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**Aggression and School Performance Among Seventh-Grade Students Enrolled in a Midwestern Suburban Middle School: A Social-Cognitive Behavioral Perspective**

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**AGGRESSION AND SCHOOL PERFORMANCE  
AMONG SEVENTH-GRADE STUDENTS ENROLLED IN A  
MIDWESTERN SUBURBAN MIDDLE SCHOOL: A SOCIAL-  
COGNITIVE BEHAVIORAL PERSPECTIVE**

**Gayle G. Anderson, BME, MA**

**A culminating Project Presented to the Faculty of the Graduate School of  
Lindenwood University in Partial Fulfillment of the Requirements for the**

**Degree of  
Master of Arts**

**1999**

## Abstract

Aggressive tendencies constitute a consistent behavioral pattern that spans early childhood through preadolescence, adolescence, and adulthood. Researchers have linked high levels of preadolescent aggression with adolescent adjustment problems in school, the home, and community. This study explored the relationship between aggression levels and school performance among a sample of seventh-grade students. Thirty subjects were randomly selected from a seventh-grade class (n=230) located in a midwestern suburban middle school. Behavior and academic performance was associated with aggression levels as measured by the Missouri Children's Behavior Checklist (MCBC) among this sample. Academic performance, as measured by Grade Point Average (GPA) was negatively correlated with higher levels of aggression. Although statistically insignificant, Stanford Achievement Test (SAT) composite percentiles and aggression also trended toward association. Further, higher levels of aggression were significantly related to behavior problems at school as measured by office administered disciplinary counts. Social cognitive-behavior therapy interventions - particularly the Anger Coping Program (ACP) and Aggression Replacement Training (ART) - were examined for effectiveness in addressing the needs of this population.

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## Chapter I

### Introduction

Aggression constitutes a highly stable trait over time that negatively impacts children, adolescents, and adults (Gersten, 1976). Preadolescents that display aggressive tendencies generally develop into aggressive adolescents and young adults (Olweus, 1979). Unfortunately this population appears destined to problems in school, home, and community due to deficiencies associated with the trait. Associated tendencies include severe social skills deficits, work skills deficits, and noncompliance with authority figures (Nelson, 1997; Dishion, Loeber, Stouthamer-Loeber, & Patterson, 1984; Dodge, Coie, & Brakke, 1982; Kazdin, 1991). These tendencies often lead to negative outcomes for aggressive children including delinquency, conduct disorder, school maladjustment, and substance abuse when this population reaches the adolescent and young adult developmental stage (Coie, Lochman, Terry, & Hyman, 1992; Kupersmidt & Coie, 1990; Kupersmidt & Patterson, 1991; Loeber, 1990; Schinke et al, 1991; Botvin et al, 1990; Gersten et al, 1976; Kupersmidt & Coie, 1990).

Aggressive behavior patterns become extremely pervasive and consistent in some youths (Goldstein, 1998). The behavior is (a) learned through reinforcement and imitation, (b) rewarded frequently and immediately by providing what the aggressor wants much of the time, and (c) seldomly punished. Therefore, aggression becomes an effective mode of operation for many children, adolescents, and adults.

Children often follow a developmental pattern of learning aggressive behavior from parents, school, and the media (Hawkins and Weis, 1985). Irritable and inconsistent parents that infrequently show affection begin the modeling at birth. These children are often subjected to coercive parents that threaten, reprimand harshly, and frequently use corporal punishment. Furthermore, supervision patterns run the gamut from harsh and severe to minimal or nonexistent.



By age 2 or 3, aggressive children begin exhibiting temper tantrums, whining, yelling, and hitting behavior to reach their goals. When these children begin socializing at age 4 or 5, they continue using the learned methods to get what they want. Consequentially, other children become intimidated and the aggressive child is then frequently excluded from normal peer group social opportunities because of their behavior.

At school, these aggressive children become the difficult or problem child that may acquire the label of conduct disorder or delinquent. Finally, exclusion from the prosocial groups facilitates the formation of deviant peer groups, which serve to further entrench the aggressive behavior as a valued asset for the individuals and group. Unfortunately, aggressive behavior becomes so pervasive that some individuals do not know any other alternative mode of operation.

