIN) also loaded moderately on the variate with structure coefficients ranging from $-.60655$ to $-.64863$. Though the relationship was not as strong as it was with Trait Anxiety, it seems that State Anxiety, Depression, and Anger-In correlated to a stable,

global, and internal attributional style.

Upon examining the cognitive set of variables, it appeared that stability loaded highest on the variate with a structure coefficient of $-.93239$. Globality loaded the next highest on the variate with a structure coefficient of $-.81497$, while Internality only loaded with a structure coefficient of $-.20229$. These results indicated that Stability and Globality related strongly to the linear composite of the affective set of variables, while Internality had a very weak relationship with affect. Please refer to Table One.

Insert Table One here.

Multiple Regression Analysis

In order to further understand the nature of the relationship between the two sets of variables, multiple regression analysis were done as an exploratory follow-up. It is a natural progression to follow up the canonical correlation analysis with a multiple regression analysis for as Pedhazur (1982) stated, "It should be noted from the onset that MR [multiple regression] can be viewed as a special case of CA [canonical analysis] - that is, when there is only one dependent variable, or one criterion, CA reduces to MR" (p. 721). In multiple regression, the squared multiple correlation coefficient, R^2 , is utilized to indicate the

proportion of variance of the dependent variable that is accounted for by the independent variables (Pedhazur, 1982). On the basis of the R^2 , for the dependent variable Globality, the set of affective variables accounted for 10% of the variance. Of that 10%, Trait Anxiety accounted for 9% of that variance. For the variable Internality, the set of affective variables accounted for 6% of the total variance. Trait anxiety accounted for 3% of the Internality variable, while State Anger accounted for 2% of the variance. The affective variables accounted for 13% of the Stability variable. The majority of the variance (11%) was accounted for by Trait Anxiety. Overall, Trait Anxiety appeared to have the strongest relationship with the cognitive variables. This finding was not surprising in that the canonical correlation analysis, Trait Anxiety loaded the highest on all three cognitive dimensions. It appeared that there may be a Trait quality to two dimensions of Globality and Stability of Attributional style, thus Null Hypothesis Two was rejected. See Table Two for the summary tables of the multiple regression analysis.

 Insert Table Two here.

The Issue of Multicollinearity

Multicollinearity is an issue that needs to be considered when interpreting multiple regression analysis.

Pedhazur (1982) stated that there is no consensus on definition of multicollinearity. However, Pedhazur (1982) stated, "problems emanating from intercorrelations among independent variables are generally discussed under the heading of multicollinearity" (p. 233). Multicollinearity is a major factor as to why some researchers prefer the use of structure coefficients as opposed to standardized coefficients in canonical correlation analysis for the reason that standardized coefficients are the canonical correlation equivalent of the multiple regression standardized regression coefficients (Stevens, 1986). Pedhazur wrote, "high multicollinearity has extremely adverse effects on the standard errors of the regression coefficients, hence on tests of their statistical significance and their confidence interval" (p. 235). Therefore, it is important to inspect the correlations among the independent variables.

In this data base, it appeared that multicollinearity did play a moderate role in the multiple regressions due to the moderate intercorrelations among the affective (independent) variables. Trait Anxiety had a .75 correlation with State Anxiety, and a .58 correlation with depression. This moderate multicollinearity accounted for the heavy loadings of Trait Anxiety's standardized coefficients upon the set of cognitive variables in the canonical correlation analysis. However, there appeared to be very low correlations among the affective and cognitive variables and among the cognitive variables themselves, with the exception of the moderate correlation between Stability and Globality

(.57). See Table Three for the intercorrelations among the variables.

 Insert Table Three here.

Research Question Three

Is there a gender difference among these findings? Null Hypothesis Three: There are no significant gender differences in relation to attributional style and affect. t-test analysis was performed to examine Research Question Three.

T-Test Analysis

In order to examine the gender effects among the variables, t-tests were calculated. Upon examining the t-tests, no significant difference was found between men and women on the variables. Thus Null Hypothesis Three was not rejected. See Table Four.

 Insert Table Four here.

