COGNITIVE MEDIATIONAL FACTORS IN THE AGGRESSIVE BEHAVIOR OF ADOLESCENTS

By

DENNIS BURKE FERGUSON

Bachelor of Arts
Southwestern Oklahoma State University
Weatherford, Oklahoma
1979

Master of Science
Southwestern Oklahoma State University
Weatherford, Oklahoma
1984

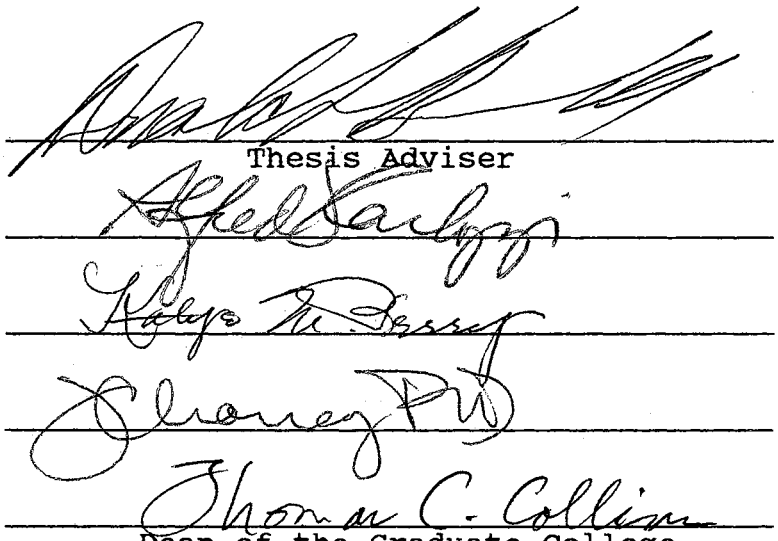
Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment
of the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
December, 1995

COGNITIVE MEDIATIONAL FACTORS IN THE

AGGRESSIVE BEHAVIOR

OF ADOLESCENTS

Thesis Approved:



Thesis Adviser

Dean of the Graduate College

ACKNOWLEDGMENTS

I would like to gratefully acknowledge my dissertation director, Dr. Donald Boswell for his guidance and encouragement both in and outside of the classroom. His knowledge, experience, and dedication to teaching and research have been an invaluable part of my experience at OSU that will always be remembered. Additionally, I would like to thank my committee members Dr. Alfred E. Carlozzi, Dr. Katie Perry, and Dr. John Chaney, for their helpful comments on parts of this manuscript and their interest in my education as well as my future.

I would also like to give my special appreciation to my wife and family for their strong encouragement, patience, and understanding throughout the whole process.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Overview of the Study

Nationwide, there is a growing concern over an escalation in juvenile delinquency. According to the Uniform Crime Reports (1991), compiled by the Federal Bureau of Investigation, crimes related to violence based on juvenile arrest rates have increased 27.2% from 1980 to 1990. Aggravated assault arrest rates for juveniles have increased 63.7% during those same years. Juvenile aggression has always been a social problem, but during the 1980's violence has become a more significant component of juvenile crime.

The potential for individual aggression has also increased because of the change in social conditions (Bandura, 1973). As the population grows, peaceful urban life necessitates the cooperation of complex and intricate interdependent systems. An individual act of aggression now affects the welfare of a countless number of others. Individuals can injure and destroy to their advantage regardless of their victims willingness or liking. By aggressive behavior, or dominance through physical and verbal force, individuals can obtain valued resources, change rules to fit their own wishes, gain control over or extract

subservience from others, eliminate conditions that adversely affect their well being,and remove barriers that block or delay attainment of desired goals (Bandura, 1973).

Antisocial aggression has been characterized as one of the most prevalent, stable, socially transmittable, personally destructive, and clinically problematic behaviors we face (Guerra & Slaby, 1990). This behavior pattern presents an even greater challenge for treatment when it has developed to the level of antisocial acts of violence committed by adolescent offenders. High rates of aggression by adolescents have been reported over the past two decades (Lindman & Scarpitti, 1978; Snyder, 1984). Some social-cognitive psychological interventions used to reduce aggressive and violent behavior have offered hope, but real progress in developing effective treatment programs for acts of aggression has been relatively slow (Kazdin, 1987). These treatment approaches have focused directly on identifying and fostering an individual's cognitive resources for controlling aggression (Guerra & Slaby, 1990). To facilitate paradigms of behavior change, a better understanding of these cognitive factors and how they serve as stable and underlying patterns of aggression is needed.

In the past, a number of theories attempted to explain acts of aggression. Most personality theorists described behavior with the terminology of inner forces in the form of needs, drives, and impulses, which usually operate below the

level of consciousness. Recent approaches to treatment have focused on the identification and fostering of the individual's cognitive resources for controlling aggression and are based on a social-cognitive developmental model (Guerra & Slaby, 1990). The relationship between social cognitive variables and aggressive behavior in adolescents has received increasing attention (Camp, 1977; Feshback, 1970; Hartup, 1974).

The 1960s marked an important change in the field of psychology toward an interest in and research on cognitive mediational factors (Peterson & Stunkard, 1992). This shift in focus from unconscious thought process, through strict behavioristic approaches, to cognitive mediational factors has had an impact on the theories of personal control. This change was in reaction to the inadequate drafting of previous personal control theories and took form in a variety of cognitive theories (Gardner, 1985). In these new theories, terms such as drives, needs, stimuli, and responses were replaced with information processing terms (Peterson & Stunkard, 1992). This new terminology was used to reshape the old theories of personal control providing new ways to explain and analyze specific behavior.

In new terminology, personal control refers to a person's belief about how well he or she can control or bring about favorable outcomes and avoid unsatisfactory events (Peterson & Stunkard, 1992). Peterson and Stunkard (1989) attempted to

generalize across cognates such as attributional beliefs, locus of control, and self-efficacy. They (Peterson & Stunkard, 1989) now acknowledge that these cognates have unique distinctions (1992).

Several popular theories include cognitive constructs such as locus of control (Rotter, 1990), self-efficacy (Bandura, 1982), and attributional style (Weiner, 1974) to explain behavior. Peterson and Stunkard (1992) hypothesize that these cognates are similar constructs and correlate, yet they are not necessarily interchangeable. Peterson and Stunkard's (1992) conceptual analysis indicates that they may function at different levels of abstraction and generality, and these cognates combine to influence behavior in a multidimensional manner.

These theories have been viewed in the past as conceptually and empirically overlapping and interchangeable (Peterson & Stunkard, 1989). Peterson and Stunkard (1992) think they are similar constructs but each has something unique to contribute to predictive power. The meanings of these different cognates are not exactly the same. Locus of control refers to an individual's perception of the origin of rewards or punishments in general; self-efficacy refers to an individual's belief about whether he or she can perform a specific behavior; and attributional style refers to an individual's habitual way of explaining the causes of events (Peterson & Stunkard, 1992).

Each cognate may be considered distinct in its own way. As previously stated, Peterson and Stunkard (1992) theorize that each seems to exist at a different level of abstraction and generality. Locus of control seems too general and tends to diminish in predictive power across positive and negative circumstances. This level of generality also creates difficulties in distinguishing differences in specific situations (Seligman, 1992). Self-efficacy is too specific and was not originally intended to serve as a personality variable which could be utilized to predict behavior across different situations and over time (Seligman, 1992). It is used more for analysis of specific situations. Bandura (1992), however, argues that the concept of self-efficacy is more general and is consistent across time and settings. With regard to the generality versus specific dimension, attributional or explanatory style could be considered as falling in the middle between locus of control and self-efficacy (Seligman, 1992). It is able to distinguish between positive and negative events, from domains such as internality, stability, and globality of explanations. Locus of control and explanatory style are then considered closer to personality traits which lead to more specific thought and beliefs which in turn influence determinants of action and emotion (Seligman, 1992). Self-efficacy could be considered more closely associated with one of the determinants of specific behavior.

Background of the Problem

In an effort to understand the cognitive mediational factors involved in the aggressive behavior of adolescents, researchers have focused on a variety of cognitive mediators in the processes involved in aggressive behavior (Slaby & Guerra, 1988). Attributional style, locus of control, and self-efficacy have been studied separately and all provide evidence that they contribute in some way toward the mediational processes involved in aggressive behavior. Overlap may indeed exist between these three constructs, but the differences are just as important as the similarities (Peterson & Stunkard, 1992). These differences and what each can contribute to increase predictive and explanatory power need to be researched further. There is a need to combine these cognitive mediational factors to determine the differences and unique contributions in each to discriminate between specific groups of adolescents.

Attributional Style

Attributions play a key role in our explanatory efforts, and have significant effects on our social relations. Attributions are inferences that people draw about the causes of events, other's behaviors, and their own behavior (Weiner, 1974). People make attributions because they have a strong need to understand their experiences, to make sense out of their own behavior, others' actions, and the events in their lives. Also, they sometimes make distorted attributions to

maintain their self-image or to discount evidence that contradicts beliefs their cherish.

Attributions are not used to explain everything that happens, but a variety of factors influence whether we are stimulated to engage in attributional thinking (Fiske & Taylor, 1984; Weiner, 1985). Generally, we are more likely to engage in making attributions when unusual events grab our attention, events have personal consequences for us, people behave in unexpected ways, or when others ask us for our explanations of events.

Fritz Heider (1958) was the first to develop the concept of how we make attributions. Heider (1958) claimed that people tend to locate the causes of behaviors either within themselves (attributing it to personal factors), or outside themselves (attributing it to environmental factors).

Building on Heider's concepts, various theorists have agreed that our explanation of certain behaviors can in part be categorized within internal or external attributions (Jones & Davis, 1965; Weiner, 1974). Internal attributions ascribe the causes of behavior to personal dispositions, traits, abilities, and feelings. External attributions ascribe the causes of behavior to situational demands and environmental constraints.

Harold Kelly (1973) has proposed a theory which identifies some of the important factors that we consider in making internal or external attribution. According to Kelly,

attempts to infer the causes of behavior utilize three types of information. These three factors are consistency, distinctiveness, and consensus. Consistency refers to whether an individual's behavior in a situation is the same over time and across occasions. Distinctiveness refers to whether a person's behavior is unique to the specific entity that is the target of the person's actions. Consensus refers to whether other people in the same situation tend to respond like the individual in question. Kelly (1973) assumes that consistency, distinctiveness, and consensus can vary along a continuum, and individuals may juggle all three factors to arrive at attributions. These assumptions mean that there are many possibilities in various combinations of consistency, distinctiveness, and consensus.

Other theorists have sought to find additional dimensions of attributional thinking besides the internal/external dimension. Bernard Weiner (1974) studied the attributions people make in explaining success and failure. Wiener (1974) concluded that individuals often focus on the stability of the causes underlying behavior. The stable-unstable dimension in attribution crosses the internal-external dimension creating four distinct types of attributions for success and failure.

Weiner (1980) eventually added a third dimension: the controllability of events. Other theorists who work in the area of depression provide an attributional focus on having global (far reaching) or specific implications about our

personal qualities. According to Abramson, Seligman, and Teasdale (1978), internal, stable, and global attributions for personal setbacks foster feelings of depression. They advocate, within this theory, that people who present this type of attributional style blame their setbacks on personal shortcomings (internal) they perceive as permanent (stable) which have long term effects (global) about their personal worth. Clearly, attributions are complicated and have important implications for how we see ourselves and others. Attributions are subject to personal bias and not always logical and objective.

Kenneth Dodge (1980) investigated social cognition and children's aggressive behavior. Three groups of aggressive and nonaggressive boys from grades 2, 4, and 6 were exposed to frustrating negative outcomes started by an unidentified peer who had acted with either a hostile, ambiguous, or benign intent (Dodge, 1980). The verbal and behavioral responses of each subject were videotaped, rated, and evaluated to determine the status of the subjects. In opposition to Dodge's (1980) stated hypothesis, aggressive boys were able to distinguish and integrate information observed from the different intent cues. No significant main or interaction effects were found for the difference in ages. One finding was that all three of the groups responded more to the hostile condition than the benign condition. The aggressive and nonaggressive groups only differed in their response to an

ambiguous condition. In this situation, the aggressive group responded with more aggression, as if in the hostile condition. The nonaggressive group perceived and reacted to the ambiguous intent cue as benign. This gave empirical evidence for a hypothesis that aggressive boys respond to ambiguous-intention-negative-consequence situations with aggression because they are more likely to infer a hostile attribution. This has been supported with a follow-up study.

Dodge's second study (1980) involved the same subjects as in the first study. In interviews, each subject was asked a series of four questions about each of four peers. In each series, the experimenter told one of two hypothetical stories in which a peer was involved in a negative outcome. In each story the wording of the story was left to portray an ambiguous intent by the peer. The child was asked to describe how the incident might have happened. Responses were elicited until the subject responded on the intent of the peer. Shortly, the subject was asked questions on how he would respond behaviorally. Again, aggressive subjects were significantly more likely to attribute a hostile intention to the peer than nonaggressive subjects.

These studies (Dodge, 1980) provide supportive evidence that attributions and behavior may interact in a way that could perpetuate their relationship. The subject's attributions about the intention of the peer were highly predictive of his verbal and behavioral response.

Dodge and Newman (1981) later explored two aspects of cognitive processing that might be related to attributional bias of aggressive boys: speed of decision making and selective recall of hostile cues. Three age groups of aggressive and nonaggressive boys participated in a detective game in which they needed to gather evidence in order to decide whether or not a peer acted in a benign or hostile intent. Aggressive boys were found to respond more quickly and with less attention to available social cues than nonaggressive boys (Dodge & Newman, 1981). Aggressive boys were also more likely to attribute hostility to peers in unwarranted circumstances, but only when they responded quickly. This might suggest that processing speed of decision making contributes to attributional biases in aggressive boys. Selective recall was also related to biased attributions for both groups. Training to increase the recall of social cues could also reduce the frequency of biased attributions.

The results of Dodge and Newman's (1981) study demonstrated two important correlates of attributional bias in aggressive boys. Dodge and Newman (1981) provided empirical data to suggest that quick responding and selective recall are cognitive pathways that influence attributional bias in aggressive boys.

Dodge and Frame (1982) conducted a three part study that provided assessment of the nature and limits on the tendency of aggressive boys to overly attribute hostile intentions

towards peers (Dodge & Frame, 1982). The first part was utilized to determine that the subject's attributional bias was restricted to a peer's behavior toward an aggressive boy, and not to attributions of a peer's behavior toward a second peer. This implicated the influence of biased attribution in the cognitive mediational process of aggressive responses.

The second part assessed the role of selective attention to and recall of hostile social cues in the formation of a biased attribution (Dodge & Frame, 1982). The results indicated that selective recall did contribute to attribution biases, but that selective recall could not account for all variances in the attributional difference between aggressive and non-aggressive boys. Specific deficits in recall were identified in aggressive boys (Dodge & Frame, 1982).

The third part involved naturalistic observation of the peer-directed aggressive behavior of boys in a controlled setting (Dodge & Frame, 1982). It was observed that the biased attributions of aggressive boys may have been influenced by experience. Aggressive boys were frequently the target of aggressive behavior by the nonaggressive subjects, but were rated higher on aggressive behavior towards others. These findings led to the formation of the social information processing model of aggressive behavior (Dodge & Frame, 1982).

Dodge, Price, Bachorowski, and Newman, (1990) correctly hypothesized that hostile attributional biases were positively correlated with under-socialized aggressive conduct disorder.

This suggests that within a population of juvenile offenders, attributional biases are implicated specifically in interpersonal reactive aggression that involves anger and not in socialized delinquency (Dodge et al., 1990).

Two studies were performed on the relatively aggressive and relatively non-aggressive emotionally disturbed boys in residential treatment facility (Nasby, Hayden, & Depaulo, 1980). It was suggested that the more aggressive children would exhibited an attributional bias to infer hostility regardless of the nature of the social stimuli (Nasby et al. ,1980). Findings from both studies indicated that an attributional bias to infer hostility from various classes of social stimuli became more marked as aggressiveness increased (Nasby et al., 1980).