Cognitive-behavior theorists have identified several self-centered cognitive distortions that aggressive persons frequently utilize in social interaction settings. First, the assumption of hostile intent permeates the aggressive persons' thinking (Dodge, 1985). Neutral or benign acts of others are often perceived as hostile. Second, these persons frequently minimize/mislabel negative consequences by downplaying or misperceiving results of their aggressive actions. Third, aggressive individuals often combine minimizing and mislabeling with assuming the worst distortions. Fourth, externalizing or blaming others thinking transfers ownership of the problem. Fifth, aggressive persons rationalize their behavior through false consensus. Finally, anchoring solidifies the aggressive persons position making it resistant to change even when faced with evidence that contradicts their position (Goldstein, 1998).

Social-cognitive research conceptualized the anger that underlies aggression (Bierman et al, 1987; Caplan, 1991; Caplan et al, 1992; Dodge, 1985 & 1986; Dodge et al, 1986, Elias & Clabby, 1989; Weissberg, 1989; Lochman et al, 1989; Lochman, Waylan, & White, 1993). Within a social

context, anger arousal occurs when a stimulus event presents a problem that requires a behaviorally enacted solution. Instead of explaining the anger arousal as a provocation of the stimulus event, this theory ascribes cognitive processing as the antecedent to provoking the anger response.

Aggressive individuals possess several cognitive characteristics that affect anger arousal and behavior. First, this group often misinterprets ambiguous intentions of others as hostile (Lochman et al, 1987). Second, aggressive children often exaggerate their peers' level of aggression. On the other hand, unaggressive children often see themselves as more aggressive than their aggressive peers (Lochman, 1987). Third, aggressive children often blame others for initial disagreements whereas nonaggressive children tend to take responsibility for the conflict (Lochman & Lampron, 1986; Lochman, 1987). Fourth, stimulus perception and attributions of blame are more likely affected by prior arousal levels, expectations, and self-esteem in aggressive children (Lochman & Lampron, 1986). Fifth, aggressive children operate in an impulsive cognitive style and possess poor problem-solving skills compared with unaggressive children (Dodge, 1986). Sixth, aggressive children enact more nonverbal direct action and physically aggressive solutions to interpersonal conflicts than unaggressive children (Lochman, 1987). Furthermore, peer hostile intentions cause aggressive children even more difficulty than unaggressive children. Seventh, peer social rejection often follows incompetent social behavior enacted by aggressive children. Cyclical response and counter-responses become a generalized behavioral disturbance that leads to further aggression, psychological maladjustment, drug, and alcohol abuse. Finally, aggressive children that are unliked by peers display the highest levels of adjustment difficulties and more off-task behavior in the classroom (Lochman & Lampron, 1985).

Lochman (1999) proposed four schematic tendencies of aggressive children and adolescents. First, this group values the social goals of revenge and dominance over affiliation. Second, outcomes such as victim suffering,



victim retaliation, or peer rejection are undervalued compared with other children. Third, aggressive children and adolescents expect their actions to produce tangible rewards and reduce aversive reactions of others. Finally, low self-esteem underlies the cognitive processes of aggressive children and adolescents.

Peer social preference and aggression among preadolescents has predicted later externalized and internalized disorder. Parker and Asher (1987) found levels of low acceptance and high levels of aggression in children predicted later adjustment problems. The clearest outcome appears to be dropping out of school and criminal activity. Although aggressive children tend to be rejected by their peers, both states affect behavioral patterns differently. Rejected and non-aggressive children may experience more internalized disorders such as depression and anxiety (Rubin et al, 1990; Coie et al, 1992). Conversely, rejected and aggressive children may experience more externalized disorders such as conduct disorder or oppositional defiant disorder (Coie et al, 1992). Levels of aggression also somewhat ameliorate the effects of social preference on children. Less aggressive children are affected more by peer rejection than aggressive children on self-reported internalized disorder (Coie et al, 1992). Overall, aggression proved the most salient predictor of negative adolescent outcomes such as substance use, delinquency, and disruptive behavior at school however. Conclusively, peer rejection and aggressiveness do predict early adolescent behavioral, emotional, and adjustment disorder (Coie et al, 1992; Rubin et al, 1990).