CHAPTER V

DISCUSSION

Introduction

This study was performed in order to achieve a better understanding of the relationship between attributional style and affective dimensions. This was a multivariate examination employing multiple measures of attributional style and affect. It was done with the belief that a clear relationship would emerge, relating style of attributing cause to events and emotional state. In summarizing the results, the first research question inquired if a relationship existed between attributional style and affect. Upon examination of the results, there appeared to be a relationship between cognition and affect. The canonical correlation analysis revealed that a significant relationship did exist between the sets of variables. The second research question posed, if there was a relationship, did the construct of state-trait affect relate to attributional style? Due to the adequate amount of common variance that the cognitive variables shared with Trait Anxiety, a relationship may be reflected between cognition

and the trait dimension of affect. In addition, the variables depression, state anxiety, and anger expressed inward loaded substantially. Globality and Stability related heavily to the variate while the variable Internality did not. The loadings of Globality and Stability may suggest a state-trait dimension in attributional style. The third research question asked if there was a gender difference in the sample concerning attributional style and affect. After reviewing the t-tests, it was evident that there were no differences between males and females. What are the implications of these findings? What does this suggest about the nature of affect and attributional style?

The Relationship of Attributional Style and Affect

The results indicated that a relationship does exist between attributional style and affect. What is the nature of this relationship? Specifically, it appears that Trait Anxiety, Depression, State Anxiety, and Anger Expressed Inward loaded substantially on the linear composite of the variables Globality, Stability, and Internality. These variables may be labeled as anxiety and depression. It is evident that anxiety, in both the state and trait forms, exist. Depression is evident, not only by the loading of depression, but perhaps from the loading of anger expressed inward. The psychoanalytic definition of depression given is anger expressed inward toward one self. Tavris stated "most psychoanalytic writers subsequently put aggression or anger

depressive and anxiety disorders. However; there is no mention of an anger disorder. It seems that anger is only mentioned in reference to other disorders as a symptom. When anger is presented as a symptom of other disorders, it is usually in the form of aggressive acts or extreme outbursts of anger, not the average, or day to day, experience of anger. In addition, several self help books advocate the expressing of anger as being healthy (Tavris, 1989); however, there are not many books on the shelves of bookstores that encourage the expression of anxiety or depression. Rather, they offer advice on how to alleviate these emotions.

Though all three emotions, depression, anxiety, and anger, are part of the human experience, why are depression and anxiety seen as more debilitating than anger? Perhaps it is because anxiety and depression correspond to a rigid attributional style, thus making these emotions more internalized and crippling. Perhaps the relationship of anxiety and depression to a negative or rigid attributional style make the experience of these emotions more characterological and pathological than anger to deserve such diagnosis. It seems that the pathological experience of anger is usually manifested in terms of physical, not psychological, pathology such as high blood pressure and coronary heart disease. Perhaps, it seems that anxiety and depression affect the cognitive aspect of pathology more, while the experience of anger impacts the physiological aspect of pathology.

An alternate explanation of this phenomenon may be that

definitional constructs of anger as an emotion differ greatly from anxiety and depression. It has been documented that anxiety and depression as constructs overlap (Mook, et al., 1990). In addition, there is a stronger relationship between anxiety and depression, than there is with anger. Upon inspection of the correlation matrix, it is evident that anxiety and depression are more correlated (.51 to .58) than anger and depression (-.18 to .35), and anger and anxiety (-.34 to .44). Overall, it appears that the experience of attributional style and anxiety and depression are not independent of each other.

The Impact of Affect on Attributional Style

Upon examination of how the cognitive variables loaded upon the set of the affective variables, it appeared that Globality and Stability related significantly to the linear composite of the affective variables while Internality did not. This phenomenon may be explained in a number of ways. Psychometrically, of the three dimensions of attributional style, Internality was the weakest construct with the lowest reliability (.66). In addition, Internality was fairly independent of Globality and Stability, while these two dimensions correlate moderately with each other (.59). Peterson remarked, internal attributions for negative events "are associated with a loss of self esteem, stable explanations with long-lasting helplessness deficits, and global explanations with pervasive deficits (1988, p. 87). Thus, in relation to high levels of anxiety,

depression, and anger, a more common cognitive style is one more global and pervasive in negative attributions and more stable in making the negative attributions, and not necessarily low self esteem. If true, this finding conflicts with Tennen and Herzberger's (1987) findings that low self esteem is more characteristic of individuals with an unhealthy attributional style, independent of depression status. Though internal versus external attributions are not as consistent in the experience of trait anxiety, it seems that global and stable attributions are consistent with the characterological experience of anxiety. Weiner (1986) concluded the causality dimensions of Stability and Globality will influence the expectancy of future noncontingency thus holding implications for the generality and chronicity of helplessness. In relation to trait anxiety, an individual's self-esteem may not be associated with a consistent style of perceiving events. However, if the individual tends to make more global and stable attributions, he/she will tend to perceive the world in a consistent and perhaps predictable manner. Thus if an individual experiences situations as being consistently threatening, there is a strong possibility that he/she will be more stable and global in his/her attributional style. Other possible explanations of this event may be that there is another hidden variable that influences both the experience of affect and attributional style. That confounding variable could originate from several sources such as environmental influences, or consequences or rewards of expressing affect. These