Locus of Control

Internal versus external control of reinforcement, often referred to as locus of control, is currently one of the most studied variables in psychology. Locus of control is a personality dimension that was first described by Julian Rotter (1966, 1975), a prominent social learning theorist. Internal versus external control refers to the degree in which one expects a reinforcement or an outcome of their behavior to be contingent upon their own behavior or personal characteristics versus the degree in which one expects the reinforcement or outcome to be a function of chance, luck, or fate, under the control of others, or simply unpredictable

(Rotter, 1990). Such expectancies may generalize along a continuum based on the degree of similarity of the situational cues (Rotter, 1966).

In order to be empirically tested as well as to convey a common understanding, it is important for a cognitive variable to be clearly and precisely stated. It should be operationally defined in such a way as to be measurable and testable. Several reviews of internal-external control research and applications have been published (Lefcourt, 1976, 1981; Phares, 1976), and will be discussed in detail within the literature review.

A number of studies on locus of control also contribute to the understanding of aggressive behavior and angry emotions. Scores on the Health Locus of Control were used to determine significance (Prerost, 1987) in showing effective use of humor to reduce anger. The results indicate some importance in the Health Locus of Control as a factor in the connection between hostile mood and appreciation of humor for at least young women (Prerost, 1987).

Storms and Spector (1987) designed a study to examine the influence of organizational frustration and locus of control on emotional and behavioral reactions to frustrating conditions. The pattern of results revealed by moderator analyses provided some support for the hypothesis that locus of control played a significant role in the frustration-behavioral reaction relationship (Storms & Spector, 1987).

These results suggest that persons with an external locus of control are more likely to respond to frustration with counterproductive behavior than persons with an internal locus of control (Storms, & Spector, 1987).

Research has also included examining the relationship between locus of control and aggressive reactions to frustrating situations with middle-class and culturally deprived children (Romi & Itskowitz, 1990). This study distinguished two types of aggression: (1) "negative", or non-constructive aggression, whose purpose is to harm and destroy; (2) "positive" aggression, whose direction and purpose are to build, despite the fact that it may begin with destruction (Romi & Itskowitz, 1990). It was hypothesized that positive aggression would be more frequently displayed by subjects who would hold an internal locus of control than by subjects with an external locus of control. The influence of social status and sex was also examined in relation to locus of control and aggression. The results suggest a relationship between locus of control and type of aggressive response (Romi & Itskowitz, 1990). Interestingly, no significant relationships were found among social status, sex, and the type of aggressive responses.

Young (1992) investigated the relationship of a locus of control scale and a measure of misconceptions about human aggression. Young believes that an important psychological factor in human aggression is one's locus of control. He

hypothesized that the belief of individuals with a sense of mastery or control over life may be less likely to perceive human aggression as instinctual than those who feel life is the result of factors beyond their control. Results indicate that as feelings of mastery and control increased, belief in a human propensity for aggression decreased (Young, 1992).

Locus of control has been shown to contribute partially to mediational processes between negative divorce-related events and children's adjustment, and more strongly with mood regulation, hostile mood, type of aggressive response, and emotional and behavioral reactions to frustrating conditions (Fogas, Wolchik, Braver, Freedom, & Bay, 1992; Prerost, 1987; Romi & Itskowitz, 1990; Storms & Spector, 1987). The most recent study found (Fogas et al., 1992) focuses on whether locus of control beliefs mediate the relationship between negative divorce events and children's adjustment problems in a sample of children who had recently experienced parental divorce. Support was provided for the hypothesis that locus of control beliefs are involved in the mediational processes between negative divorce-related events and children's psychological adjustment.

In a study by Caprara, Manzi and Perugini (1992), the use of a bi-dimensional guilt scale and four other scales were examined in relation to aggressive behavior. The two dimensions of guilt were differentiated on the bases of their relations to various indicators of aggression (Caprara et al.,

1992). The difference found between the bi-dimensional scales of guilt was attributed to locus of control over expected consequences.

Self-Efficacy

Social learning theory (Bandura, 1977) states that psychological procedures, whatever their form, alter the level and strength of self-efficacy. Bandura has hypothesized that expectations of personal efficacy determine whether coping behavior will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experiences. Expectations of personal efficacy are derived from four principal sources of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states (Bandura, 1977). The more dependable the experiential sources, the greater the changes in perceived self-efficacy.

A number of other factors have been identified as having some influence on the cognitive processing of self-efficacy arising from the aforementioned four principal sources cited above (Bandura, 1977). Bandura postulates that efficacy expectations vary on several dimensions. The first is described as magnitude, which indicates a difference in the level of difficulty for a specific task. The second is that efficacy expectations differ in generality. Some experiences create specific mastery expectations while others instill a more generalized sense of self-efficacy that can carry over

into other areas. The third is that expectancies are easily extinguishable by disconfirming experiences, where individuals who possess strong expectations of mastery will persevere in their coping efforts despite disconfirming experience (Bandura, 1977).

Multivariate studies have advanced the understanding of how perceived self-efficacy interacts with and contributes to goal setting, outcome expectation, analytic strategies, and affective reaction in regulating human activities (Bandura & Jourden, 1991; Dzewaltowski, 1989; Dzewaltowski, Noble & Shaw, 1990; Ozer & Bandura, 1990; Williams, 1987; Wood & Bandura, 1989). Several other studies also suggest that causal attributions, in turn, influence social behavior (Brodt & Zimbardo, 1981; Anderson, 1983).

The most current research done which utilized self-efficacy beliefs for aggressive behavior was conducted by Cuddy and Frame (1991). In this study, self-efficacy and outcome expectancy beliefs of two subgroups of aggressive boys were compared to nonaggressive controls. Differences were found in outcome expectancies and not in perceived self-efficacy among the three groups. The results suggest that outcome expectancy, rather than self-efficacy beliefs, may play a role in the development and maintenance of the different behavior patterns of aggressive and nonaggressive youngsters (Cuddy & Frame, 1991).

Alden (1986) provided research on examining the

relationship between an individual's sense of self-efficacy in a social situation and his/her causal attributions for outcomes. Subjects that were rated on either high or low self-efficacy expectations for a social situation were provided with either a negative or positive feedback on their performance. Feedback that was inconsistent with perceptions of efficacy was more likely to be attributed to external factors than was expectancy consistent feedback (Alden, 1986). This provided evidence of a self-efficacy and outcome interaction which contributes to social behavior.

Innes and Thomas (1989) proposed a study which attempted to identify a possible mediational link between attributions of cause and behavioral consequences. The role of attributions of success and failure to internal factors was analyzed in relation to social avoidance and inhibition in high school aged students. The role of self-efficacy was also examined, and results suggest that avoidant and inhibited young people attribute social success and failure to stable internal causes and have lower degrees of self-efficacy for social interactions (Innes & Thomas, 1989). The establishment of social interactions is especially important in adolescence as success or failure may lead to the development of life-long patterns of friendship or loneliness (Moore & Schultz, 1983).

Statement of the Problem

Significant gaps are found in the current literature in regard to how self-efficacy, attributional style, and locus of

control relate to adolescent age youth who have aggressive behavior histories. Little is known about how these constructs interact and combine as cognitive mediators to influence aggressive behavior. Therefore, research is needed which focuses on exploring the relationship of self-efficacy (SE), attributional style (AS), and locus of control (LOC) for aggressive behaviors within Conduct Disordered (CD), Socialized Aggressive (SA), combined groups of CD and SA, and a control group (CG) of adolescents males. These groups will be determined by obtaining a T scores equal to or greater than 70 on the Revised-Behavior Problem Checklist for each diagnostic category, and the control group will be determined by an absence of symptoms and score under T of 70 for any of the diagnostic categories.

There are a number of basic problems that need to be addressed with respect to self-efficacy, attributional style, and locus of control as they relate to aggressive behavior in adolescents, even though independent researchers have made progress in understanding aggressive behavior in adolescent boys. However, none of the theories have fully integrated the concepts of self-efficacy, attributional style, and locus of control. Furthermore, certain factors or personal cognates may be found that significantly contribute to mediation of aggressive responses by adolescent boys. Therefore, a relevant question to this study is: Which and in what way do cognitive mediators influence level of aggressive behavior in

adolescent groups? Measures on the Attributional Style Questionnaire (Peterson et al., 1982), Locus of Control (Rotter, 1966), and an instrument developed by Frame and Cuddy (1990) which measures self-efficacy will provide data to assess differences among two aggressive adolescent groups. A more precise question is: Do measures on the Attributional Style Questionnaire, Locus of Control, and Self-Efficacy Questionnaire, have any discriminant value with regard to attributional style, locus of control, and self-efficacy as cognitive mediators of aggressive behavior in four specific adolescent groups, consisting of one Control Group, one group of Socialized Aggressive adolescents, one Conduct Disorder group, and one combined group of Socialized Aggressive and Conduct Disordered adolescent males?

Another concern arises from the limited dependent measures used in the previous research in aggressive behavior. The focus of these studies centered on single mediational factors of aggressive delinquent boys. The purpose of this study is to expand on current literature by including a combination of cognitive mediational factors (attributional style, locus of control, and self-efficacy) in a single study. More specifically, this study was designed to explore how, and to what extent, an uncorrelated linear combination of these cognitive mediators may be related to, and thus help classify aggressive adolescents into specific groups.

Significance of the Study

Despite considerable evidence on individual theoretical constructs, only one study was found which provided a combination of attributional style and self-efficacy (Innes & Thomas, 1989). Further, no studies were found which addressed the issue of self-efficacy, attributional style, and locus of control in the combined mediational effects on aggressive behavior in adolescents. The current study was designed to add to the limited body of information in the research literature concerning these combined constructs in the mediational process of aggressive behavior. This study examined the relationship between these mediators and specific aggressive behaviors.

The practical implications of this research are to help facilitate a more comprehensive understanding of aggressive behavior in a male adolescent population and build on existing treatment modalities for aggressive adolescents. Furthermore, this research contributes to the early identification of delinquent and aggressive adolescents through the use of psychological or behavioral markers associated with aggressive behavior. Finally, this research helps identify which cognitive mediational factors are most influential in the aggressive behavior of adolescents and specific differences in particular subgroups.

Hypothesis and Research Questions

Null Hypothesis 1

There is no significant difference among groups of nonaggressive control (NC), Conduct Disordered (CD), Socialized Aggressive (SA), and a combined group of Conduct Disordered and Socialized Aggressive (CD/SA) male adolescents on measures of Attributional Style (AS), Locus of Control (LOC), and Self-Efficacy (SE).

In the event that the Null Hypothesis is rejected, a series of research questions will be addressed.

Research Question #1:

How many dimensions are necessary to explain the group(s) separation?

Research Question #2:

Which variables account for the discriminant functions?

Research Question #3:

How do these variables relate to the discriminant functions?

Research Question #4:

How do the variables relate across the groups individually?

Assumptions and Limitations

There are several basic assumptions which underlie this study. The first is that levels of self-efficacy, attributional style, and locus of control operate on a continuum. The second assumption is that aggressive behaviors

occur in varying degrees of severity, influenced by environmental and situational factors. The third assumption is that within the population from which the subjects are drawn, there will be subjects that display some degree of aggressive behavior.

There are several limitations to this study. The first is that self report measures are utilized to obtain information on attributional style, self-efficacy, and locus of control. The second limitation is that the subject pool is limited to adolescents (ages 13-18) who are incarcerated in a juvenile detention facility or selected from a local high school setting in the Southwest United States. Therefore, the results of this study may not be relevant and applicable to a larger population.

Definitions

Self-efficacy refers to the belief that one can successfully perform a particular behavior. For this study measured by the Self-Efficacy Questionnaire (Cuddy & Frame, 1990).

Outcome expectancy is a person's belief that a particular behavior will result in a specific type of outcome.

Locus of control is a generalized expectancy about the degree to which we control our outcomes. For this study this variable is measured by the Rotter (1983) Locus of Control Scale.

Attributions are inferences that people draw about the

causes of events, others' behavior, and their own behavior. For this study measured by the Attributional Style Questionnaire (Peterson et al., 1982).

Reciprocal determinism involves the assumptions that internal mental events, external environmental events, and overt behavior all influence one another.

Aggression is any behavior that is intended to hurt someone, either physically or verbally.

Cognition refers to the mental processes involved in acquiring knowledge.

External attributions are inferences that ascribe the causes of behavior to situational demands and environmental constraints.

Internal attributions are inferences that ascribe the causes of behavior to individuals' dispositions, traits, abilities, and feelings.

Conduct Disorder Group will be defined by obtaining a T score equal to or above 70 on SCALE I. Conduct Disorder, of the Revised Behavior Problem Checklist.

Socialized Aggressive Group will be defined by obtaining a T score equal to or above 70 on SCALE II. Socialized Aggression, of the Revised Behavior Problem Checklist.

Conduct Disorder and Socialized Aggressive Group will be formed from the combined data of both the CD group and the SA group as defined by T scores on the Revised Behavior Problem Checklist.

Control Group will be determined by using only subjects that do not obtain a T score of 70 or above, which is equal to or greater than two standard deviations above the mean on any of the six scales included in the Revised Behavior Problem Checklist.

CHAPTER II

REVIEW OF THE LITERATURE

This study will examine the relationship of attributional style, locus of control, and self-efficacy on the cognitive mediational process in aggressive behavior. First, a brief review of the cognitive factors associated with aggressive behavior followed by an overview of each distinct construct as it is related to aggressive behaviors in adolescents will be presented. This is followed by a review of studies which have combined these cognitive mediators in relation to aggressive adolescent behavior.

Attributional Style and Aggression

Attributional research interest remains prominent in contemporary psychology (Harvey & Weary, 1984). As Kelly (1973) suggested, the area naturally emerged out of numerous phenomena that social psychologists have examined and tried to interpret, and it is likely that some such type of attributional analysis will remain with us because of the inexorable link between many phenomena and this type of conception.

Currently there is no single, comprehensive, and coherent theory of attribution. What now exists are a multitude of mini-theories or general ideas and hypotheses that are loosely

related. As long as these mini-theories have some explanatory worth, the need to develop a single all encompassing theory is not urgently needed. Attributional research will continue to grow as long as scholars and researchers are interested in how people understand their world, and how that affects behavior.

Attribution theory has been and will continue to contribute to the causal understanding and mediation of social behavior. This study is interested in how aggressive adolescents combine information to make causal judgements and whether judgmental biases can distort causal conclusions.

Dodge (1980) utilized two connected studies in an attempt to investigate the connection between attributions and children's defensive aggression. Defensive aggression is defined as behavior which is a hostile and assertive response to perceived threat or intentional frustration. It was hypothesized (Dodge, 1980) that, given a negative outcome, an aggressive child would be most likely to mistakenly attribute a hostile intention to a peer (and consequently, to retaliate aggressively) when the peer's behavior seemed ambiguously intended. To test this hypothesis, known aggressive and nonaggressive boys were placed in a situation with a negative outcome as a result of a peer's action. This act by another was presented as either hostile, benign, or ambiguous behavior. The results of this study indicated that all groups of boys reacted to the hostile condition with aggression and to the benign condition with relative restraint from

aggression (Dodge, 1980). However, the aggressive boys did have the tendency to display more aggression than the nonaggressive group of boys. One interesting finding indicated that the aggressive boys were more likely to help a peer, but only in the benign condition. This suggests that the aggressive boys have the ability to discriminate between the conditions and react accordingly, more so than the nonaggressive boys (Dodge, 1980). However, this study only used the observation of behavioral responses as a dependent variable. The attributions made by the boys can only be inferred. To obtain specific information about the attributions used and how that influenced the behavioral response was the basis of Dodges' second study.

Dodge (1980) hypothesized that if a peer is known to be aggressive, then children will be more likely to attribute hostile intentions to him in an ambiguous situation than if the peer is known to be nonaggressive. In order to test this hypothesis, the status of the actor was manipulated by using the actual names of known aggressive and nonaggressive boys (Dodge, 1980). Results from the second study showed that the aggressive and nonaggressive boys differed in their attributions about a peer who ambiguously instigated a negative outcome. Aggressive boys were relatively more likely to attribute a hostile intention to the peer, to expect continued aggression from the peer, and to mistrust the peer (Dodge, 1980). The second study also indicated the importance

of the instigators reputation for being aggressive, how that expectation contributed to attributions made about his behavior, and how others will behaved towards him.