Aggression levels and rejection rates of third-grade children predicted multiple adjustment problems in early adolescence. Among a group of unrejected third graders, 40% (n = 20) of the aggressive subjects experienced later adjustment problems whereas only 18% (n=139) of the non-aggressive subjects experienced later adjustment problems. The rejected group experienced significantly higher rates of early adolescent



adjustment problems. Twenty-one (62%) aggressive and rejected subjects suffered adjustment problems and thirty-four (41%) non-aggressive rejected third-grade children suffered later adjustment problems (Lochman, 1999).

Like aggression, peer rejection in preadolescent has proven an excellent predictor of adolescent adjustment problems. In a five-year longitudinal study, Ollendick et al (1992) found that ninth-grade adolescents who were disliked in fourth-grade (a) had greater external locus of control, (b) exhibited higher levels of conduct disorder, (c) exhibited higher instances of substance abuse, (d) demonstrated poorer academic performance, (e) were more frequently retained, (f) were more likely to drop out of school, and (g) committed more delinquent offenses than their average or popular peers.

The association between social rejection and aggression becomes entangled in a complex manner. Peer rejection may even play a causal role in the development of conduct disorder among some aggressive boys because of their limited social options (Kazdin, 1991). Consequently, these boys affiliate with a group of deviant peers. This affiliation serves to reinforce antisocial conduct leading to delinquency and increased deviant behavior (Loeber, 1990).

Social preference also appears more salient for girls than boys. Similar to boys, well-liked girls experienced fewer disorders than disliked girls. However, social preference effects on girls were significantly greater when compared with boys (Coie et al, 1992). For example, neglected girls are more likely to suffer from depression whereas aggressive low-accepted girls are more likely to exhibit clinically significant behavior problems (Kupersmidt and Patterson, 1991).

The purpose of this study seeks to examine the relationship between aggression and school performance among middle school children. Findings will be explored within the framework of social-cognitive behavioral theory.

## Chapter II

### Review of the Literature

This review will report the research of social-cognitive theorists on the topic of aggression among children and adolescents. These researchers have thoroughly studied this population within the context of (a) human development (b) social-cognitive processing, and (c) social problem-solving. Lochman (1981 and 1984). Goldstein (1998) and others have developed effective cognitive-behavioral treatment programs - such as the Anger Coping Program (ACP) and Aggression Replacement Training (ART)- that stems from this body of research. Both ART and ACP utilize a cognitive conceptualization of anger control along with a behavioral component and social competence training.

#### Developmental lags and aggression

Research has associated aggressive tendencies in children and adolescents with Piaget's cognitive development theory and Kohlberg's (1981) theory of moral development (Lochman, 1991). Thus, social-cognitive behavioral researchers have attempted to explain aggression in terms of developmental lags applied to these models.

Cognitive developmental milestones affecting aggression encompass the areas of attention, memory, strategies and solutions, and social cognitive processing. As children develop, these facets of cognitive processing progress through well defined stages in normal unaggressive individuals. However, aggressive children and adolescents can become stuck in one or more of these arenas, particularly within social contexts.

These children possess developmental lags regarding recency bias and attention to social cues. Although aggressive children appear hypervigilant to hostile cues, they are more likely to decide a course of action based on fewer and more recent cues than unaggressive children - a trademark of younger children.

Social problem-solving appears particularly problematic for



aggressive children and adolescents because of a tendency toward direct action processed in an automatic mode of cognition. Furthermore, social strategies or solutions by aggressive children are judged more incompetent than unaggressive children. Although aggressive children possess insignificant basic cognitive differences, normal children and adolescents can generate a greater number of competent alternatives in social problem-solving situations than aggressive children - a cognitive developmental milestone.