at the center of their theories of depression" (1989, p.108). However, Beck's (1967) cognitive theory of depression did not include the concept of anger-expressed inward. His theory focused on the distorted thoughts and attitudes that are responsible for the feelings of depression.

The other variables that did not load on the attributional set of variables described a different picture of affect. These variables were trait anger, state anger, anger out and anger-control. It seemed that the introduction of attributional style separated out anxiety and depression from anger. Why did anxiety and depression load on the attributional variables while anger did not? Perhaps these variables, trait anxiety, state anxiety, depression and anger expressed inward, described an internalized process of the experience of affect. It could be said that these variables constituted emotions that reflect an internalized process. These affective variables described an internalized process that may influence an individual's style of attributing cause to events. These findings would predict that an individual who characterologically experiences anxiety, in addition to depression, and anger expressed inwards will tend to be more global, internal, and stable in his/her attributions. This unhealthy and rigid style of attribution is linked to the concept of learned helplessness (Peterson, 1988). Seligman, Abramson, Semmel and von Baeyer (1979) described individuals who habitually provide internal, stable and global explanations are believed to have a depressive explanatory style that puts them at risk when negative events occur.

Therefore, these findings suggested that individuals with this type of attributional style may experience trait anxiety, depression, state anxiety, and anger turned inward more often than individuals who possessed a healthier and more flexible attributional style. This finding also corroborates the findings of Riskind, Rholes, Brannon, and Burdick (1987). These authors found that attributional style may predict future levels of depression through a confluence hypothesis that suggest individuals with unhealthy attributional styles will be more likely to be affected by negative outcome expectations thus resulting in depressive symptomatology. Therefore, if anxiety and depression are often experienced internally, it would seem logical that a rigid cognitive style, i.e. global, stable, and internal, would correspond to these emotions. The relationship between depression and attributional style has been well documented, specifically in the learned helplessness research (Peterson, 1982); though, the link between anxiety and attributional style has not been as well defined. Therefore; it seems that a rigid attributional style, one that is global, stable, and internal, will correspond more often to anxiety and depression than it will to anger.

It is also interesting to note that a rigid attributional style relates more to affect, such as anxiety and depression, that is seen as more pathological in experience and expression than anger. This is evident by the fact that in the DSM III-R (APA, 1987) several pages are devoted to affective disorders that are mostly comprised of

confounding variables may only be ferreted out through experimental research that goes beyond this correlational study.

State-Trait Dimension of Affect

Upon examining research question two in terms of how cognitive style relates to state and trait dimensions of affect, the results will be discussed. The fact that several measures of trait and state affective dimensions varied across three different measures of attributional style allows one to examine the state/trait aspect of attributional style. It appears that trait anxiety accounted for a major proportion of variance across all three dimensions of attributional style. This may suggest attributional style would likely relate to a state/trait orientation in terms of affect. In addition, Globality and Stability also reflect a state/trait dimension, in that being more global and stable, the more characterological the attributional style will be. The global/specific dimensions of causal attributions refers to the extent to which an individual believes that the cause of helplessness or uncontrollability are generalized across many situations or is limited to one or a few specific situations. This corresponds to the concept of a state/trait dimension. It seems that an individual who responds to a wide spectrum of events as threatening, the definition of trait anxiety (Spielberger, 1972), will tend to be global and stable in his/her attributions of negative events. The logic of this relationship validates the learned helplessness

model. Therefore, if depression corresponds to a rigid attributional style, and depression correlates to anxiety (.58), it might be believed that anxiety will related to a rigid attributional style. In fact, upon examination of the multiple regression summary tables, Trait Anxiety was the first step in both the Stability and Globality dimensions of Attributional Style, and it was the second step in predicting Internality. However, another possible explanation for this finding may be the difficulty in separating the concepts of depression and anxiety definitionally (Bramley, Easton, Morley, & Snaith, 1988, Mook, et al.,1990). Anxiety and depression may share a similar cognitive style due to the possibility that these two constructs may have considerable overlap definitionally. Both constructs share similar symptomatology. In fact, some items on the STAI are the same as some items on the BDI. It is apparent that further study in this area is required to better differentiate between the constructs of depression and anxiety.