In a two part study by Nasby et al., (1980) relatively aggressive and unaggressive emotionally disturbed boys were examined to determine whether the more aggressive children exhibited either an attributional bias to infer hostility regardless of the nature of the social cues presented or displayed an actual ability to detect true instances of hostility. The results of the first study suggest that as aggressiveness increased so did the tendency to make hostile attributions from different social cues. These results do not, however, provide any clear evidence that the more aggressive boys differed from the less aggressive boys in their ability to detect hostile from nonhostile social cues.

The second part of this study released some of the constraints of the response items and allowed a more spontaneous formulation of an answer. Results from the second study paralleled findings from the first study. The increase in accuracy that the more aggressive boys gained from attributing hostile affect to social cues did not exceed the decrease in accuracy that they lost from such a strategy; therefore, the more aggressive boys apparently did not possess greater ability to detect true instances of hostility than the less aggressive boys (Nasby et al., 1980).

Dodge and Newman (1981) explored two aspects of cognitive

processing that might be related to attributional bias: speed of decision making and selective recall of hostile cues. As hypothesized, when aggressive boys responded quickly to social cues, ignoring all relevant information, they over attributed hostile behavior to a peer (Dodge & Newman, 1981). It was found that when aggressive boys selectively recalled hostile cues over nonhostile cues they were more likely to demonstrate a bias toward attributing hostile behavior to a peer (Dodge & Newman,1981). This tendency toward a bias was found in both groups of aggressive and nonaggressive boys, and indicates the importance of these factors in making attributional decisions.

It was suspected that quickness of response and selective recall are cognitive paths that lead to attributional bias in aggressive boys (Dodge & Newman, 1981). Results from this study provide information that is consistent with reciprocally deterministic cognitive models of aggressive behavior offered by Dodge (1980). This model stipulates that aggressive boys have a cognitive expectancy that others will behave toward them in hostile ways and that through cognitive mediators like quickness of response and selective attention to hostile cues, they make biased attributions. These attributions lead to aggressive behavior in retaliation of perceived aggression from peers and validate their expectations, thus creating a cycle of aggression.

Data collected by Dodge and Frame (1982) in a three part study attempted to explore the relationship between social

cognitive biases and deficits and aggressive behavior. The first study determined that this bias is restricted to attributions of a peer's behavior when directed toward them, and not to attributions of a peer's behavior toward a second peer (Dodge & Frame, 1982). Inspection of group means indicated that when it was an aggressive boy who instigated an outcome, and the outcome was negative, subjects attributed more hostility to his actions. When the outcome was directed at the subject, aggressive subjects attributed more hostility to the peer than did nonaggressive subjects (Dodge & Frame, 1982). In contrast, when the outcome was directed towards another peer, aggressive subjects were no different than nonaggressive subjects in their attributions of hostility (Dodge & Frame, 1982). Results confirmed that aggressive boys attributed hostile intentions more frequently than nonaggressive boys, but only when they were the recipients of that behavior and not just the observer.

In terms of retaliation, it was found that all subjects would respond in an aggressive manner if the outcomes were clearly negative. Subjects indicated they would be more likely to retaliate aggressively when the instigator was an aggressive boy than when the instigator was a non aggressive boy (Dodge & Frame, 1982).

Dodge and Frame's (1982) attempt to clarify the nature and limits of attributional biases demonstrated that aggressive subjects did not display a hostile bias when they

were the observers to an event directed towards a second peer. Two possible explanations for this finding are offered by Dodge and Frame (1982). They speculate that when aggressive boys participated in the event, the actual involvement may have interfered with their ability to process social information accurately, which led to hostile attributional biases. The second explanation was that the attributional bias by aggressive boys may represent an expectancy on the part of these aggressive boys that peers will behave in hostile ways only towards them (Dodge & Frame, 1982).

Subjects were found to recall more hostile cues when the actor was labeled as aggressive and to recall more benevolent cues when the actor was labeled as popular or not labeled at all. This indicated a bias in attribution consistent with the type of label given to the subject at the start of the procedure (Dodge & Frame, 1982). Contrary to their hypothesis, aggressive subjects were not significantly more biased toward the recall of hostile cues than were nonaggressive subjects (Dodge & Frame, 1982). Overall, both subject groups demonstrated a bias toward the recall of hostile cues over benevolent cues.

Analysis of the recall variable, utilized the frequency of intrusions, or the number of times a subject "made up" statements that had not been presented (Dodge & Frame, 1982). Results indicate that both the aggressive and youngest groups gave more intrusions than the nonaggressive and oldest groups.

This finding might suggest that aggressive boys displayed developmental lapses. This deficit is specific only to intrusions and not evidenced in the number of total recall by aggressive boys (Dodge & Frame, 1982).

In the task of recognition of responses, it was found that as subjects increased in grade level, they made fewer mistakes in recognition of statements and fewer false recognitions of statements that had not occurred (Dodge & Frame, 1982). Aggressive subjects did show a tendency to report more false positive errors in recognition than did nonaggressive subjects (Dodge & Frame, 1982). This finding suggests a deficit in recognition accuracy for aggressive boys, which might lead to distorted attributions about the situation.

Analyses of recall and attributional variables between aggressive and nonaggressive boys revealed several specific cognitive deficits. These deficits were in the area of recall accuracy as well as a clear bias in their attributions. Contrary to an original hypothesis (Dodge & Frame, 1982), aggressive boys did not demonstrate a greater bias toward recall of hostile over benevolent cues than did the nonaggressive group. Dodge and Frame (1982) concluded that selective recall of hostile cues was both a significant predictor of a subject's attribution as well as an indicator that a subject will behave in hostile ways.

Data from the Dodge and Frame (1982) study caused some

confusion about the mechanisms involved in attributional bias among aggressive boys. Both aggressive and nonaggressive boys displayed a bias when the instigator had a reputation as being aggressive. Nonaggressive boys also indicated that they would be more likely to react aggressively towards those instigators. Clarification of where this bias originated was the bases of the third study in Dodge & Frame's (1982) publication.

This third study examined children's naturally occurring peer-directed aggressive behavior over time within a group of same age peers (Dodge & Frame, 1982). Although they did not measure attributional bias among the subjects, several important findings emerged. A positive correlation was found between the frequency with which a boy initiated acts of verbal and physical aggression and the frequency with which peers initiated acts of aggression toward them (Dodge & Frame, 1982). Another finding was that the boys perceived by their peers as most aggressive initiated and received more aggressive acts than did the other boys. Lastly, the rate of aggression initiated by the aggressive boys was proportionally higher than the rate in which they were the object of aggression.

Although these studies have provided some information into the relationship between social cognitive biases and deficits in boys aggressive behavior, they still do not give clear results regarding the overall attributional style in

aggressive behavior. Again, the results are limited to a specific population and results cannot be generalized to a larger population. The results do suggest, however, a self perpetuating model of aggression. In addition, biased recall of stimulus cues does not appear to be a mechanism which contributes to aggressive behavior. The data also suggest that the attributions of aggressive boys in situations in which they are a participant differ from their attributions in situations in which they are an observer (Dodge & Frame, 1982). Specific cognitive deficits among aggressive boys (tendency to make intrusions into recall) were observed, but the nature of the cognitive process or mechanisms involved are not clear. Perhaps other cognitive mechanisms such as self-efficacy beliefs and locus of control preference can account for these differences in the mediational process of aggressive behavior.

In a series of analyses, Dodge, Price, Bachorowski and Newman (1990) examined the relationship between hostile attributional tendencies and aggressive behavior in adolescents. The first hypothesis stated that the degree to which a subject displayed hostile attributional biases would be positively related to measures of undersocialized conduct disorder, reactive aggression, interpersonally violent crime, and the psychiatric diagnoses of undersocialized conduct disorder (Dodge et al., 1990). Empirical support was found for this hypothesis for all measures.

The second hypothesis tested suggested that hostile attributional bias measures would be positively related to the measures of undersocialized conduct disorder even when intelligence, socioeconomic status (SES), and race were used as covariates (Dodge et al., 1990). Results from this analysis indicated that attributional bias scores could be predicted significantly from each of the behavior measures, even after intelligence, SES, and race were controlled for. Graham, Hudley, and Williams (1992), found similar results on where subject ethnicity, gender, or stimulus order had no effect on attributional biased among African-American and Latino young adolescents.

The third hypothesis stated attributional biases would be related to forms of aggression involving interpersonal deficits classified as undersocialized aggression, but not to deviant behaviors classified as socialized aggression (Dodge et al., 1990). Correlations between the hostile attributional bias score and the two different measures of aggression were found to be non-significant. Analyses of the additive contributions of undersocialized aggressive behavior demonstrated a contribution to the prediction of hostile attributional bias, whereas socialized aggression did not.

The fourth hypothesis tested was that attributional biases would relate to reactive, but not proactive aggression (Dodge et al., 1990). In opposition to this hypothesis, proactive aggression scores were found to significantly

correlate with hostile attributional bias scores. One reason for this finding could be that proactive and reactive aggressive subscales are highly correlated and do not discriminate enough between themselves to provide significant findings. In order to test this hypothesis, an analysis which partitioned the variance found that reactive aggression related significantly to hostile attributional biases even when the proactive aggression subscale was partialed out (Dodge et al., 1990). However, when reactive aggression scores were partialed out the proactive aggressive score did not even come close to correlating significantly with hostile attributional biases (Dodge et al., 1990).

This study demonstrated that the biased tendency to attribute hostile intent to peer antagonists is positively correlated with the level of severity of undersocialized aggressive conduct disorder for adolescent boys with a history of criminal behavior (Dodge et al., 1990). Most other studies (Dodge & Frame, 1982) are limited to less disturbed younger children selected from school populations and their findings may not be as applicable to an adolescent inpatient population.

Empirical evidence has provided support for the hypothesis that hostile attributions are an important factor in the mediational process and expression of interpersonally aggressive responses in both normal and psychopathological populations (Dodge et al., 1990). However, the scope of this

information does not provide information into the overall attributional style of adolescents. Attributional biases cannot be inferred to cause aggressive behavior because the direction of causal path cannot be determined by correlational analyses. It could be that other mediational factors or cognitive functions may account for the relationship between hostile attributional biases and interpersonal aggression (Dodge et al., 1990).

A conclusion reached, after a review of the literature pertaining to attributions, is that motivational biases could simply be interpreted as reflecting reasonable judgements in light of the available information. Any attributional bias may be the result of the manner in which the studies were conducted and analyzed. Research to date does indicate a connection between attributional style and aggressive behavior but does not provide a clear distinction on how and in what way.

Locus of Control and Aggression

Internal versus external control, often referred to as locus of control, is currently one of the most studied variables in psychology. Locus of control is a personality dimension that was first described by Julian Rotter (1966, 1975), a prominent social learning theorist. Internal versus external control refers to the degree in which one expects a reinforcement or an outcome of one's behavior to be contingent upon one's own behavior or personal characteristics versus the

degree to which one expects the reinforcement or outcome to be a function of chance, luck, or fate, under the control of others, or simply unpredictable (Rotter, 1990). Such expectancies may generalize along a continuum based on the degree of similarity of the situational cues (Rotter, 1966). Several reviews of internal-external control research and applications have been published (Lefcourt, 1976, 1981; Phares, 1976).

According to Rotter's social-learning theory (1954), the probability of the occurrence of a given behavior in a particular situation is determined by two variables-the subjectively held probability (expectancy) that any specific behavior will be reinforced and the value of the reinforcer to that person. Rotter's description of the learning process presupposes the awareness of a hierarchy of responses that tend to occur in different situations with varying degrees of probability; it therefore cannot adequately explain the occurrence of a response that has not as yet been learned.

Human behavior is so complex that it cannot be explained through single concepts (Phares, 1976). In a review of the research, social learning theory has demonstrated the importance of the internal-external dimension in influencing a wide variety of behaviors. Not much work has been done in which the effects of locus of control are moderated or influenced by other factors. The amount and kind of effects that are attributable to locus of control depend upon its

relationship to other variables in that situation.

In a study by Storms and Spector (1987), an attempt was made to explore potential interactions of perceived frustration with locus of control in the determination of reactions to frustrations. It was hypothesized that a moderating effect of locus of control existed between perceived frustration and counterproductive behavior. The sample was divided into three groups based on locus of control; correlation coefficients were calculated for each of the three groups. Analyses indicated significant differences among each set of three coefficients for five of the six comparisons (Storms & Spector, 1987); thus, supporting their hypothesis that there is a moderating relationship of locus of control on the perceived frustration-behavioral reactions. These results suggest that persons with an external locus of control are more likely to respond to frustration with counterproductive behavior than persons with an internal locus of control.

Further examination through regression analyses was conducted for each of the behavioral reaction variables. In each case three terms were entered into the regression equation: locus of control, perceived frustration, and the product of locus of control and perceived frustration. Overall, the product term was significant but apparently because of only one of the six comparisons, sabotage. A plot of the relationship between frustration and sabotage at

varying levels of locus of control suggested the predicted pattern (Storms & Spector, 1987). Internals showed an almost flat slope indicating minimal reaction to frustration, whereas, externals had a positive slope. This indicated the number of reported reactions increased as a function of frustration. The pattern for aggression was similar but did not reach statistical significance.

The pattern of results demonstrated by moderator analyses provided some support for the hypothesis that locus of control played a significant role in the frustrations-behavior reaction relationship, but only for the moderator of sabotage (Storms & Spector, 1987). For other behavioral reactions, such as aggression, results were inconclusive. Storms and Spector (1987) suggested that a lack of power, combined with the conservative regression procedure used may have accounted for this discrepancy. Results for locus of control as a moderator in the role between aggression and the frustration-behavior reaction was in the same direction as sabotage, but indicated a weaker trend.

Storms and Spector's (1987) findings may only be generalizable within an organizational context in which they were measured. Aggression, cannot be validated by this study as a significant factor in relationship to locus of control and the management of frustration. These results may also not hold true for a younger more impulsive adolescent population.

Locus of control was examined (Prerost, 1987) in relation

to the reduction of aggressive mood states through expression of humor. It was found that an individual's locus of control preference could be involved in the appreciation of humor (Prerost, 1987) by influencing the reduction of hostile mood states. Prerost (1980) had previously provided evidence, through the measure of mood by means of various mood adjective checklists that the appreciation of humor with aggressive content can reduce an experimentally induced mood state of hostility.

Previous research (Goldstein, Suls, & Anthony, 1972) on humor and hostility had failed to account for individual differences in locus of control. Considering this, Prerost (1983) demonstrated the importance of locus of control in predicting the capacity of individuals to employ humor when angered. Prerost (1987) then proceeded to examine internal and external Health Locus of Control scores to conditions of arousal of hostility for appreciation of humor and mood. As predicted, angered internals enjoyed aggressive humor and as a result experienced a reduction in hostile mood state (Prerost, 1987). A significant interaction between arousal, Health Locus of Control, and type of stimuli was found (Prerost, 1987).

Prerost's (1987) findings support the hypothesis that only internal scorers on the locus of control who appreciated aggressive humor would exhibit a reduction in aggressive mood (Prerost, 1987). This seems to reflect the internal

individuals capacity for a greater positive affective potential than the external individual, providing support for the remaining hypothesis which predicted mood to be more positive among internal than external individuals (Prerost, 1987). Further support for this hypothesis was obtained through analysis of scores of social affection on the Mood Adjective Checklist.

Overall, results from this study demonstrate the importance of locus of control as a factor in the link between hostile mood and appreciation of humor, at least for young women (Prerost, 1987). It appears that a woman must possess an internal locus of control to appreciate aggressive humor and benefit from the release of anger through laughter. Therefore, subjects with an internal locus of control seem capable of regulating mood through humorous appreciation in a manner that is emotionally healthy.

Although these findings provide further support for the importance of locus of control as a mediational factor in the manifestation of aggression, the results are limited. Results pertain only to the population sample comprised of college age women and are not generalizable to an adolescent population.

Research conducted by Romi and Itskowitz (1990) examined the relationship between locus of control and two types of aggressive responses to frustrating situations in populations of middle-class and culturally deprived children. Romi and Itskowitz (1990) distinguished between various qualities of

aggression and believe there are positive aspects of aggressive behavior. An analysis was performed to examine the relationship among the different hypothesized levels of aggression, locus of control, sex and social status (Romi & Itskowitz, 1990).

Results confirmed their hypothesis and indicated that subjects demonstrating an internal locus of control responded to frustration with positive aggression significantly more than did subjects having an external locus of control (Romi & Itskowitz, 1990). Interestingly, no significant findings were found for interaction effects between social status, sex, and type of aggression.