Aggressive older children and adolescents often make behavioral choices based on immature moral development. Lochman (1991) linked Kohlberg's (1981) model of moral development to aggression in children and adolescence. According to this model, younger children make response judgments based on the likelihood of punishment, whereas adjusted older children progress to a stage marked by cooperation and caring based on compliance with convention. Although adjusted adolescents and young adults are capable of basing decisions on a system of individual justice and fairness, aggressive adolescents often base their behavioral choices on the probabilities of detection and the likelihood of punishment. Like the cognitive development observation previously mentioned, this tendency appears immature when compared with age-appropriate behavioral expectations described in moral development theory.

#### Social-Cognitive processing and aggression

Social cognitive-behavior researchers have designed several interrelated models to explain various processes involved in the complexities of social interaction. Dodge et al (1986) and Dodge (1986) proposed a five stage cyclical model of social exchange that begins with a social stimulus. These social cues elicit a five step cognitive process resulting in the selection of a social behavior. This chosen social behavior elicits a like-kind five step cognitive process by the peer followed by a social behavior executed by the peer (Table 1).

The five step information processing stage of the cyclical social exchange model (stage two and four) describes a mental process that usually occurs unconsciously and in real time unless the situation is extremely novel or a cue calls the process into awareness (Table 2). Two innate

---

Table 1

Five Stage Cyclical Model of Social Exchange

<u>Stages</u>	<u>Process</u>
*Social Stimulus or problem	Social cues present a situation, task,
Information Processing	Encoding Interpretation Response search Response evaluation Implementation
*Social Behavior	Response occurs based on cue processing
Peer Information Processing	Encoding Interpretation Response search Response evaluation Implementation
*Peer Social Behavior	Response occurs based on the peer's cue processing

\*The peer response acts as a second social stimulus or cue that is cognitively processed and enacted. This reciprocal model of social exchange cycles in a transactional manner in real time until the interaction episode is completed.

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elements affect response competence. First, response capabilities are somewhat biologically determined by factors such as temperament, attentional limits, and memory. Second, responses are also affected by previous experiences that serve as predispositional factors. Theoretically, competent social behavior results only when skillful processing occurs throughout each step and incompetent social behavior will follow information processing malfunctions.

The first step is comprised of encoding environmental social cues. Encoding begins with the accurate perception of relevant sensory information. Thus, attention and focus on important information to the exclusion of irrelevant cues becomes paramount to the whole process. Individual differences in memory capabilities - such as the use of mnemonic devices and chunking - play a role in this and each step because processing requires the ultimate selection of a social behavior based on the environmental social cues presented and remembered.

Mental representation and interpretation of the encoded social cues define the second step of this social information processing model. This step often begins before encoding ends and becomes inseparable because a feedback loop exists back to step one when more information is required for accurate interpretation. Encoded cues are interpreted using innate and learned decision rules that are applied to the circumstances.

The third social information processing step involves searching for a response. After the social cues are interpreted, alternative responses are generated based on previously learned response rules, such as peer intent. For example, hostile intentions deserve a different behavioral response than accidental or prosocial intentions (Lochman, 1987).

Response decision comprises the fourth step of the model. Like the feedback loop between steps one and two, this step feeds back to the previous response search step when possible alternatives seem inappropriate or too costly to implement. Potential consequences and

Table 2

Five Step Information Processing Stage

<u>Steps</u>	<u>Process</u>
Encoding process	Sensation Perception Attention and focus
Representation Process	Integration of cue with data base Application of decision rule Feedback to encoding Interpretation
Response Search Process	Generation of responses Application of response rules
Response Decision Process	Representation of potential consequences Evaluation of outcomes feedback to response generation Selection of response
Enactment Process	Employment of protocols and scripts Monitoring of enactment Self-regulation

positive outcome probabilities are evaluated before selecting an effective response that meets the needs of the situation. Individual cognitive abilities play a major role in this step because of the working memory requirements, which are developmentally and genetically determined.

After the best response is selected, the fifth step of the model requires behavioral enactment. Learned scripts based or behavioral



protocols are deployed to address the task presented. During the enactment phase, script effectiveness is continually monitored and adjusted through a self-regulation process to provide the best fit for the circumstances.