Another question arises as to why State Anxiety also loaded moderately on the attributional variables. Does this indicate that anxiety in general relates to attributional style and that state or trait makes no impact? Perhaps to respond to this question, it must be remembered that an individual who tends to experience more trait anxiety, will also experience more heightened levels of state anxiety (Spielberger, 1972).

Gender Differences, Attributional Style, and Affect

Do gender differences exist in the experience of affect and the style of attribution? According to the results of the t-tests, there appeared to be no substantial gender differences within the sample. This finding corroborates with Fuqua et al.(1993) finding that there are no significant differences between males and females in the experience of state-trait anger and anxiety, and depression. In addition, Peterson and Villanova (1988) found no sex differences in terms of attributional style. It is interesting to note that individuals tend to report a greater gender difference when evaluating themselves as opposed to objective observation (Matlin, 1993). Though this study employed self-report measures, which would have the potential to inflate the gender differences, still none were found. Still there is a need for further investigation into the gender issue, affect and attributional style. Though men and women do not report significant differences in the amount of affect they experience, perhaps there is a qualitative difference in their expression of affect or the consequences they encounter when expressing affect. These issues require further study.

Clinical Implications

What are the clinical implications of these findings? This unhealthy style of attribution is linked to the concept of learned helplessness (Peterson,1988). Seligman, Abramson, Semmel and von Baeyer (1979) described individuals who

habitually provide internal, stable and global explanations are believed to have a depressive explanatory style that puts them at risk when negative events occur. This study's findings also found that a rigid attributional style would indicate anxiety, depression, and anger turned inward. Cognitive interventions of depression have been found to be effective (Beck, 1979); therefore, perhaps cognitive techniques will prove to be beneficial in the treatment of anxiety. Several cognitive behavioral therapies are implemented in the treatment of stress and anxiety (Meichenbaum, Turk, & Burstein, 1975; Belkin, 1979). The clinical implications of these findings may suggest that a cognitive approach with individuals who experience anxiety on a trait level may be effective. It may be advantageous to survey the client with the STAI and the EASQ to have a better understanding of their state or trait orientation to anxiety and their attributional style. This endeavor may save time by focusing the treatment on the appropriate interventions based on an accurate diagnosis. In addition, an exploration of an individual's attributional style may be a signal to a clinician of the severity and chronicity of the experience of negative affect an individual experiences. This may also be helpful in the diagnosis of the experience of affect. Exploration in to the development of a state/trait depression inventory would benefit the diagnosis and treatment of depression. For just as anger and anxiety have proven to be multivariate constructs, it appears that the concept of the depression is more complex than suspected. Further study is

needed in this area to confirm these suggestions.

Limitations of the Study

Several limitations in this study should be examined in order to put the interpretation of the results in perspective.

Sample/Generalizability

One major limitation is that an undergraduate population was employed in this study, therefore, the generalizability to other populations, namely clinical, will be limited. The generalizability of the study is limited in that a white undergraduate student population was utilized. Therefore, no comparisons with studies employing other populations including clinical, minority, or non college age individuals may be made. Another limitation of the study is that all of the measurements of affect and attributional style were collected while the subjects were at rest; therefore, the affective/ cognitive relationship is less likely to operate than when emotional arousal is introduced.

Measurement

The sole use of self-report measures may be called into question. Are self-report measures as valid a measure of affect as other experimental measures? In addition, self-report questionnaires as a measure of outcome may be confounded by response sets. The length of the questionnaires together may have affected subject retention,

and several protocols were not completed, therefore, not as many subjects were collected as hoped for. It is interesting to note that Matlin (1993) stated that gender differences are increased with the use of self-report methods as opposed to observation; however, this study found none with the use of these methods.

Correlational/Experimental

This study was purely a correlational investigation into the relationship between attributional style and affect. Therefore, specific information is not gleaned from these findings for no experimental restrictions were applied. In addition, no control groups were used; therefore, no assumptions may be made concerning causality. Though a relationship did exist between attributional style and affect, the causal nature of these findings are not revealed in this analysis. The question as to whether attributional style causes affect to behave in a particular fashion, or vice versa will not be answered from these findings.