Romi and Itskowitz (1990) attempted to investigate the influence of intelligence on the internal and external locus of control groups. Differences in the frequency of distribution indicated discrepancies in verbal intelligence between members of internal and external locus of control for culturally deprived boys, culturally deprived girls and non-culturally deprived girls (Romi & Itskowitz, 1990). Internal subjects in these three groups, were found to be significantly more intelligent than did the external subjects.

Intelligence was then used as a covariate to determine if it accounted for or contributed to the relationship between locus of control and aggression. It was found that the relationship between locus of control and aggression remained stable when the factor of intelligence was accounted for (Romi

& Itskowitz, 1990). The results suggest that locus of control is involved in the mediational process of aggression.

Romi and Itskowitz (1990) then attempted to determine if two different types of aggression existed, and it a tendency toward either an internal or external locus of control influenced the type of aggression displayed. They found that subjects having an internal locus of control tended to have a reflective constructive type of aggression and those who operated with an external locus of control displayed an impulsive destructive type of aggression.

Romi and Itskowitz (1990) also assessed the influence of other variables such as social status and gender on locus of control and aggressive behavior. Results showed that these variables were not significantly related to the type of aggression. The findings of this study might have been affected by preselection of the test population by locus of control and the test measurement used to determine type of aggression. The subjects were asked to choose items among aggressive responses only which might have limited the type of responses given and suppressed any significant differences between social status and gender.

Young (1992) found significant evidence to support the hypothesis that an inverse relationship would be observed for internal locus of control and the number of misconceptions about human aggression. Results suggest that as feelings of mastery and control increase, belief in a human propensity for

aggression decreases (Young, 1992).

A number of misconceptions were indicated by a majority of subjects about human aggression. Young (1992) reported misconceptions which included beliefs that many humans are instinctively aggressive (63%), that the aggressive instinct can be controlled through substitute activities (56%), that failure to express anger results in heart disease, stress, and high blood pressure (75%), and that expressing anger makes one feel better (75%). There were a few other misconceptions indicated by a substantial minority, but only one item was not misconceived. It was not misconceived that emotions are physiological reactions that cannot be controlled (6%) (Young, 1992). Correlational analysis between locus of control and misconceptions about aggressive behaviors indicated that as internal locus of control increased, the number of misconceptions about human aggression decreased (Young, 1992). Approximately 27% of the variance in the number of misconceptions about human aggression was explained by the locus of control scores (Young, 1992).

This specific research provides support for locus of control as a personality trait (Young, 1992). Locus of control has been associated with attitudes about human aggression (Young, 1992), but results are based on only an undergraduate student population and not generalizable to other populations. Results also do not consider the possibility of other constructs which might account for some

of the same variance accounted for by the locus of control measure. There may be other factors which either account for a larger percentage of the variance or overlap with the locus of control constructs.

Locus of control was also identified as a mediator of negative divorce related events and adjustment problems in children (Fogas et al., 1992). Combined self-reported measures on aggression, anxiety, and depression were found to be significantly correlated with negative divorce events (Fogas et al., 1992). When the three individual components were analyzed in relationship to the other components, locus of control was found to have a significant correlation with negative divorce events, anxiety, depression, and adjustment problems (Fogas et al., 1992); however, no significant difference was found between locus of control and adjustment problems as measured by the aggression scale (Fogas et al., 1992).

This study provides some support for a mediational effect of locus of control beliefs with respect to anxiety and depression, but not aggression. When parents' evaluation of their child's adjustment was used for analyses, no support was found for the mediational model (Fogas et al., 1992). These differences in results may be the effect of some unknown confounding variable or combination of variables. The lack of consistent findings indicate the need for further research in the area of locus of control beliefs as a mediator of specific

behavior, particularly aggression.

Limitations of this study (Fogas et al., 1992) included a small sample size which prevented assessment of the mediational relation as a function of other variables, such as age, gender, or cognitive developmental level of the child (Fogas et al., 1992). Analysis of significant individual components cannot provide information on directional causality of mediational factors. Another difficulty is that the homogeneous sample group limits the range of generalizability to other population.

A two part study was conducted (Caprara et al., 1992) to help clarify the notion of guilt and its contrasting relations with aggression. After first obtaining substantially positive results regarding the psychometric properties of a bidimensional measure of guilt, Caprara et al.,(1992) then set to test the relationship of these guilt measures to other measures of emotionality and aggression. One question which arose from the findings was what makes the two forms of guilt different? Both variables, identified as fear of punishment and need for reparation, stem from emotional responsiveness but seem to play different roles in relation to the modulation of aggression. Caprara et al.,(1992) found that perceived locus of control over the consequences of perceived wrong-doing played an important part in the mediational process of guilt, which has been associated with emotionality and aggressive behaviors (Caprara, 1987).

In general, locus of control studies have suggested the importance of locus of control in the cognitive mediational processes in the modulation of aggression. While locus of control is an important determinant of behavior, its effects are moderated by other variables such as reinforcement values, expectancies, and the psychological situation. Most research has been carried out with little regard for its relationship to these other variables.

The aforementioned studies tended to examine locus of control as a situation specific expectancy that is influenced by the cues of each situation rather than as a broad generalized belief. These situation specific findings do provide some indication that generalized locus of control beliefs affect behavior. Based in social learning theory, locus of control can be viewed as both a situational variable and a personality variable (Phares, 1976).

Results from the studies indicate that the most basic characteristic of internal individuals appear to be their greater efforts at coping with or achieving mastery over their environment than externals. Internals seem to acquire more information, make more attempts at acquiring it, are better at retaining it, are better at utilizing information, devising rules to process it, and generally pay more attention to relevant cues in the situation (Phares, 1976). Internals also appear to exhibit greater self-control, are more likely to be cautious, and engage in less risky behavior. With regard to

anger and aggression it was found that externals report more feelings of anger and tend to be more hostile and self-destructive (Phares, 1976).

Self-Efficacy and Aggression

Bandura (1977) assigns an important role for the concept of self-efficacy in analyzing changes achieved in specific behaviors. The explanatory value of this conceptual system can be evaluated by its ability to predict behavioral responses in specific situations. Bandura's (1977) social learning theory is based on the principle assumption that psychological procedures, whatever their form, serve as means of creating and strengthening expectations of personal efficacy. An efficacy expectation is the conviction that one can successfully execute the behavior required to produce a desired outcome. This is to be differentiated from an outcome expectancy, which is defined as a person's estimate that a given behavior will lead to certain outcomes. A person can believe that a particular course of action will produce certain outcomes, but if they have any serious doubts about whether they can perform the necessary activities such information does not influence their behavior.

The strength of a person's convictions in his or her own effectiveness is likely to affect whether he or she will even try to cope with given situations (Bandura, 1978). An individual would tend to avoid threatening situations if he or she believed that it exceeded his or her coping skills, and

where they would tend to become involved in activities and behave with confidence when they judged themselves capable of handling that situation.

Perceived self-efficacy can also influence behavior through the expectations of eventual success, which can affect coping efforts once they are initiated (Bandura, 1982). Efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences.

This brief analysis of how self-efficacy influences performance is not meant to imply that expectation is the sole determinant of behavior. Given the appropriate skills and adequate incentives, efficacy expectations are a major determinant in a person's choice of activities, how much effort they will expend, and of how long they will sustain effort in dealing with stressful situations (Bandura, 1977).

In social learning perspective, choice behavior and effort expenditure are governed in part by percepts of self-efficacy rather than by a drive condition. Because efficacy expectations are defined and measured independently of performance, they provide an explicit basis for predicting the occurrence, generality, and persistence of coping behavior (Bandura, 1977).

In a study by Cuddy and Frame (1991) it was hypothesized that the self-efficacy and outcome expectancy beliefs for three different experimental groups (popular-nonaggressive,

rejected-aggressive, and controversial-aggressive) would be consistent with their documented behavior patterns. To be specific, those subjects within the popular group would rate themselves as high in self-efficacy and positive outcome expectations for prosocial behavior, and low self-efficacy and expectations of negative consequences for aggression (Cuddy & Frame, 1991). In contrast, the rejected aggressive group would indicate ratings of lower self-efficacy and expectations of less favorable results for prosocial behaviors, and the opposite for aggressive behavior. These two groups were expected to not be influenced by any situational characteristics.

It was suspected that the controversial aggressive groups' behaviors would be modified by the presence of others and would be influenced by the situational context. It was hypothesized that in public situations their behavior would more likely resemble the popular group, and in a private situation more closely resemble the rejected group (Cuddy & Frame, 1991). Results revealed that the subjects reported higher self-efficacy for prosocial behaviors performed in private rather than in public (Cuddy & Frame, 1991). The reverse was found for aggressive behaviors, where the subjects reported higher self-efficacy for those exhibited in public, rather than private situations (Cuddy & Frame, 1991).

Also investigated was the outcome expectancy beliefs of the subjects for their respective behaviors. The rejected-

aggressive group, as compared to the popular-nonaggressive boys, expected more favorable outcomes to result from aggressive behaviors (Cuddy & Frame, 1991).

In opposition to the stated hypothesis, perceived self-efficacy for prosocial and aggressive behaviors performed in private versus public situations did not differ among the three groups (Cuddy & Frame, 1991). This failure to obtain differences in self-efficacy among the aggressive and nonaggressive groups is surprising. One explanation might be that the aggressive boys have a tendency to over estimate their social and cognitive abilities.

In summary, the results of this study did not indicate a difference on self-efficacy beliefs between aggressive and non-aggressive boys. The findings suggested that aggressive boys maintain relatively favorable expectancies for aggression in comparison to their nonaggressive peers, although, these two groups indicated similar beliefs regarding aggression. This suggests that such expectancies may contribute to the development and maintenance of aggression in a variety of subgroups (Cuddy & Frame, 1991).

Combined Factors and Aggression

The only study which sought to combine any mediational factors (Innes & Thomas, 1989) examined the relationship between self-efficacy and attributions of cause on behavioral responses to social situations for adolescents. The establishment of self-efficacy and causal attributions in

anticipation of social interactions is especially important in adolescence as success or failure may lead to the development of life-long patterns of behavior (Moore & Schultz, 1983).

Moore and Schultz's (1983) results gave support to the proposition that social avoidance and inhibited behavior is related to attributional factors and to an adolescent's perception of his or her self-efficacy in social situations. Results did not indicate a pervasive attributional style across social situations which have different outcomes. Rather, evidence suggested a consistent attributional style in which failure is believed to be the result of external factors and success to stable and unstable internal factors.

Self-efficacy was shown to be associated with internal attributions for both failed and successful outcomes (Innes & Thomas, 1989). A young person's confidence in being able to make a maximal effort to deal with a situation is positively linked with internal attributions for success and negatively linked with attributions for failure.

Summary

This review of the literature provides evidence of the association between cognitive mediational factors and aggressive behavior. The fact that aggression in childhood is a strong predictor of aggressive and antisocial behaviors in adulthood (Huesmann, Eron, Lefkowitz, & Walder, 1984), suggests the possibility that cognitive mediational factors play a role in the maintenance and escalation of aggression

over time. These cognitive factors, representing habitual patterns of cognitive mediation that underlie aggression, may serve to differentiate and stabilize and individual's use of aggression in particular situations (Slaby & Guerra, 1988). Therefore, a better understanding of these cognitive mediational patterns in relation to aggressive behavior may lead to the development of more effective treatment modalities and interventions.

CHAPTER III

METHOD

This study examined the hypothesis concerning the difference between a group of nonaggressive controls (CG) and a combined group of Conduct Disordered (CD) and Socialized Aggressive adolescents (SA) on measures of attributional style (AS), locus of control (LOC), and self-efficacy (SE). In the event of a rejection of the Null Hypothesis, a series of research questions will be addressed to explore how, and to what extent, a linear combination of these mediational factors (AS, LOC, SE) contribute to the discriminate function and thus relate to levels of aggressive behavior in adolescents.

Subjects

Subjects were recruited from a juvenile detention center and a senior high school located in the Southwest United States. Because childhood aggression is most often observed in males (Maccoby & Jacklin, 1980), only male adolescents were used in the sample population. The ages of the subjects ranged from 13 to 18 years. An attempt was made to include a wide range of ethnic and socioeconomic (SEC) groups in order to more closely represent the actual general population percentages. The Revised Behavior Problem Checklist (Quay & Peterson, 1987) was used to determine diagnostic category for

the experimental group and was completed by the professional staff member most familiar with the adolescent within the treatment facility. Control group subjects were also evaluated with the Revised Behavior Problem Checklist to ensure that they did not fit a diagnostic category.

The control group consisted of 32 subjects ranging from the ages of 14 through 18, with 15% of the sample at 14 years, 37% at 15 years, 28% at 16, 15% at 17, and 3% at 18 years of age. The combined socialized aggressive and conduct disorder group consisted of 35 subjects ranging from ages 13 to 17. The distribution of subjects were as follows; 5% at age 13, 17% at 14, 28% at 15, 31% at 16, and 20% at the age of 17. For both groups the majority of subjects were from the 15 and 16 year old range.

In terms of ethnic identity, the control group population was 53% White, 31% Black/African-American, 9% Hispanic, and 6% Native American. The combined socialized aggressive and conduct disorder group contained 40% White, 31% Black/African-American, 5% Hispanic, 2% Native American, and 2% Asian-American.

Demographic information on the control group indicated that 12% of the sample population came from homes that earn less than or equal to $15.000, with 46% earning $15,000 to $30,000, 18% from $30,000 to $45,000, 18% from $45,000 to $60,000, and 3% with a family income of over $60,000. In contrast, the combined socialized aggressive and conduct

disorder group population demographics indicated 34% as coming from homes earning $15,000 or less, 62% from homes that earn between $15,000 and $30,000, and 14% from homes that earn between $30,000 and $45,000. The control group population, in general, came from families with a wider range of income and a higher income average than the combined socialized aggressive and conduct disorder subject population.

Within the sample of control subjects, approximately 41% were from rural areas and 59% were from urban areas. The combined socialized aggressive and conduct disorder group subjects demographics indicated that 46% were from rural areas and that 54% were from urban areas.

Instrumentation

Attributional Style Questionnaire

The Attributional Style Questionnaire (ASQ; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982) is a self-report measure of patterns of "explanatory style" (Peterson & Seligman, 1984). The scale describes 12 hypothetical events in which the respondents are instructed to imagine that they are in the situations described and that for each situation they write one cause of the outcome in the space provided. After writing a cause for the event, respondents are asked to rate on three seven point scales 1) whether the outcome was due to something about them or something about other people or circumstances (Locus), 2) will this cause again be present? (Stability), and 3) does the

cause influence just this situation or other areas of their life (Globality). Respondents circle one number from one to seven corresponding to their casual beliefs. The scales are devised so that external, unstable, and specific attributions receive lower scores, whereas internal, stable, and global attributions receive higher scores. These scales are further divided into good and bad events.

Peterson et al.(1982) reported the internal consistencies of the Locus, Stability, and Globality Scales in a sample of 100 undergraduates. They found that these scales had but modest reliability, with alpha ranging from .44 to .69. There is empirical support for the criterion and construct validity of the ASQ. Peterson et al.,(1982) examined the extent to which the ASQ predicts causal explanations that occur spontaneously. They reported correlations between the spontaneous explanations and the relevant scales on the ASQ ranging from .19 to .41, with the Locus and composite score demonstrating the strongest association. These results demonstrate construct validity for the ASQ in that it both taps spontaneously generated attributions and relates to theoretically relevant symptomatology (Peterson et al., 1982).

With regard to test-retest reliability, the available literature indicates that in nonclinical samples, ASQ scores are consistent over time. Reliability with clinical populations has not been as consistent (Persons & Raos, 1985). Peterson et al.,(1982), concludes that whether the

attributional model predicts stability or allows for changes in attributions is a conceptual matter that does not detract from the contributions of the ASQ to attribution theory research.

Rotter Internal-External Locus of Control Scale

The Rotter Internal-External Control Scale is a 29-item self administered questionnaire. In an attempt to disguise the purpose of the test, 6 sets of statements are filler items. Rotter (1966) described the Internal-External (I-E) Scale as an additive scale. That is, the items represent an attempt to sample I-E beliefs across a range of areas, such as interpersonal situations, school, government, work, and politics. Because it samples a variety of areas, the scale can more nearly lay claim to being a measure of generalized expectancy (Phares, 1976). Therefore this scale can potentially predict percieved orientation of either internal or external locus of control across a wide range of situations.