As previously described in the social-exchange model, these processes occur in real time and in a transactional fashion. Social cues are continually and automatically encoded, decided upon, and behaviorally enacted in an interactive and reciprocal manner during social settings. Obviously, a malfunction in any step can lead to an incompetent social behavioral selection. Researchers have identified numerous tendencies of aggressive children and adolescents relating to break-downs at every step of these models - particularly in social problem-solving situations (Bierman et al, 1987; Dodge & Newman, 1981; Dodge & Somberg, 1987; Dodge, 1990; Lochman, 1987).

#### Social Problem-solving traits of aggression

The social exchange model (Dodge et al, 1986) and the information processing model (Dodge, 1986) provide a convenient framework to analyze social problem-solving tendencies of aggressive children and adolescents. Research suggests that aggressive children and adolescents possess a tendency to malfunction at every phase of the model. First, this group frequently possesses biological and learned predispositions that causes a tendency to (a) overlook important social cues, (b) notice irrelevant cues, (c) remember only the most recent and/or hostile cues (d) misinterpret cues, (e) make decisions impulsively, and (f) automatically overreact behaviorally. Second, aggressive children and adolescents malfunction more frequently during the information processing phase of a social interactional episode. Finally, unskilled behavioral enactments often further escalate problematic social situations for this group of children and adolescents than their unaggressive cohorts.

Aggressive children and adolescents cognitively process social cues substantially different than unaggressive individuals. First, these children (a)



notice more hostile cues, (b) possess biased memory cues, and (c) consider fewer cues before interpreting a social stimulus event (Dodge & Newman, 1981; Dodge, Pettit, McClaskey, & Brown, 1986). Second, aggressive children frequently misinterpret social stimulus cues because of preconceived perceptions of others' hostile intent (Dodge et Al., 1986). Furthermore, these children frequently underestimate their own aggressiveness while they overestimate the aggressiveness of others (Lochman, 1987). Third, aggressive children develop less competent and more direct action strategies and solutions than verbal assertions (Dodge et Al., 1986; Lochman & Lampron, 1986). Fourth, aggressive solutions appear more appealing to aggressive children because the positive consequences are often exaggerated and the negative consequences are underestimated (Dodge et Al., 1986; Perry, Perry, & Rasmussen, 1986). Finally, aggressive children often display unskilled social interactional tendencies that handicap the enactment of strategies (Dodge et Al., 1986). Therefore, these children often (a) distort the stimulus cue and event interpretation, (b) make miscalculations while developing strategies and considering consequences, and (c) lack behavioral proficiency while implementing a strategy (Lochman, 1993).

Social Cognitive theorists have described various factors which influence information processing and behavior among aggressive children. First, these children think of more verbal assertive and fewer direct action strategies when they learn to use a slower and more deliberate style instead of their usual automatic and immediate memory retrieval style (Dodge, 1985; Lochman, Meyer, Rabiner, & White, 1991; Lochman, Lampron, & Rabiner, 1989; Rabiner, Lenhart, & Lochman, 1990). Second, aggressive children possess problem-solving deficiencies that cause them difficulty in socially provocative situations (Lochman, White, & Waylan, 1991). Third, a more automatic retrieval style often coincides with higher levels of arousal in aggressive children (Dodge & Somberg, 1987). Fourth, aggressive adolescent boys are more often motivated by a dominance or revenge

motive instead of a social affiliation goal than nonaggressive cohorts (Lochman, Wayland, & White, 1993). Although nonaggressive and aggressive boys select similar strategies to achieve dominance, revenge, or social affiliation, aggressive boys often display problem-solving deficiencies when compared with nonaggressive boys. This deficiency raises the likelihood that aggressive boys will act to achieve either the goal of dominance or revenge than unaggressive boys and less likely to pursue

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Table 3

Problem-Solving Measures for Conflict (PSMC)

<u>Content Code</u>	<u>Example</u>
Verbal Assertion	
Regular	“The soccer ball is mine.”
Negative	“I hate you! The soccer ball is mine!”
Direct Action	
Regular	Take the soccer ball.
Negative	Grab the soccer ball with aggressive intent.
Help-seeking	Ask an adult to rescue the soccer ball.
Nonconfrontational	Allow adversary to continue using the soccer ball without saying or doing anything.
Physical Aggression	Push, shove, or fight
Verbal Aggression	Name-calling, etc.
Bargaining	“You can play with the soccer ball if I can join you.”
Compromise	“You play with the soccer ball until the first bell. After the bell, it will be my turn.”