Recommendations for Continuing Research

There are several recommendations to take into consideration when replicating this study in order to strengthen the study. First of all, a clinical population should be employed in addition to a non-clinical population. Perhaps a cross section of individuals with anxiety, depressive, and conduct (anger) disorders should be utilized in the study in order to expand the generalizability to

clinical populations. Also, other non-student populations should be employed in order to better understand the aspects of the adult developmental experience of affect and attributional style. In addition, comparisons should be made between subjects at rest and subjects in a states of anger, anxiety, and depression. Perhaps while the subjects are completing the questionnaires, a confederate will act out scenarios to induce specific affective reactions among the subjects. It may also be useful to employ other outcome measures than self-report questionnaires to avoid confounding of response sets. Perhaps more physiological measures, such as galvanic skin response, heart rate, or blood pressure levels, may be employed in conjunction with the self-report measures to better investigate the experience of affect. In addition, it would be fascinating to develop a state/trait depression inventory to utilize in this area of research. With the use of several state/trait measures and attributional measures, it would be interesting to see how the concept of state/trait depression would fit into this puzzle of the relationship between attributional style and affect.

Summary and Conclusion

Issues concerning the relationship of attributional style and affect have been explored extensively with regards to depression. However, there are few studies that examine the relationship of attributional style to anger and anxiety, especially with regards to the state-trait aspects. This

study was designed to understand the relationship between the dimensions of attributional style (Globality, Stability, and internality) and affect (Anger, Anxiety and Depression). A sample of 300 undergraduate students were administered an attributional style questionnaire along with several affective scales. The statistical analysis included a canonical correlation analysis, multiple regression analysis, and t-tests to examine the relationship among these dimensions. Trait anxiety, state anxiety, depression, and anger expressed inward were found to relate the most to attributional style. It seemed that attributional style may separate out the experience of anger from anxiety and depression. It was concluded that trait anxiety correlates with a rigid and negative attributional style. In addition, Globality and Stability were found to relate to affect, thus there may be a state/trait dimension to attributional style. No gender differences were found in the sample, and this finding supports earlier research in the field. The applied clinical implications were discussed, and it was proposed that a cognitive approach focusing on changing an individual's attribution style may be beneficial.

Based on this study's findings, it appears that affect and attributional style are important components that constitute the way individuals experience and perceive the world through thought and feelings. Further research into this area of interest, based on the recommendations of this study, may shed more light on to the complex realm of affect and attributional style.

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APPENDIX

Table 1

Structure Coefficients

Variable	Structure Coefficients
<u>Affective</u>	
Depression	-.63318
Trait-Anxiety	-.96570
State-Anxiety	-.64863
Trait-Anger	-.39636
State-Anger	-.34931
Anger-In	-.60655
Anger-Out	-.18992
Anger-Control	.20834
<u>Cognitive</u>	
Globality	-.81497
Stability	-.93239
Internality	-.20229

Table 2

Multiple Regression Summary Tables Predicting Each
Attribution Variable by the Affective Variables

Variable: Globality

Step	Variable	MultR	Rsq	F(eqn)	SigF	Rsqch	SigCh	BetaIn	Correl
<hr/>									
1	Tr-Anx	.3036	.0922	25.579	.000	.0922	.000	.3036	.3036
2	Ang-Con	.3100	.0961	13.342	.000	.0039	.296	.0668	-.0439
3	Ang-In	.3130	.0979	9.048	.000	.0018	.475	.0494	.1861
4	Dep.	.3145	.0989	6.833	.000	.0010	.605	.0386	.2076
5	Tr-Ang	.3154	.0995	5.478	.000	.0005	.698	.0291	.1266
6	St-Anx	.3158	.0997	4.561	.000	.0003	.780	.0258	.2386
7	Ang-Out	.3159	.0998	3.895	.000	.0000	.925	.0072	.0738
8	St-Anger	.3159	.0998	3.395	.001	.0000	.962	.0037	.1454

Variable: Internality

Step	Variable	MultR	Rsq	F(eqn)	SigF	Rsqch	SigCh	BetaIn	Correl
<hr/>									
1	St-Anger	.1383	.0191	4.915	.028	.0191	.028	-.1383	-.1383
2	Tr-Anx	.2157	.0465	6.125	.003	.0274	.008	.1807	.0961
3	Ang-In	.2388	.0570	5.038	.002	.0105	.097	-.1166	-.0809
4	Ang-Con	.2444	.0597	3.953	.007	.0020	.399	-.0570	-.1026
5	Dep.	.2484	.0617	3.263	.012	.0015	.466	.0558	.0686
6	St-Anx	.2514	.0632	2.779	.012	.0015	.530	.0656	.0479
7	Ang-Out	.2524	.0637	2.390	.022	.0005	.729	-.0255	-.0062
8	Tr-Ang	.2530	.0640	2.094	.037	.0003	.775	.0245	.0114