Because of the additive nature of the test, moderate but a rather uniform set of internal consistency statistics are reported by Rotter (1966). These coefficients ranged from .65 to .79. Test-retest reliability estimates range from .49 to .83 (Rotter, 1966) and are reported for several samples. In general, test-retest reliability of this scale would appear adequate.

The I-E Scale is scored in the external direction with

the higher the score, the more external the belief (Rotter, 1966). Subjects are instructed to read each set of items and circle either agree or disagree, indicating which item they endorse or believe for each specific situation. Scores are tabulated by counting the number of specific items indicated on a scoring key.

Self-Efficacy Questionnaire

This measure, developed by Cuddy and Frame (1991), consists of 32 items, each describing a social situation and requiring the child to indicate his or her ability to perform a specified behavior in the situation. Sixteen items describe episodes resulting in prosocial responses such as helping an injured child, speaking to an unpopular classmate, or sharing candy with a peer. The remaining sixteen items describe episodes resulting in aggressive responses such as kicking, hitting, and name-calling. Within both the prosocial and aggressive item sets, one-half describe behaviors occurring in public situations, and one-half in private settings. Each respondent is instructed to imagine that they are the protagonist for each situation, where either one or more peers witnessed (public), or where only they and the peer who is the object of their action was present (private).

Each respondent pretends that what was described in each item was happening to them and then indicates how easy or hard it would be for them to perform the specified action. The respondents rate their self-efficacy for each particular item

by circling one of four choices, HARD!, hard, easy, EASY!

The options of HARD!, hard, easy, EASY! are scored from 1 to 4 points, respectively. Therefore, the higher the score for that item the higher the adolescent's perceived self-efficacy. Two scores will be obtained by summing the response values for each grouping of items: prosocial, for both public and private; aggressive, for both public and private situations. Previous analyses of this instrument had revealed adequate test-retest reliability which ranged from coefficients of .66 for the prosocial, private items, .75 for both the aggressive , public and private items, to .80 for the prosocial, public items. Internal consistency coefficients were .76 for both prosocial, public and private; .87 for aggressive, public; and .88 for aggressive, private items (Cuddy & Frame, 1991).

Revised Behavioral Problem Checklist

The Revised Behavior Problem Checklist (Quay & Peterson, 1983) is a revision of the Behavior Problem Checklist originally published in 1979. It uses a 3-point scale (0=does not constitute a problem, 1=mild problem, 2=severe problem) for rating problem behavior traits occurring during childhood and adolescence. The checklist covers ages 6 to 18 years. There are a total of 89 items grouped into six scales: Conduct Disorder, Socialized Aggression, Attention Problems-Immaturity, Anxiety-Withdrawal, Psychotic Behavior, and Motor Excess. Raw scores are converted into T scores (M=50, SD=10).

Only two of the diagnostic categories, Conduct Disorder (CD) and Socialized Aggression (SA), will be used for this study. A converted T score of 70 (2 SD's above the mean) or above will be used to determine classification.

The Revised Behavior Problem Checklist can also be used to assess the extent and severity of inappropriate aggression. Several previous factor analyses has consistently revealed two factors which account for most of the scale's common variance. The first factor taps a dimension of unsocialized aggression and includes such items as fighting, profanity, and temper tantrums. The second factor taps a dimension of over-inhibition and includes items such as feelings of inferiority, lack of self-confidence, and social withdrawal.

The Revised Behavior Problem Checklist was constructed on the bases of factor analysis using four different clinical samples representing a broad range of deviant behavior and an age range from 5 to almost 23. All four samples were factored independently and only those items with a frequency of endorsement of greater than 15% and less than 85% were utilized. Principal axis analysis with R squared as the initial communality estimate was utilized with subsequent rotation to the varimax criterion (Quay & Peterson, 1985). These procedures resulted in four major scales: Conduct Disorder (CD), Socialized Aggression (SA), Attention Problems-Immaturity (AP), and Anxiety-Withdrawal (AW). Two additional scales with fewer items were also retained: Psychotic Behavior

(PB) and Motor Tension-Excess (ME). To establish internal consistency reliability, the extent to which an item contributed to the Alpha reliability of each subscale was part of the criteria for the inclusion of that item. Conduct Disorder coefficients ranged from .92 to .95, and the Socialized Aggression coefficients range from .85 to .93 for all samples. To establish construct validity the scales of the RBPC have been related to other rating scales. It is important to recognize that no single obtained relationship is definitive in either establishing or failing to establish construct validity, but the methods utilized have placed confidence in the construct validity of the instrument.

The nine variables that might contribute to cognitive mediation and differentiation between these groups are listed with names and descriptions in Table 1.

Table 1

Cognitive Mediational Variables

Variable	Description
LOC	Refers to Locus of Control with the higher the score the more externalized the orientation of control indicated.
SE-PROSOC	This is a self-efficacy rating on how efficient one can handle prosocial situations. The higher the score the more efficient a person feels they are.

(Continued)

(Table Continued)

SE-ANTISOC	This is a self-efficacy rating on how efficient one can handle antisocial situations. The higher the score the more efficient a person feels they are.
AS-GD EX/IN	Attribution style of whether good events are attributed to external or internal events. The higher the score the more a person is internally controlled.
AS-BD EX/IN	Attribution style of whether bad events are attributed to external or internal events. The higher the score the more a person is internally controlled.
AS-GD UN/ST	Attribution style of whether good events are attributed to unstable or stable conditions. The higher the score the more a person is making stable attributes.
AS-BD UN/ST	Attributional style of whether bad events are attributed to unstable or stable conditions. The higher the score the more a person is making stable attributes.
AS-GD SP/GL	Attributional style of whether good events are attributed to specific or global conditions. The higher the score the more a person is making global attributions.

(Continued)

(Table Continued)

AS-BD SP/GL	Attributional style of whether bad events are attributed to specific or global conditions. The higher the score the more a person is making global attributions.

Procedure

After obtaining necessary consent forms, each subject was asked to complete an Attributional Style Questionnaire, Locus of Control measurement, and a Self-Efficacy Questionnaire as measures of cognitive mediational factors. Scores for each of these measures were used to first determine if any differences existed between a combined group of CD and SA, and a control group of adolescent males, in order to determine the degree of influence and in what manner these cognitive mediational factors have on aggressive behaviors. These questionnaires were group administered when possible and individually as time would permit in a designated testing site or classroom setting. The three instruments were given in a counter-balanced order across the different groups to insure minimal carryover effect from the order of presentation. The packet also contained instructions and a cover letter asking for the participant's cooperation in this study of cognitive factors. The cover letter assured all participants that their anonymity would be preserved, that participation in the study was voluntary, and that the results would be reported in aggregate

form. For the detention group, the Revised Behavior Problem Checklist was completed by staff members of the treatment facility considered most familiar with the day to day conduct of each subject. Teachers and parents were asked to complete the checklist for the control group of subjects.

Each protocol was first screened for completeness and scoreability. Then each protocol was coded and scored for use in statistical analysis. Any protocols determined invalid because of unusual response patterns or incompleteness were excluded from the data analysis. Experimental subjects who did not reach a T score of 70 on the conduct disorder or sccialized aggressive subscales were excluded from the analysis.

This study was originally designed to compare distinct groups of Conduct Disorder (CD) and Socialized Aggression (SA), a combined CD/SA group, and a control group on all measures. Clear separation between the two groups of Conduct Disorder (CD) and Socialized Aggression (SA) could not be established so only the combined CD/SA group and the control group were used in the analysis.

Statistical Analysis

Discriminant function analysis was used to determine the extent to which scores on the Attributional Style Questionnaire, Locus of Control, and Self-Efficacy Questionnaire discriminate between members of the two groups (combined CD/SA, and CG). The specific groups were defined by

the Revised Behavior Problem Checklist (Quay & Peterson, 1987).

Discriminant function analysis allows for examination of the differences between two or more groups on the basis of their scores on two or more variables simultaneously (Stevens, 1992). To test the multivariate null hypothesis, Bartlett's chi square approximation for Wilk's lambda was used.

CHAPTER IV

RESULTS

The goal of this study was to determine which and in what way cognitive mediators influence aggressive behavior in adolescent groups. Independent researchers have made progress in understanding aggressive behavior in adolescent boys; however, none of the theories have fully integrated the concepts of self-efficacy, attributional style, and locus of control. These factors or personal cognates may be found to contribute to the mediation of aggressive responses by adolescent boys. A more precise goal is to determine if measures on the Attributional Style Questionnaire, Locus of Control, and Self-Efficacy Questionnaire have any discriminate value in regard to attributional style, locus of control, and self-efficacy as cognitive mediators of aggressive behavior between a combined socialized aggressive and conduct disordered group and a control group as determined by the Revised Behavior Problem Checklist.

Originally this study was to include four specific groups consisting of one Control Group, one group of Socialized Aggressive adolescents, one Conduct Disorder group, and one combined group of Conduct Disordered and Socialized Aggressive adolescent males, but most aggressive subjects qualified for

both diagnostic categories so only the combined group and the control group were used in this study.

Hypothesis

Hypothesis 1. There is no difference between groups of nonaggressive controls (NC) and a combined group of Conduct Disordered and Socialized Aggressive (CD/SA) male adolescents on measures of attributional style, locus of control, and self-efficacy.

Multivariate Analysis

In order to test Hypothesis 1, a discriminant function analysis, which determines the extent to which scores on the Attributional Style Questionnaire, Locus of Control, and Self-Efficacy Questionnaire, discriminate between members of the two groups (CG and CD/SA) was computed. Discriminant function analysis allows for examination of the differences between both groups on the basis of their scores on all variables simultaneously. To test the multivariate null hypothesis Bartlett's chi square approximation for Wilk's lambda was used. As can be seen from Table 2 a significant difference was found for the cognitive variables between the two groups.

Large eigenvalues are associated with good functions. As can be seen from Table 2, for this study, a moderate eigenvalue was found. The canonical correlation provides a way of breaking down the association between the variables. The canonical correlation of .5057 indicates that 26% of the variance between the groups was accounted for by these

variables. Wilk's Lambda was used to test the tenability of Chi square; a significant relationship was found (Wilk's Lambda= .7424, $p<.05$). This finding supports the rejection of the null hypothesis which predicted no difference between groups of nonaggressive controls and a combined group of conduct disordered and socialized aggressive male adolescents on measures of attributional style, locus of control, and self-efficacy.

Table 2

Canonical Discriminant Functions

Eigenvalue	Canonical Corr	Wilks' Lambda	Chi square	DF	Sig
.3470	.5057	.7424	18.020	9	.0349

Given the rejection of the null hypothesis, a series of research questions were addressed. These questions are answered in this section with statistical findings and will be discussed in more detail in Chapter V.

Research Question #1. How many dimensions are necessary to explain the groups separation?

Since only two groups were used in the final analysis, only one discriminant function is possible. The Revised-Behavior Problem Checklist did not provide a clear separation between the Conduct Disordered Group and the Socialized

Aggressive Group so only the combined CD/SA group and the control group were used for statistical analysis.

Research Question #2. Which variables account for the discriminant function?

Table 3 provides the variable and the dircriminant function correlations and is a measure of the degree of association between the discriminant function and the original variables. Although all variables are used in the discriminant function, as can be seen from Table 3, primarily the self-efficacy variables for both antisocial and prosocial behaviors define the function.

Table 3 indicates that the variable SE-ANTISOC had the highest correlation with the discriminant function. The negative sign indicates that small function values are associated with the presence of self-efficacy ratings of antisocial behaviors and large values are associated with the absence of self-efficacy in these behaviors. SE-PROSOC has the second largest correlation in absolute value but only contributed minimally to the discriminating function.

Research Question #3. How do these variables relate to the discriminant function?

Table 4 lists the standardized canonical discriminant function coefficients which provide information about which variables are redundant given that others are in the set. To examine the standardized coefficients it is the largest number (in absolute value) that is used.

Table 3

Variable-Discriminant Function Correlations

variables	correlations
SE-ANTISOC	-.524*
SE-PROSOC	.308*
AS-GOOD UN/ST	.287*
LOC	.201
AS-BAD SP/GL	.159
AS-BAD UN/ST	.100
AS-GOOD EX/IN	-.061
AS-BAD EX/IN	.048
AS-GOOD SP/GL	.025

Note. Asterisk indicates significance for df(65), ps<.05.

The variables are listed in order of strength of their individual contribution towards group separation. The coefficients are partial coefficients, with the effects of the other variables removed. Stevens (1992) cites several studies which advocate the use of the discriminant function - variable correlation in intrepretation of the discriminant function because results are more stable with a small sample size.

Research Question #4. How do the variables relate across the groups individually?

Since only one variable was determined to be significant

through univariate analysis and considering the high degree of multicollinearity among the predictor variables it is difficult to determine the effect of the other variables.

Table 4

Standardized Canonical Discriminant Function Coefficients

Variables	Coefficients
ASQ unstable/stable good events	1.238
ASQ unstable/stable bad events	-.680
Locus of Control	-.601
ASQ specific/global bad events	-.531
SEQ prosocial behavior	.510
ASQ specific/global good events	.476
ASQ external/internal good events	.461
SEQ antisocial behavior	-.453
ASQ external/internal bad events	.001

In general, the positive coefficients listed in Table 4 are associated with the control group (CG), and the negative coefficients are associated with the combined socialized aggressive and conduct disorder group (SA/CD).

Comparing the result on both Tables 3 and 4, you will notice that AS-BAD UN/ST and AS-GOOD SP/GL both have negative standardized discriminant function coefficients and are both positively correlated with the discriminant function. The

contribution of these variables are shared with other variables and affect the magnitudes and signs of the coefficients.

The percentage of cases classified correctly, as presented in Table 5, is an index of the effectiveness of the discriminant function. When evaluating this measure it is important to compare the observed misclassification rate to that expected by chance alone. For the control group the observed misclassification rate was 34.4% and for the aggressive group it was 31.4% The percentage of cases classified correctly for the control group was 65.6% and for the aggressive group 68.6%. This provides an overall hit rate of 67.16%.

Table 5

Estimated Classification Rate

Actual Group	No. of Cases	Predicted Group Control	Aggressive
Control	32	21	11
		65.6%	34.4%
Aggressive	35	11	24
		31.4%	68.6%

Percent of cases correctly classified: 67.16%

Since interdependencies among the predictor variables

affect most multivariate analyses, it is worth examining the correlation matrix of these variables. Table 6 is the pooled within-groups correlation matrix. The attribution variable of internal versus external for good events and the attribution variable of stable versus unstable for good events have the highest correlation coefficient, 0.75. Other variables which show a strong correlation include the attributional dimension of specific versus global for good events with both the attribution variables of external versus internal and stable versus unstable for good events respectively at 0.66 and 0.64.

Post Hoc Univariate Analysis

Descriptive statistics and univariate tests of significance provide basic information about the distributions of the variables in the groups and help identify some differences among the groups. Although the variables are interrelated and the research questions are set up to employ statistical techniques that incorporate these dependencies, it is helpful to analyze the differences between the groups by examining univariate statistics.

Table 7 contains the means for the nine dependent variables for the non-aggressive control subjects and the combined conduct disorder and socialized aggressive subjects, along with the corresponding standard deviations. Only self-efficacy for antisocial behavior was statistically significant. Although not significant, examination of some of the other variables may suggest directional relationships.

Table 6

Pooled Within-Groups Correlation Matrix

	LOC	SE-PROSOC	SE-ANTISOC	AS-GD EX/IN
LOC	1.00			
SE-PROSOC	-.24	1.00		
SE-ANTISOC	.18	-.05	1.00	
AS-GD EX/IN	-.03	.01	.19	1.00
AS-BD EX/IN	.24	-.14	.19	.52
AS-GD UN/ST	.06	.00	.20	.75
AS-BD UN/ST	.18	.06	.08	.33
AS-GD SP/GL	.04	.13	.07	.66
AS-BD SP/GL	.04	-.05	.07	.38

	AS-BD EX/IN	AS-GD UN/ST	AS-BD UN/ST	AS-GD SP/GL
AS-BD EX/IN	1.00			
AS-GD UN/ST	.57	1.00		
AS-BD UN/ST	.56	.61	1.00	
AS-GD SP/GL	.44	.64	.49	1.00
AS-BD SP/GL	.51	.45	.57	.60

	AS-BD SP/GL
AS-BD SP/GL	1.00

From Table 7 you can see that the non-aggressive control group rate themselves as more efficient in prosocial behaviors. In addition, they had attributions that were slightly more external for bad events and were able to internalize good events. The aggressive group rated themselves as more efficient in performing antisocial behaviors, tended to internalize bad events, and externalize good events. The aggressive group also tended to attribute events as being stable over time and specific in nature.