---



social affiliation (Lochman, 1990). Finally, operant conditioning does play an influential role in behavioral choice. Aggression often works to achieve the chosen goal (Lochman, 1987).

Aggressive and nonaggressive children differ in problem-solving competencies. When faced with a problem, aggressive boys generated fewer alternative solutions than nonaggressive boys. Furthermore, the aggressive group used fewer verbal assertions and more direct action strategies. However, when these boys interpreted a situation as non-hostile, they used verbal assertion strategies at a rate consistent with nonaggressive boys. Unfortunately, the aggressive group frequently misinterpreted ambiguous or even pro-social intentions as hostile when the antagonist was not a significant other. Therefore, hostile situations with non-friends provoked the greatest tendency to use direct action in response to social situations (Lochman & Lampron, 1986).

Factors such as intellectual functioning, race, and self-esteem were significantly associated with problem solving capabilities and aggression (Lochman & Lampron, 1986). First, intellectual functioning impacted verbal assertion rates with parents in hostile conflict situations. Second, black subjects were less likely to use verbal assertions during parent conflicts. Finally, aggressive children possess lower self-esteem than non-aggressive children.

Aggressive children and adolescents generated fewer alternative solutions plus demonstrated qualitative differences when compared with nonaggressive cohorts. Lochman (1999) described a system of content codes (Table 3) that characterizes alternative solutions through the Problem-solving Measures for Conflict (PSMC).

Aggressive children employ different alternative solutions in social problem-solving than nonaggressive children. The aggressive group uses fewer bargaining solutions and more verbal assertions, physical, and verbal aggression.

Aggressive and nonaggressive adolescent boys were studied to determine their goals in various social situations (Lochman, 1999). Goals were classified as either (a) avoidance, (b) dominance, (c) revenge, and (d) affiliation.

Predictably, aggressive boys seek dominance and revenge whereas nonaggressive boys seek affiliation most frequently, particularly in ambiguous social situations. However, nonaggressive and aggressive children use similar alternative solution content when congruent goals are selected. For example, aggressive and nonaggressive children use similar rates of verbal assertions, bargaining, aggression, and other alternative solutions when either the dominance or affiliation goal is selected (Lochman, 1999). Therefore, alternative solution content is affected more by the social goal chosen rather than the strategy employed to attain the specified goal.

#### Cognitive-Behavioral Treatment Interventions

Cognitive-behavioral therapy (CBT) has demonstrated effectiveness in reducing many aspects of aggression among children and adolescents. Successful programs can include (a) self-instruction training, (b) social problem solving, (c) imagery techniques, or (d) relaxation training. Most programs include several of these methods or techniques.

Following Meichenbaum and Goddman's (1971) cognitive-behavioral program for impulsive children, researchers developed numerous CBT programs (Table 4) targeted toward aggressive children and adolescents (Goodwin & Mahoney, 1975; Robin, Schneider, Dolnick, 1976; Camp et al, 1977; Lochman, Nelson, & Sims, 1981; Lochman et al, 1984; Goldstein, 1986, 1994 & 1998).

Dodge (1990) prescribed a separate set of possible interventions for proactive and reactive aggression. Since proactive aggressors often seek material gain through domination, bullying, and premeditation, consistent punishments for aggressive behavior and rewards for prosocial behavior appears the most effective treatment plan for this sub-type. Social skills



Table 4

Partial listing of Cognitive-behavioral programs addressing aggressive children

<u>Developer</u>	<u>Purpose or Title</u>	<u>Method or Technique</u>
Meichenbaum & Goddman, 1971	Impulsive Children	Cognitive-behavioral
Goodwin & Mahoney, 1975	Aggressive Children	Modeling, coaching, & behavioral rehearsal
Robin, Schneider, Dolnick, 1976	Self-Control	Relaxation & social problem-solving
Camp et al, 1977	Think Aloud Program	Self-statements & problem solving
Lochman, Nelson, & Sims, 1981	Anger Control	Social problem-solving, self-talk, & physiological cues
Lochman et al, 1984	Anger Coping	Social problem-solving, self-talk, & physiological cues
Goldstein, 1998	Aggression Replacement Training (ART)	anger control, prosocial skills, & moral reasoning.

training also meets a deficit with proactively aggressive individuals.