Table 2 (continued)

Variable: Stability									
Step	Variable	MultR	Rsqr	F(eqn)	SigF	Rsqrch	SigCh	BetaIn	Correl
<hr/>									
1	Tr-Anx	.3343	.1118	31.713	.000	.1118	.000	.3343	.3343
2	Ang-In	.3477	.1209	17.259	.000	.0091	.108	.1067	.2344
3	St-Anx	.3538	.1252	11.925	.000	.0043	.269	-.0983	.2053
4	Ang-Out	.3551	.1261	8.982	.000	.0009	.611	-.0313	.0607
5	Dep.	.3558	.1266	7.191	.000	.0005	.701	.0287	.2130
6	Tr-Ang	.3559	.1267	5.971	.000	.0001	.896	.0100	.1402
7	Ang-Con	.3560	.1268	5.101	.000	.0001	.888	.0109	-.0733
8	St-Ang	.3560	.1268	4.446	.000	.0000	.958	.0042	.1249

Table 3

Intercorrelation Matrix Among Variables

	STATE-ANX	TR-ANX	ST-ANGER	TR-ANGER	ANG-IN	ANG-OUT
STATE-ANXIETY	1.00					
TRAIT-ANXIETY	.75	1.00				
STATE-ANGER	.56	.40	1.00			
TRAIT-ANGER	.25	.39	.36	1.00		
ANGER-IN	.33	.44	.34	.29	1.00	
ANGER-OUT	.21	.26	.27	.55	.16	1.00
ANGER-CON	-.26	-.34	-.14	-.49	.05	-.48
DEPRESSION	.51	.58	.30	.32	.35	.21
GLOBALITY	.24	.30	.14	.13	.19	.07
INTERNALITY	.05	.10	-.14	.01	-.08	-.01
STABILITY	.20	.33	.12	.14	.23	.06

	ANG-CON	DEPRESS	GLOBAL	INTERNAL	STABILITY
ANGER-CON	1.00				
DEPRESSION	-.18	1.00			
GLOBALITY	-.04	.21	1.00		
INTERNALITY	-.10	.07	.04	1.00	
STABILITY	-.07	.21	.57	.12	1.00

Table 4

T-Tests Between Males and Females

<u>Variable</u>	<u>Mean</u>	<u>Std. Dev</u>	<u>F Value</u>	<u>2-Tail Prob.</u>
<u>Anger-Out</u>				
Female	16.24	4.49	1.27	.146
Male	16.83	3.98		
<u>Anger-Control</u>				
Female	22.36	5.4	1.00	1.00
Male	23.43	5.4		
<u>Anger-Expression</u>				
Female	26.91	9.77	1.07	.670
Male	26.56	9.43		
<u>Depression</u>				
Female	9.43	8.19	1.09	.586
Male	7.95	8.56		
<u>Globality</u>				
Female	3.97	1.01	1.28	.157
Male	3.77	.896		
<u>Stability</u>				
Female	4.32	.76	1.04	.804
Male	4.29	.77		
<u>Internality</u>				
Female	4.54	.67	1.00	.99
Male	4.45	.67		
<u>State-Anxiety</u>				
Female	40.03	12.29	1.15	.39
Male	36.87	11.45		

Table 4 (Continued)

<u>Variable</u>	<u>Mean</u>	<u>Std. Dev</u>	<u>F Value</u>	<u>2-Tail Prob.</u>
<u>Trait-Anxiety</u>				
Female	41.41	11.23	1.26	.19
Male	38.91	10.03		
<u>State-Anger</u>				
Female	12.75	5.54	1.23	.21
Male	12.90	5.0		
<u>Trait-Anger</u>				
Female	20.37	6.16	1.12	.50
Male	20.04	5.83		
<u>Trait-Anger, Temperament</u>				
Female	7.15	3.0	1.13	.46
Male	6.93	2.83		
<u>Trait-Anger, Reaction</u>				
Female	9.66	2.9	1.12	.51
Male	9.29	2.75		
<u>Anger-In</u>				
Female	17.03	4.50	1.07	.70
Male	17.16	4.36		

2
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