Table 7

Group Means and Standard Deviations

Variables	control group		aggressive group	
	Mean	SD	Mean	SD
LOC	11.12	3.29	10.25	4.03
SE-PROSOC	46.96	6.99	43.60	11.14
SE-ANTISOC	35.15	10.69	41.74	10.91*
AS-GD EX/IN	29.50	6.18	30.05	8.95
AS-BD EX/IN	26.00	4.50	25.65	7.14
AS-GD ST/UN	30.15	4.88	27.80	8.57
AS-BD ST/UN	25.37	4.61	24.65	7.30
AS-GD SP/GL	27.00	7.17	26.77	7.93
AS-BD SP/GL	24.62	6.13	23.31	7.68

*$F(2,66)=6.20$, $p<.01$

Summary

The goal of this study was to determine which and in what way cognitive mediators influence aggressive behavior in adolescent boys. Originally this study was designed to include four groups consisting of one Control Group, one Socialized Aggressive Group, one Conduct Disorder Group, and a combined Conduct Disorder and Socialized Aggressive Group, but most aggressive subject qualified for inclusion into both diagnostic categories so only the combined and control groups were used in the analyses.

The nine variables used as dependent measures were previously listed in Table 1. These include measures on Locus of Control, Self-efficacy for prosocial behaviors, Self-efficacy for antisocial behaviors, Attributional Style for good events on the dimensions of external/internal, unstable/stable, specific/global, and Attributional Style for bad events on the dimensions of external/ internal, unstable/stable, and specific/global.

Discriminant function analysis was used to examine the differences between both groups on the basis of their scores simultaneously. Bartlett's chi square approximation for Wilk's lambda (Table 1) indicated a significance level of $p<.05$. The canonical correlation of .5057 indicates that 26% of the variance between the groups was accounted for by these variables. This supports the rejection of the null hypothesis which predicted no difference between the groups.

The variable and discriminant function correlation is a measure of the degree of association between the discriminant function and the original variables. This statistic is more reliable in demonstrating which variables contribute most toward the discriminant function. Primarily the self-efficacy variables for both antisocial and prosocial behaviors define the function. This finding is also validated by examination of the univariate statistics which show that only the self-efficacy variable for antisocial behavior was significant.

CHAPTER V

DISCUSSION AND CONCLUSION

The purpose of this study was to identify which cognitive mediational variables and in what way these variables combined to influence aggressive behavior in adolescent males. Chapter I established and discussed the research problems along with a review of the cognitive variables of self-efficacy, attributional style and locus of control. Chapter II presented a review of the literature and described the research approach employed by this study. Chapter III initiated hypotheses and discussed the methodology and procedures for testing them. Chapter IV presented the statistical results of the research. Chapter V summarizes the study, summarizes and discusses the variables, and then notes the progress achieved beyond similar research by incorporating the conceptual findings of the current study into a comparative discussion of past research. Finally, the limitations of the study are noted, suggestions for future research in this area are offered, and final conclusions are drawn.

Summary of the Study

This study sought to identify the relationship of self-efficacy, attributional style, and locus of control on

aggressive behaviors within and between groups of non-aggressive and aggressive adolescent males. The current study was designed to add to the limited body of information in the research literature concerning these combined constructs in the mediational process of aggressive behavior.

A significant Chi Square at the .05 level indicates that there was significant overall association between the variables and the discriminant function. This leads to a rejection of the null hypothesis; there is a significant discriminant function between the two groups in this study based upon the variables used.

Because there is a high degree of intercorrelations or multicollinearity between the predictor variables it makes determining the importance of a given predictor difficult. This is because the variables are attempting to measure the same constructs and account for much of the same variance. Examination of the variable correlation matrix reveals strong correlations between several of the variables. Many of the correlations between the variables are in the moderate range (.33 to .57) and clearly some with stronger correlations (.60 to .75).

Univariate F tests for each variable indicate that the self-efficacy measure for antisocial behaviors is significant. This indicates that the hypothesis that the two group means for self-efficacy antisocial behaviors are equal was rejected. No other variables within this set can be considered

significant.

Interpretation of the discriminant function can be done two ways; either by examination of the standardized coefficients or by examination of the discriminant function-variable correlations. Both method utilize the largest (in absolute value) coefficients or correlations for interpretation. Stevens (1992) cites studies which argue in favor of using the discriminant function-variable correlations for two reasons: (1) The assumed greater stability of the correlations in small or medium samples, especially when there are high or fairly high intercorrelations among the variables, and (2) the correlations give a direct indication of which variables are most closely aligned with the unobserved trait which the canonical variate (discriminant function) represents.

Use of the variable discriminant function correlations provide substantive interpretation, that is to name the underlying construct which the discriminant function represents. From Table 3 we can determine that it was primarily the self-efficacy variable for antisocial behaviors (correlation= -.524) that defined the function with the self-efficacy variable for prosocial behaviors only minimally involved (correlation= .308).

The first variable of self-efficacy for antisocial behaviors has a negative value indicating that the group that scored higher on this measure (SA/CD), found it easier to

perform antisocial acts. It can also be determined that this group (SA/CD) scored lower on the self-efficacy variable for prosocial behaviors. This suggests that those members of the combined socialized aggressive and conduct disordered group rated themselves more efficient at performing antisocial acts and less efficient at performing prosocial acts.

It can also be inferred that the attributional style dimension of stable versus unstable for good events and locus of control are secondarily involved in the underlying construct of the discriminant function. Although they contribute a very small portion to the overall variance they have low correlations with the primary variables and could be considered to add to the overall discriminant function.

Overall, the self-efficacy variable for antisocial acts is the only significant finding in this study. This variable is the primary construct which underlies and defines the discriminant function. The other variables used in the analysis do not account for any significant portion of the variance between the two groups.

Applications to Previous Research

Attributional style, locus of control, and self-efficacy have been studied separately and all provide evidence that they contribute in some way toward the mediational processes involved in aggressive behavior. Peterson and Stunkard (1989) attempted to generalize across these cognates but now acknowledge that they may have unique distinctions. The

result of attempting to combine these variables indicate, at least with this sample, that the self-efficacy cognate for antisocial acts, is most important when predicting aggression. This study also determined that high correlations do exist between the variables which limits the size of the canonical correlation and confounds the contribution of other variables.

Multivariate studies have advanced the understanding of how perceived self-efficacy interacts with and contributes to goal setting, outcome expectation, analytic strategies, and affective reaction in regulating human activities (Bandura & Jourden, 1991; Dzewaltowski, 1989; Dzewaltowski, Noble & Shaw, 1990; Ozer & Bandura, 1990; Williams, 1987; Wood & Bandura, 1989). The results of this study validate the importance of self-efficacy in the antisocial and aggressive behaviors of adolescent males.

Since past research has validated the importance of these variables separately and this study has demonstrated that overlap does exist, attempts to eliminate redundant variables might contribute to future investigations. Stepdown analysis procedures could be utilized to determine how much a given dependent variable contributes to the discrimination between groups above and beyond the previous dependent variables. Principle components analysis is another statistical method used to determine how many dimensions (underlying constructs) account for most of the variance while at the same time attack the problem of multicollinearity. This procedure transforms

a set of correlated variables into a set of uncorrelated variables (components).

Limitations of the Study

This study is limited in its overall generalizability, power and stability because of the limited sample pool. A small sample size limits the confidence that the variables selected are the most important in interpreting the discriminant function and would show up as significant in another sample.

Another limitation is that this research utilized self-assessment measures approaching behavior analysis from a survey perspective. This creates a lack of ability to manipulate the dependent variables; lack of power to randomize; and the risk of subjects inaccurately reporting information leading to improper interpretation of the results.

The last limitation is the amount of multicollinearity between the predictor variables. This makes it difficult to determine the amount of importance a variable contributes because the effects are confounded due to the correlations among them. Multicollinearity also increases the variances of the coefficients and causes instability in the results.

Conclusions and Implications

This study suggests that the cognate of self-efficacy contributes to the mediational process of aggressive behavior for adolescent males. Results indicate that those subjects identified as having aggressive and conduct disorder

tendencies rate themselves more efficient on performing antisocial, aggressive, and assaultive acts and much less efficient on performing prosocial behaviors. In contrast, the control group subjects rate themselves higher on their ability to perform prosocial behaviors and much less efficient on performing antisocial or aggressive acts towards others.

This study provides valuable data to facilitate a more comprehensive understanding of aggressive behavior in a male adolescent population and to build on existing treatment modalities for aggressive adolescents. Self-efficacy would seem to be a focal point for cognitive intervention. By understanding this cognitive process, change could be facilitated in perceived self-efficacy styles which lead to aggressive feelings and behavior.

Bandura (1977) believed that expectations of personal efficacy are derived from four principle sources of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states. Perhaps allowing the individual with aggressive tendencies to experience success in prosocial behaviors or observation of others successfully handling interpersonal situations would help modify perceived self-efficacy in this area. This study also provides information for early identification of delinquent and aggressive adolescents through the use of self-efficacy measures. Adolescents who indicate higher self-efficacy rating on antisocial behaviors and less self-efficacy

on prosocial behaviors seem vulnerable in developing aggressive and conduct disorder type behaviors. This might allow a preventive approach to treatment of juvenile delinquency as opposed to a remedial approach.

Bandura (1977) assigns an important role for the concept of self-efficacy in analyzing changes achieved in specific behaviors. Bandura's social learning theory (1977) is based on the principle assumption that psychological procedures, whatever their form, serve as means of creating and strengthening expectations of personal efficacy. The explanatory value of this conceptual system, as evaluated by this study, gives support to its ability to predict behavioral responses in specific situations.

Suggestions for Future Research

As a preliminary investigation and because of its generally descriptive nature, this study suggests a number of future research possibilities. One is that the variables used in this study could be utilized to assess cognitive styles in other clinical and non-clinical populations. This would facilitate further understanding of how these variables influence thinking patterns and subsequent behaviors.

Due to the small sample size and limited range of subjects, this study needs to be replicated on a larger scale. Replication of these findings is necessary and encouraged because the stability of the results are questionable. A larger sample or the addition of more subjects to increase the

subject/variable ratio might provide different results.

Another area of research based on this study that suggests promise would be an investigation of factors within the environment and physiological states that influence behaviors. This is based on the notion that adolescents seem to think and react differently to different environmental and physiological cues. The measures used in this study were self-assessment and utilized only hypothetical situations. Adolescents may respond differently than reported if faced with a variety of experiential situations.

Overall, these cognitive factors combine to influence behavior in general and not just aggressive acts. Therefore, study of these variables across other populations could contribute to the understanding of human behavior. If proven to influence other areas of behavior, and in what way, then counseling techniques and interventions could focus on restructuring these areas.

References

Abramson, L.Y., Seligman, M.E.P., & Teasdale, J.D. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.

Aiken, P.A., & Baucom, D.H. (1982). Locus of control and depression. Journal of Personality Assessment, 46, 391-395.

Alden, L. (1986). Self-efficacy and causal attributions for social feedback. Journal of Research in Personality, 20, 460-473.

Anderson, C.E. (1983). Attributional effects in interpersonal settings. Journal of Personality and Social Psychology, 45, 1136-1147.

Bachman, B.J., & Green, R.G. (1990). Role of cognitive-emotional mediators and individual differences in the effects of media violence on aggression. Journal of Personality and Social Psychology, 58, 156-163.

Bandura, A., & Walters, R.H. (1963). Social Learning and Personality Development. New York: Holt, Rinehart and Winston, Inc.

Bandura, A., & Jourden, F.J. (1991). Self-regulatory mechanisms governing the impact of social comparison on complex decision making. Journal of Personality and Social Psychology,60, 941-951.

Bandura, A. (1973). Aggression a social learning analysis. Englewood Cliffs, New Jersey:Prentice-Hall, Inc.

Bandura, A. (1992). On rectifying the comparative anatomy of perceived control:comments on "cognates of personal control". Journal of Applied and Preventive Psychology, 1, 121-126.

Bandura, A. (1982). Self-efficacy mechanism in human agency. American Psychologist, 122-147.

Bandura, A. (1978). The self system in reciprocal determinism. American Psychologist, 344-358.

Bandura, A. (1971). Social learning theory. New York: General Learning Press.

Beck, K.H.; Lund, A.K. (1981). The effects of health threat seriousness and personal efficacy upon intentions and behavior. Journal of Applied Social Psychology, 11, 401-415.

Brodt, S.E., & Zimbardo, P.G. (1981). Modifying shyness-related social behavior through symptoms misattribution. Journal ofPersonality and Social Psychology, 41, 427-439.

Camp, B. (1977). Verbal mediation in young aggressive boys. Journal of Abnormal Psychology, 86, 145-153.

Caprara, G.V. (1987). The disposition-situation debate and research on aggression. European Journal of Personality, 1, 1-16.

Caprara, G.V., Manzi, J., & Perugini, M. (1992). Investigating guilt in relation to emotionality and aggression. Journal of Personality and Individual Differences, 13 (5), 519-532.

Costello, E.J. (1982). Locus of control and depression in students and psychiatric out-patients. Journal of Clinical Psychology, 38, 340-343.

Cuddy, E.M., & Frame, C.L. (1991). Comparison of aggressive nonaggressive boy's self-efficacy and outcome expectancy beliefs. Child Study Journal, 21, 135-152.

Dodge, K.A. (1980). Social cognition and children's aggressive behavior. Child Development, 51, 162-170.

Dodge K.A., & Frame, C.L. (1982). Social cognitive biases and deficits in aggressive boys. Child Development, 53, 620-635.

Dodge, K.A., & Newman, J.P. (1981). Biased decision-making processes in aggressive boys. Journal of Abnormal Psychology, 90, 375-379.

Dodge, K.A., Price, J.M., Bachorawski, J., & Newman, J.P. (1990). Hostile attributional biases in severely aggressive adolescents. Journal of Abnormal Psychology, 99, 385-392.

Dzewaltowski, D.A. (1989). Towards a model of exercise motivation. Journal of Sport and Exercise Psychology, 11, 251-269.

Dzewaltowski, D.A., Noble, J.M., & Shaw, J.M. (1990). Physical activity participation: Social cognitive theory versus the theories of reasoned actions and planned behavior. Journal of Sport and Exercise Psychology, 12, 388-405.

Evans, R.G. (1981). The relationship of two-measures of perceived control to depression. Journal of Personality Assessment, 45, 66-70.

Federal Bureau of Investigation. (1991). Uniform crime reports for the United States. (U.S. Department of Justice). Washington,D.C.: U.S. Government Printing Office.

Feshbach, S. (1970). Aggression. In P. Mussen (Ed.), Carmichael's manual of child psychology. New York: Wiley.

Fiske, S.T., & Taylor, S.E. (1984). Social cognition. Reading, MA: Addison-Wesley.

Fogas, B.S., Wolchik, S.A., Braver, S.L., Freedom, D.S., & Bay, C. (1992). Locus of control as a mediator of negative divorce-related events and adjustment problems in children. American Journal of Orthopsychiatry, 62 (4), 589-598.

Gardner, H. (1985). The mind's new science: A history of the cognitive revolution. New York: Basic Books.

Goldstein, J.H., Suls, J.M., & Anthony, S. (1972). Enjoyment of specific types of humor content: Motivation or salience. In J.H. Goldstein & P.E. McGhee (Eds.), The psychology of humor. New York: Academic Press. 150-179.

Graham, S., Hudley, C. & Williams E. (1992). Attributional and emotional determinants of aggression among African-American and Latino young adolescents. Developmental Psychology, 28, 731-740.

Guerra, N.G.; & Slaby, R.G. (1990). Cognitive mediators of aggression in adolescent offenders: 2 intervention. Development psychology, 26, 269-277.