Reactive aggressors act for different purposes and require a separate set of interventions. This angry and volatile sub-type seeks to hurt or injure the person that aroused their passions. Effective interventions include anger control and empathy training (Dodge, 1990).

Several social-cognitive behavioral treatment programs address aggression in children and adolescents (Camp et al., 1971; Forman, 1980; Kettlewell & kausch, 1983). One well studied and effective program for the

reactive aggressive subtype was developed by Lochman (1981 and 1984). This program was designed for implementation at school preferably by a mental health professional and school employee such as a school counselor. The main goals of the Anger Coping Program (ACP) and other cognitive behavioral interventions for aggressive children entail cognitive impulsivity reduction and social problem-solving skill promotion.

The Anger Coping Program was designed to reduce aggression in preadolescents within an 18-session group format. Areas of concentration include perspective taking, problem-solving, self-talk, physiological reactions to anger, and goal setting. Group behavioral management is reinforced through a token economy and response costs. Individual and group goals are also extrinsically reinforced. (Lochman et al, 1987). Program objectives consist of (a) learning to use self-talk to calm down, (b) perspective taking, (c) increasing social problem-solving competencies, (d) learning to recognize physiological reactions to anger, (e) working toward goals in the real world to increase generalization of the skills learned, and (f) writing a script and producing a video of a social situation that demonstrates the skills learned during the Anger Coping Program. Typically, groups consist of approximately five aggressive same gender subjects and two leaders.

Participant screening is essential to effective Anger Coping Program implementation (Lochman et al, 1987). The first step consists of soliciting teacher referrals of the most aggressive and disruptive children after the first month of the school year. Group leaders will then select participants based on certain criteria. Successful participants need at least minimal motivation and appear anxious about the negative outcomes associated with their behavior. Participants who fail to respond to positive adult attention and tend toward attention seeking behavior from peers could present behavior management difficulties. Furthermore, unmotivated and aggressive participants possessing high social status among other group members can influence other participants contrary to group activities and objectives. Groups consisting of



all highly active and highly aggressive children or severely emotionally disturbed children present too many behavior problems to maintain group progress. These children can benefit from the program in alternate delivery systems such as individual sessions or even smaller group settings.

Group make-up should consider other factors also. Cognitively, participants must possess a minimum of low average intelligence. However, a mix of intelligences often facilitates group progress because of the modeling by higher functioning children. Older children that have surpassed classmates developmentally should be excluded because early adolescent issues mix unfavorably with preadolescent issues. Racial differences might impact group dynamics in some circumstances. Finally, aggressive yet withdrawn children or children experiencing intense anger due to extremely difficult family situations frequently respond poorly to this program.

Four issues affect program effectiveness (Lochman et al, 1987). First, a positive leader-participant relationship facilitates group progress and motivation. Furthermore, these aggressive children may lack experience relating positively to others and gain much simply by the appropriate interaction with a responsible adult. Second, generalization into the classroom and home will help solidify learned skills. Goal setting and monitoring effectively generalizes these skills. Furthermore, discussions of actual classroom events provides topical discussion material that serves to conceptualize plans for future problems in real life settings. Third, clear rules and firm consequences help provide the structure necessary for group progress. A reward system facilitates this structure while providing motivation for goal accomplishments. Finally, group leaders should plan to use a specific set of objectives and activities. However, spontaneity is required to utilize situations presented during the sessions to teach pertinent skills.