Hartup, W.W. (1974). Aggression in childhood: Developmental perspectives. American Psychologist, 29, 336-341.

Harvey, J.H., & Weary, G. (1984). Current issues in attributional theory and research. Annual Review of Psychology, 35, 427-459.

Heider, F. (1958). The psychology of interpersonal relations. New York: Wiley.

Huesmann, L.R., Eron, L.D., Lefkowitz, M.M., & Walder, L.O. (1984). Stability of aggressive over time and generations. Developmental Psychology, 20, 1120-1134.

Innes, J.M., & Thomas, C. (1989). Attributional style, self-efficacy and social avoidance and inhibition among secondary school students. Journal of Personality and Individual Differences, 10, 757-762.

Jones, E.E., & Davis, K.E. (1965). From acts to disposition: The attribution process in person perception. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 2). New York: Academic Press.

Kazdin, A. (1987). Treatment of antisocial behavior in children: Current status and future directions. Psychological Bulletin, 102, 187-203.

Kelly, H.H. (1973). The processes of causal attribution. American Psychologist, 28, 107-128.

Lefcourt, H.M. (1976). Locus of control: current trends in theory and research. Hillsdale, NJ: Erlbaum.

Lefcourt, H.M. (1981). Research with the locus of control construct: Vol 1., Assessment Methods. New York: Academic Press.

Lindman, R.T., & Scarpitti, F.R. (1978). Delinquency prevention: Recommendations for future projects. Crimes and Delinquency, 24, 207-220.

Maccoby, E.E., & Jacklin, C.N. (1980). Sex differences in aggression: A rejoinder and response. Child Development, 51, 964-980.

Moore, D., & Schultz, N.R. (1983). Loneliness at adolescence: correlates, attributions and coping. Journal of Youth and Adolescence, 12, 95-100.

Nasby, W.; Haden, B.; & DePaulo, B.M. (1980). Attributional bias among aggressive boys to interpret unambiguous social stimuli as displays of hostility. Journal of Abnormal Psychology, 89, 459-468.

Ozer, E., & Bandura, A. (1990). Mechanisms governing empowerment effects: A self-efficacy analysis. Journal of Personality and Social Psychology, 58, 472-486.

Persons, J.B., & Rao, P.A. (1985). Longitudinal study of cognitions, life events, and depression in psychiatric inpatients. Journal of Abnormal Psychology, 94, 51-63.

Peterson, C., & Seligman, M.E.P. (1984). Causal expectation as a risk factor for depression: Theory and evidence. Psychological Review, 91, 347-374.

Peterson, C., Semmel, A., von Baeyer, C., Abramson, L.Y., Metalsky, G.I., & Seligman, M.E.P. (1982). The Attributional Style Questionnaire. Cognitive Therapy and Research, 6, 287-299.

Peterson, C., & Stunkard, A.J. (1992). Cognates of personal control: Locus of control, self-efficacy, and explanatory style. Journal of Applied and Preventive Psychology, 1, 111-117.

Peterson, C., & Stunkard, A.J. (1989). Personal control and health promotion. Social Science and Medicine, 28, 819-828.

Phares, E.J. (1976). Locus of control in personality. Morristown, NJ: General Learning Press.

Prerost, F.J. (1980). The relationship of male and female sexual activity and satisfaction to the appreciation of related humor content. In H. Mindess and J. Turek (Eds.) The study of humor. Los Angeles, CA: Antioch Press.

Prerost, F.J. (1983). Locus of control as a factor in the aggression inhibiting effects of aggressive humor appreciation. Journal of Personality Assessment, 47, 294-299.

Prerost, F.J. (1987). Health locus of control, humor, and reduction in aggression. Psychological Reports, 61, 887-896.

Quay, H.C., & Peterson, D.R. (1983). Revised Behavior Problem Checklist, Coral Gables, FL: Author. (University of Miami).

Quay, H.C., & Peterson, D.R. (1987). Manual for the Revised Behavior Problem Checklist. Coral Gables, FL: Author. (University of Miami).

Romi, S.; & Itskowitz, R. (1990). The relationship between locus of control and type of aggression in middle-class and culturally deprived children. Journal of Personality and Individual Differences, 11 (4), 327-333.

Rotter, J.B. (1954). Social learning and clinical psychology. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Rotter, J.B. (1966). General expectancies for internal versus external control of reinforcement. Psychological Monographs, 80 (Whole No. 609).

Rotter, J.B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. Journal of Consulting and Clinical Psychology, 43, 56-67.

Rotter, J.B. (1990). Internal versus external control of reinforcement, a case history of a variable. American Psychologist, 45, 489-493.

Seligmann, M.E.P. (1992). Power and Powerlessness: Comments on "cognates of personal control". Journal of Applied & Preventive Psychology, 1, 119-120.

Slaby, R.G.; & Guerra, N.G. (1988). Cognitive Mediators of aggression in adolescent offenders: 1 assessment. Developmental Psychology, 24, 580-588.

Snyder, H.N. (1984). The juvenile court and serious offenders. Reno, NV: National Council of Juvenile and Family Court Judges.

Stevens, J. (1992). Applied Multivariate Statistics for the Social Sciences, Second Edition. Hillsdale, New Jersey: Lawrence Erlbaum Associates, Inc., Publishers.

Storms, P.L.; & Spector, P.E. (1987). Relationships of organizational frustration with reported behavioral reactions: the moderating effect of locus of control. Journal of Occupational Psychology, 60, 227-234.

Weiner, B. (Ed.).(1974). Achievement motivation and attribution theory. Morristown, New Jersey: General Learning Press.

Weiner, B. (1985). "Spontaneous" causal thinking. Psychological Bulletin, 97, 74-84.

White, R.W. (1959). Motivation reconsidered: The concept of competence. Psychological Review, 66, 297-333.

Williams, S.L. (1987). On anxiety and phobia. Journal of Anxiety Disorder, 1, 161-180.

Wood, R.E., & Bandura, A. (1989). Social cognitive theory of organizational management. Academy of Management Review, 14, 361-384.

Young, T.J. (1992). Locus of control and perceptions of human aggression. Perceptual and Motor Skills, 74, 1016-1018.

APPENDICES

APPENDIX A

ATTRIBUTIONAL STYLE QUESTIONNAIRE

ASQ

DIRECTIONS

1) Read each situation and vividly imagine it happening to you.

2) Decide what you believe would be one major cause of the situation if it happened to you.

3) Write this cause in the blank provided.

4) Answer three questions about the cause by circling one number per question. Do not circle the words.

5) Go on to the next situation.

YOU MEET A FRIEND WHO COMPLIMENTS YOU ON YOUR APPEARANCE.

1) Write down the one major cause:_____

2) Is the cause of your friend's compliment due to something about you or something about other people or circumstances?

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

3) In the future when you are with a friend, will this cause again be present?

Will never again be present	1	2	3	4	5	6	7	Will always be present

4) Is the cause something that just affects interacting with friends, or does it also influence other areas of your file?

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

YOU HAVE BEEN LOOKING FOR A JOB UNSUCCESSFULLY FOR SOME TIME.

5) Write down the one major cause:_____

6) Is the cause of your unsuccessful job search due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

7) In the future when you look for a job, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

8) Is the cause something that just influences looking for a job, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU BECOME VERY RICH.

9) Write down the <u>one</u> major cause:_____

10) Is the cause of your becoming rich due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

11) In your financial future, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

12) Is the cause something that just affects obtaining money, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

A FRIEND COMES TO YOU WITH A PROBLEM AND YOU DON'T TRY TO HELP HIM/HER.

13) Write down the <u>one</u> major cause:_____

14) Is the cause of your not helping your friend due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

15) In the future when a friend comes to you with a problem, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

16) Is the cause something that just affects what happens when a friend comes to you with a problem, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP AND THE AUDIENCE REACTS NEGATIVELY.

17) Write down the <u>one</u> major cause:_____

18) Is the cause of the audience's negative reaction due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

19) In the future when you give talks, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

20) Is the cause something that just influences giving talks, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU DO A PROJECT WHICH IS HIGHLY PRAISED.

21) Write down the <u>one</u> major cause:_____

22) Is the cause of your being praised due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

23) In the future when you do a project, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

24) Is the cause something that just affects doing projects, or does also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU MEET A FRIEND THAT ACTS HOSTILE TOWARDS YOU.

25) Write down the <u>one</u> major cause:_____

26) Is the cause of your friend acting hostile due to something about you or something about other people or circumstance?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

27) In the future when interacting with friends, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

28) Is the cause something that just influences interacting with friends, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU CAN'T GET ALL THE WORK DONE THAT OTHERS EXPECT OF YOU.

29) Write down the <u>one</u> major cause:_____

30) Is the cause of your not getting the work done due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

31) In the future when doing work that others expect, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

32) Is the cause something that just affects doing work that others expect of you, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOUR SPOUSE (BOYFRIEND/GIRLFRIEND) HAS BEEN TREATING YOU MORE LOVINGLY.

33) Write down the <u>one</u> major cause:_____

34) Is the cause of your spouse (boyfriend/girlfriend) treating you more lovingly due to something about you or something about other people or circumstances?

35) In the future with your spouse (boyfriend/girlfriend), will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

36) Is the cause something that just affects how your spouse (boyfriend/girlfriend) treats you, or does it also affect other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU APPLY FOR A POSITION THAT YOU WANT VERY BADLY (E.G., IMPORTANT JOB, GRADUATE SCHOOL ADMISSION, ETC.) AND YOU GET IT.

37) Write down the <u>one</u> major cause:_____

38) Is the cause of your getting the position due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

39) In the future when you apply for a position, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

40) Is the cause something that just influences applying for a position, or does it also influence other area of your life?

Influences just this Particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU GO OUT ON A DATE AND IT GOES BADLY.

41) Write down the <u>one</u> major cause:_____

42) Is the cause of the date going badly due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

43) In the future when you are dating, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

44) Is the cause something that just influences dating, or does it also influence other areas of you life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

YOU GET A RAISE.

45) Write down the <u>one</u> major cause:_____

46) Is the cause of your getting a raise due to something about you or something about other people or circumstances?

Totally due to other people or circumstances 1 2 3 4 5 6 7 Totally due to me

47) In the future on your job, will this cause again be present?

Will never again be present 1 2 3 4 5 6 7 Will always be present

48) Is the cause something that just affects getting a raise, or does it also influence other areas of your life?

Influences just this particular situation 1 2 3 4 5 6 7 Influences all situations in my life

APPENDIX B

LOCUS OF CONTROL

THE ROTTER
INTERNAL-EXTERNAL
CONTROL SCALE

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please circle the letter on the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you most strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

1. a. Children get into trouble because their parents punish them too much.
   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.
   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.
   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.
   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the tight breaks one cannot be an effective leader.
   b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try some people just don't like you.
   b. People who can't get others to like them don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.
   b. It is one's experiences in life which determine what they're like.

9. a. I have often found that what is going to happen will happen.
   b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely is ever such a thing as an unfair test.
    b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
    b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.
    b. This world is run by the few people in power, and there is not much the little guy can do about it.

13 a. When I make plan, I am almost certain that I can make them work.
   b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyway.

14. a. There are certain people who are just no good.
    b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck.
    b. Many times we might just as well decide what to do be flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
    b. Getting people to do the right thing depends upon ability; luck has little to do with it.

17. a. As far as world affairs are concerned, most of use are the victims of forces we can neither understand nor control.
    b. By taking an active part in political and social affairs the people can control world events.

18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
    b. There really is no such thing as "luck."

19. a. One should always be willing to admit mistakes.
    b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.
    b. How many friends you have depends upon how nice a person you are.

21. a. In the long run the bad things that happen to us are balanced by the good ones.
    b. Most misfortuntes are the results of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.
    b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.
    b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.
    b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.
    b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.
    b. There's not much use in trying too hard to please people, if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.
    b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.
    b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave the way they do.
    b. In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX C

SELF-EFFICACY QUESTIONNAIRE

BOY'S SEQ

These questions ask you how easy or hard it is for you to do some things with other kids your age. Read each question and pretend that what it says is happening to you. Then circle how easy or hard it would be for you to do the things in the question. If it would be very hard, circle HARD! If it would be only a little bit easy, circle easy. If it would be very easy, circle EASY!

Some kids think these things are hard to do, and others think these are easy to do. There are no right or wrong answers. Be sure to circle the one answer that is really true for you.

SAMPLE: It is time for your favorite TV show, but you have not completed your homework. Finishing your homework, instead of watching TV is _____ for you.

1. You are walking alone down the street. You walk up on another boy who is looking for a ticket he believes he dropped along the sidewalk. Helping him look for the ticket is _____ for you.

   HARD! hard easy EASY!

2. It is raining one afternoon while you and your classmates get on the bus. You are in a hurry to get on so that you will not get wet. There is a boy in front of you. Pushing him out of your way is _____ for you.

   HARD! hard easy EASY!

3. In the cafeteria, another boy drops his lunch tray, and everyone sees this. Helping the boy clean up what he has spilled is _____ for you.

   HARD! hard easy EASY!

4. One day you are riding your bicycle by yourself. You come up on another boy who looks like he has fallen off his bicycle. He is sitting on the side of the road, and his knee is cut. Offering to help this boy is _____.

   HARD! hard easy EASY!

5. Another boy comes to school with a new haircut, and everyone laughs at him. This boy seems to feel bad because everyone is laughing at him. Saying something nice to the boy, in front of your friends, to make him feel better is _____ for you.

   HARD! hard easy EASY!

6. You and another boy are alone at your house, and your parents have gone to your neighbor's house. It is time for your favorite TV show, but this boy wants to watch another program. Yelling at him and calling him names is _____ for you.

   HARD! hard easy EASY!

7. You and another boy are the only two people in the locker room after P.E. class. You step out of the room to get a drink of water. When you return, you cannot find a candy bar that you had set on top of your books. You wonder if the other boy has your candy. Shoving and pushing him around is _____ for you.

   HARD! hard easy EASY!

8. You and another boy are standing all alone in front of a Coke machine. You have already bought a Coke. The other boy tells you that he is thirsty but has no money for a drink. Lending him the money is _____ for you.

   HARD! hard easy EASY!

9. Your classmates all make fun of a particular boy at school. This boy always looks like he feels sad. One day, you and he are standing alone at your lockers. Saying something nice to this boy, while at your lockers is _____ for you.

   HARD! hard easy EASY!

10. You and another boy are the only people in the gym, and you are playing basketball. The other boy is making a lot of shots and is winning. Tripping him and making him fall is _____ for you.

    HARD! hard easy EASY!

11. You and another boy are walking home alone. This boy bumps into you, and you drop some of your stuff. Some of your papers fall into a puddle. Yelling at this boy and throwing some of his papers into the puddle is ____.

HARD! hard easy EASY!

12. While in the cafeteria with your class, you get up from your seat to go buy a carton of mild. When you return, your piece of cake is gone, and it looks like another boy has it on his tray. Shoving this boy out of his seat is _____ for you.

HARD! hard easy EASY!

13. You and your friends are at the mall. All of you see a boy standing alone who is holding his stomach and looks like his is sick. Offering to help this boy is _____ for you.

HARD! hard easy EASY!

14. You and some of your classmates have gotten together after school. You want the group to play baseball, but another boy is trying to get the group to play basketball. Yelling at this boy and calling him names is _____ for you.

HARD! hard easy EASY!

15. In P.E. class, you and your classmates are playing basketball. The boy you are guarding keeps getting past you and scoring. Tripping him and making him fall the next time he tries to score is _____ for you.

HARD! hard easy EASY!

16. You and another boy are all alone walking home from school. He has a lot of books and is having a hard time carrying all of them. Helping this boy carry some of his books is _____ for you.

HARD! hard easy EASY!

17. You are in the cafeteria with your class. While you are eating, another boy knocks over your mild, and it makes a big mess. Yelling at the boy and knocking over his milk is _____ for you.

HARD! hard easy EASY!

18. Before class, you are sitting at your desk and are talking with your friends. The teacher had told everyone to be sure to bring notebook paper today. Another boy comes over and tells you and your friends that he left his paper at home. Lending paper to this boy is _____ for you.

HARD! hard easy EASY!

19. You and another boy are walking home alone from school. You know that the other boy made a bad grade on a test at school that day. Making fun of this boy and calling him names is _____ for you.

HARD! hard easy EASY!

20. During morning break, you are talking with your friends. Another boy whom you do not like is standing near you and is talking loudly to his friends. Going over to him and shoving him away from you is _____ for you.

HARD! hard easy EASY!

21. You and another boy are the first ones to get to class. While waiting, you start to eat some candy, and this boy is watching you. Sharing your candy with this boy is _____ for you.

HARD! hard easy EASY!

22. You and another boy are alone at a water fountain, and no one else is in the hall. You are really thirsty. The other boy is already in front of you at the fountain. Pushing him out of your way so that you can get a drink of water is _____ for you.

23. There is a new boy at your school who has not yet made any friends. One day, you and he are the first ones to get to class. Speaking to this boy and being friendly to him, while you wait for your friends, is _____ for you.

HARD! hard easy EASY!

24. You are in the cafeteria with your class at lunch. You get up to put away your tray. As you get up, another boy bumps into you and causes you to drop your tray. Yelling at the boy and calling him names is _____ for you.

HARD! hard easy EASY!

25. Another boy in your class has a broken arm. Because of the broken arm, he is having a hard time carrying his stuff. Helping him carry his books to and from class and helping him carry his lunch tray is _____ for you.

HARD! hard easy EASY!

26. You and several of your friends are playing baseball. While playing, one of the boys takes off his watch and sets it on the ground. After the game, he cannot find it. Helping the boy look for his watch is _____ for you.

HARD! hard easy EASY!

27. There is a boy at school whom you do not like. One day, you and this boy are the only people in the bathroom. He is standing at the sink. Shoving and pushing him as you walk past him is _____ for you.

HARD! hard easy EASY!

28. While riding home on the bus, you are eating M & M's. The other kids sitting near you are watching you eat. Sharing your candy with them is _____ for you.

HARD! hard easy EASY!

29. You are at another boy's house, and both of you eat snacks. Before his family comes home, he must clean up the kitchen. Helping the boy clean up the kitchen is _____ for you.

HARD! hard easy EASY!

30. You and another boy are the only two people in the school yard, and your playing basketball one-on-one. As he tries to score on a lay-up, he runs into you and causes you to fall. Yelling at the boy and calling him names is _____ for you.

HARD! hard easy EASY!

31. At lunch, you are talking with your friends. You see a new boy in your class who is sitting by himself. Asking him to come over and sit with you and your friends is _____ for you.

HARD! hard easy EASY!

32. While playing basketball in P.E. class, another boy is having a hard time and is missing shots. Making fun of this boy and calling him names, in front of your classmates, is _____ for you.

HARD! hard easy EASY!

APPENDIX D

CONSENT TO PARTICIPATE IN RESEARCH

CONSENT FOR PARTICIPATION IN RESEARCH

You have been asked to volunteer as subject for this dissertation research conducted by Dennis Ferguson. The purpose of this study is to understand various thinking patterns and behaviors of male adolescents. In participating, you will be asked to complete three short questionnaires about different situations where you would rate yourself on how well you think you would handle that situation, and what you might thing the cause to be. I am also asking for permission to collect behavior ratings from staff and/or teachers. About one hour of your time will be necessary for completion of this study. Your participation is strictly voluntary, however, your decision to take the time to complete the study will provide important information. You may withdraw from participating in this study at any time for any reason whatsoever.

All information will be gathered in strict conformance with American Psychological Association guidelines for human subjects participation. Your responses will be coded to provide anonymous results and no attempt will be made to attach your names to the answer forms. The results of this study will only be reported as group data, not individual responses. If you should have any questions about this study, please contact Dennis Ferguson, Oklahoma State University, 116 N. Murray Hall, 74078; (405) 744-6040. If you have any questions regarding your rights as a research participant, please contact the Office of University Research Services, Oklahoma State University, 001 Life Sciences East, (405) 744-6991. We appreciate your cooperation and effort.

I have read these instructions and understand my rights. I further understand that this sheet will be immediately separated from the rest of the packet and that I will receive a copy of this form outlining my rights as a research participant.

_____

(Signature of participant) (witness)

_____ _____

(date) (date)

CONSENT FOR PARTICIPATION IN RESEARCH

You have been asked to volunteer as subject for this dissertation research conducted by Dennis Ferguson. The purpose of this study is to understand various thinking patterns and behaviors of male adolescents. In participating, you will be asked to complete three short questionnaires about different situations where you would rate yourself on how well you think you would handle that situation, and what you might thing the cause to be. I am also asking for permission to collect behavior ratings from staff and/or teachers. About one hour of your time will be necessary for completion of this study. Your participation is strictly voluntary, however, your decision to take the time to complete the study will provide important information. You may withdraw from participating in this study at any time for any reason whatsoever.

All information will be gathered in strict conformance with American Psychological Association guidelines for human subjects participation. Your responses will be coded to provide anonymous results and no attempt will be made to attach your names to the answer forms. The results of this study will only be reported as group data, not individual responses. If you should have any questions about this study, please contact Dennis Ferguson, Oklahoma State University, 116 N. Murray Hall, 74078; (405) 744-6040. If you have any questions regarding your rights as a research participant, please contact the Office of University Research Services, Oklahoma State University, 001 Life Sciences East, (405) 744-6991. We appreciate your cooperation and effort.

I have read these instructions and understand my rights. I further understand that this sheet will be immediately separated from the rest of the packet and that I will receive a copy of this form outlining my rights as a research participant.

_____

(Signature of participant) (witness)

_____ _____

(date) (date)

Subjects Copy

APPENDIX E

PARENT PERMISSION FORM

Dear Parent(s):
I am a graduate student at Oklahoma State University. I am conducting a research study using a behavioral rating scale and some short questionnaires with high school students. The purpose of this study is to understand various thinking patterns and behaviors of male adolescents. Volunteers of male students are being asked to participate. In participating, each student will be asked to complete three short questionnaires about different situations where they would rate themselves on how well they think they would handle that situation, and what they think the cause to be. There are no right or wrong answers. I am also asking for permission to gather demographic data and behavior ratings from staff and/or teachers. Participation is strictly voluntary, however, a decision to take the time to complete the questionnaires will provide valuable information. A subject may withdraw from participating from this study at any time for any reason whatsoever. For the study, a teacher will be asked to complete a form to rate each student's behavior. In addition, those students who volunteer will be asked to complete a packet of questions which would take approximately 45 minutes. The students complete their forms at school.

All information will be gathered in strict conformance with American Psychological Association guidelines for human subjects participation. Responses will be coded to provide nameless results and no attempt will be made to attach any names to the answer forms. There are some limitations to confidentiality and legal authorities would need to be notified if a subject makes any threats of physical harm to self or specific others, or if they state the intent to commit a future crime. The results of this study will only be reported in group form, not as individual responses. All questionnaires will be kept under lock and key and will be destroyed at the end of this study. If you should have any questions about this study, please contact Dennis Ferguson, Oklahoma State University, 116 N. Murray Hall, 74078; (405)744-6040. If you have any questions regarding your rights as a research participant, please contact the office of University Research Services, Ms. Jennifer Moore, Oklahoma State University, 001 Life Sciences East, Stillwater, OK 74074, (405) 744-5700. We appreciate your cooperation and effort.

Sincerely,
Dennis B. Ferguson

I give permission for _____ to participate in this study.
(Child's Name)

_____
(Date) Parent/Legal Guardian Signature)

APPENDIX F

DEMOGRAPHIC INFORMATION FORM

DEMOGRAPHIC INFORMATION

Age:_____

Type of
Offense:_____

Diagnosis:_____

Prior
Offenses:_____

Length of
Stay:_____

Ethnic Idenity:

A. Anglo/White

B. Asian-American

C. Black/Africian-American

D. Hispanic

E. Native American

F. Other (Please specify):_____

Approximately Family Income

A. Less than/equal to $15,000

B. $15,001-$30,000

C. $30,001-$45,000

D. $45,001-$60,000

E. $60,001-$75,000

F. $75,000 or more

Area of Resident

A. Rural

B. Urban

APPENDIX G

REVISED BEHAVIOR PROBLEM CHECKLIST

REVISED BEHAVIOR PROBLEM CHECKLIST

Herbert C. Quay, Ph.D.
University of Miami

and

Donald R. Peterson. Ph.D.
Rutgers University

Please complete items 1 to 7 carefully.

1. Name (or identification number) of child

   _____

2. Date of birth _____

3. Sex _____

4. Father's occupation _____
   _____

5. Name of person completing this checklist
   _____

6. Relationship to child (circle one)

   a. Mother b. Father c. Teacher d. Other_____
   (Specify)

7. Date checklist completed_____

Please indicate which of the following are problems, as far as the child is concerned. If an item does **not** constitute a problem or if you have had no opportunity to observe or have no knowledge about the item, circle the zero. If an item constitutes a **mild** problem, circle the one; if an item constitutes a **severe** problem, circle the two. Please complete every item.

REVISED BEHAVIOR PROBLEM CHECKLIST

1.	Restless; unable to sit still	0 1 2
2.	Seeks attention; "shows-off"	0 1 2
3.	Stays out late at night	0 1 2
4.	Self-conscious; easily embarrassed	0 1 2
5.	Disruptive; annoys and bothers others	0 1 2
6.	Feels inferior	0 1 2
7.	Steals in company with others	0 1 2
8.	Preoccupied; "in a world of his own," stares into space	0 1 2
9.	Shy, bashful	0 1 2
10.	Withdraws; prefers solitary activities	0 1 2
11.	Belongs to a gang	0 1 2
12.	Repetitive speech; says same thing over and over.	0 1 2
13.	Short attention span; poor concentration	0 1 2
14.	Lacks self-confidence	0 1 2
15.	Inattentive to what others say	0 1 2
16.	Incoherent speech, what is said doesn't make sense	0 1 2
17.	Fights	0 1 2
18.	Loyal to delinquent friends	0 1 2
19.	Has temper tantrums	0 1 2
20.	Truant from school, usually in company with others	0 1 2
21.	Hypersensitive; feelings are easily hurt	0 1 2
22.	Generally fearful; anxious	0 1 2
23.	Irresponsible, undependable	0 1 2
24.	Has "bad" companions, ones who are always in some kind of trouble	0 1 2
25.	Tense, unable to relax	0 1 2
26.	Disobedient; difficult to control	0 1 2
27.	Depressed; always sad	0 1 2
28.	Uncooperative in group situations	0 1 2
29.	Passive, suggestible; easily led by others	0 1 2
30.	Hyperactive; "always on the go"	0 1 2
31.	Distractible; easily diverted from the task at hand	0 1 2
32.	Destructive in regard to own and/or other's property	0 1 2
33.	Negative; tends to do the opposite of what is requested	0 1 2
34.	Impertinent: talks back	0 1 2
35.	Sluggish, slow moving, lethargic	0 1 2
36.	Drowsy; not "wide awake"	0 1 2
37.	Nervous, jittery, jumpy; easily startled	0 1 2
38.	Irritable, hot-tempered; easily angered	0 1 2
39.	Expresses strange, far-fetched ideas	0 1 2
40.	Argues; quarrels	0 1 2

41. Sulks and pouts..... 0 1 2
42. Persists and nags; can't take "no" for an answer. 0 1 2
43. Avoids looking others in the eye..... 0 1 2
44. Answers without stopping to think..... 0 1 2
45. Unable to work independently; needs constant help and attention..... 0 1 2
46. Uses drugs in company with others..... 0 1 2
47. Impulsive; starts before understanding what to do; doesn't stop and think..... 0 1 2
48. Chews on inedible things..... 0 1 2
49. Tries to dominate others; bullies, threatens..... 0 1 2
50. Picks at other children as a way of getting their attention; seems to want to relate but doesn't know how..... 0 1 2
51. Steals from people outside the home..... 0 1 2
52. Expresses beliefs that are clearly untrue, (delusions)..... 0 1 2
53. Says nobody loves him or her..... 0 1 2
54. Freely admits disrespect for moral values and laws..... 0 1 2
55. Brags and boasts..... 0 1 2
56. Slow and not accurate in doing things..... 0 1 2
57. Shows little interest in things around him or her 0 1 2
58. Does not finish things; gives up easily; lacks perseverance..... 0 1 2
59. Is part of a group that rejects school activities such as team sports, clubs, projects to help others..... 0 1 2
60. Cheats..... 0 1 2
61. Seeks company of older, "more experienced" companions..... 0 1 2
62. Knows what's going on but is listless and uninterested..... 0 1 2
63. Resists leaving mother's (or other caretaker's) side..... 0 1 2
64. Difficulty in making choices' can't make up mind. 0 1 2
65. Teases others..... 0 1 2
66. Absentminded; forgets simple things easily..... 0 1 2
67. Acts like he or she were much younger; immature, "childish"..... 0 1 2
68. Has trouble following directions..... 0 1 2
69. Will lie to protect his friends..... 0 1 2
70. Afraid to try new things for fear of failure..... 0 1 2
71. Selfish; won't share; always takes the biggest piece..... 0 1 2
72. Uses alcohol in company with others..... 0 1 2
73. School work is messy, sloppy..... 0 1 2
74. Does not respond to praise from adults..... 0 1 2
75. Not liked by others; is a"loner" because of aggressive behavior..... 0 1 2
76. Does not use language to communicate..... 0 1 2
77. Cannot stand to wait; wants everything right now. 0 1 2

78. Refuses to take directions, won't do as told..... 0 1 2
79. Blames others; denies own mistakes..... 0 1 2
80. Admires and seeks to associate with "rougher" peers..... 0 1 2
81. Punishment doesn't affect his or her behavior.... 0 1 2
82. Squirms, fidgets..... 0 1 2
83. Deliberately cruel to others..... 0 1 2
84. Feels he or she can't succeed..... 0 1 2
85. Tells imaginary things as though true; unable to tell real from imagined..... 0 1 2
86. Does not hug and kiss members of family; affectionless..... 0 1 2
87. Runs away; is truant from home..... 0 1 2
88. Openly admires people who operate outside the law 0 1 2
89. Repeats what is said to him or her; "parrots" others' speech..... 0 1 2

	CD	SA	AP	AW	PB	ME
Raw Score	_____	_____	_____	_____	_____	_____
T Score	_____	_____	_____	_____	_____	_____

VITA

Dennis Burke Ferguson

Candidate for the Degree of

Doctor of Philosophy

Thesis: COGNITIVE MEDIATIONAL FACTORS IN THE AGGRESSIVE BEHAVIOR OF ADOLESCENTS

Major Field: Applied Behavioral Studies

Education: Graduated from Weatherford High School, Weatherford Oklahoma in May 1974; recieved Bachelor of Science degree in Art from Southwestern Oklahoma State University, Weatherford, Oklahoma in July of 1979; and recieved a Master of Science degree in Applied Psychology from Southwestern Oklahoma State University in December 1984. Completed the requirements for the Doctor of Philosophy with a major in Counseling Psychology at Oklahoma State University in December 1995.

Experience: Completed internship at the University of Denver Counseling Center, Denver Colorado; from September 6, 1994 through August 31, 1995. Praticum placement experience included Youth and Family Services for Payne County, Stillwater Oklahoma; from August 1, 1992 through July 29, 1993. Marriage and Family Therapy Clinic, Oklahoma State University, Stillwater, Oklahoma; 1992 to 1993. Student Mental Health Clinic Oklahoma State University, Stillwater Oklahoma; 1991 to 1992. Employment history includes currently Assistant Professor at Cameron University, Lawton Oklahoma, 1995 to present; Behavioral Medicine Therapist, Hillcrest Health Center, Oklahoma City, Oklahoma 1990 to 1991; Psychological Assistant at Griffin Memorial State Hospital, Norman, Oklahoma 1985 to 1990.

Professional Memberships: Student Affiliate of the American Psychological Association, Division 17; OSU Campus representative for the American Psychological Association Graduate Student (APAGS) organization, 1992-1994; Member of the American Psychological Association Graduate Student advocacy committee, 1994-1995.

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 03-23-94 **IRB#:** ED-94-079

Proposal Title: COGNITIVE MEDIATIONAL FACTORS IN THE AGGRESSIVE BEHAVIOR OF ADOLESCENTS

Principal Investigator(s): Donald Boswell, Dennis Ferguson

Reviewed and Processed as: Full Board

Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature: _____ Date: June 30, 1994
Chair of Institutional Review Board