Researchers have demonstrated both treatment and generalized benefits of the Anger Coping Program. Aggressive boys significantly reduced disruptive and aggressive classroom behavior (Lochman,



1984). Furthermore, parents rated these subjects less aggressive with higher self-esteem following treatment. Untreated aggressive boys got worse during the same 18-week period. Lochman (1992) reported lower rates of alcohol and drug involvement, higher self-esteem, and better social problem-solving skills among ACP participants in a three-year follow-up.

Unfortunately, long-term improvement in classroom behavior and delinquency rates did not materialize. However, booster sessions proved beneficial in maintaining passive off-task behavioral improvements at the three-year follow up evaluation.

Lochman et al. (1985) found certain individual characteristics to be strong indicators for improvement in the Anger Coping Program. First, the most disruptive-aggressive off-task students with the poorest problem-solving skills improved the most with treatment. Second, motivation to change predicted program outcome success. Third, students with the lowest self-esteem before treatment showed the most improvement following treatment. Finally, high rates of somatic complaints correlated with better treatment effects.

Anger Coping significantly improved behavior. Lochman et al (1985) compared treatment effects across the four conditions of (a) Anger Coping plus Goal Setting (ACGS), (b) Anger Coping (AC), (c) Goal Setting only (GS), and (d) Untreated Condition (UC). Both Anger Coping (AC and ACGS) showed significant improvement in aggression levels compared with the minimal treatment and untreated condition (GS and UC).

Problem-solving skills and self-esteem appear salient behavioral predictors relating to aggression in children (Lochman et al, 1985). Aggressive children with good problem-solving skills and healthy self-esteem are most likely to spontaneously reduce aggressive behavior even without intervention. However, poor problem-solvers with lower levels of self-esteem often become even more aggressive over time. Significantly, this sub-group consisting of poor problem-solvers with low levels of self-

esteem seem most palpable to improvement with the Anger Coping intervention.

Social relations do present a difficult problem for aggressive and rejected children. This group has responded to social-skills training and cognitive-behavioral therapy interventions, however. Lochman et al (1993) found that a school-based intervention focusing on positive socialization training and cognitive-behavioral strategies designed to improve problem-solving skills lowered aggression and social rejection. This aggressive/rejected population demonstrated improvements in peer prosocial behavior immediately following the intervention and at a 1-year follow up evaluation.

In the initial setting, the Anger Coping Program began as a 12-week group format. Research demonstrates that the 18-week version solidified behavioral change. However, an experiment that added a 6-week Self-Instruction-Training component to the 12-week Anger Coping Program failed to meet the researchers' goals (Lochman & Curry, 1986). The Anger Coping plus Self-Instruction-Training (AC-SIT) group proved effective in reducing passive off-task behavior. However, this condition produced an insignificant improvement when compared with the extended 18-week version of AC. The AC-SIT produced unfavorable results in disruptive-aggressive off-task behavior when compared with either the 18-week or 12-week AC condition.

Like the Anger Coping Program (ACP), Aggression Replacement Training (ART) has proven effective in reducing youth aggression in a wide variety of settings. For example, Nugent & Bruley (1998) found a 20% decrease in antisocial behavior in an adolescent runaway shelter. Goldstein et al (1986) noted significant therapeutic improvement in the home, family, peer, legal, and overall areas following release from a New York State Division for Youth facility in Annsville. However, school or work areas showed no significant improvement effects following this intensive 10-week ART program. The Annsville findings were replicated and extended at the



MacCormick Youth Center - a maximum security facility for male juvenile delinquents- also located in New York State (Goldstein et al, 1986).

Therefore, ART seems an effective intervention for incarcerated adolescents ranging from minor crimes to convicted murderers.

A third study examined the value of ART treatment with released delinquent youth (Goldstein, Glick, Irwin, McCartney, & Rubama, 1989). Families of the participants received training in one condition of this study. A substantial decrease in rearrests occurred in the ART plus family and ART alone condition compared with no ART following release from incarceration. Furthermore, the ART plus family condition produced nearly half the rearrests as the ART alone intervention.

Finally, Goldstein et al (1986) evaluated a gang intervention project implemented with a youth gang in Brooklyn, New York. Significant results supporting ART in this setting included the areas of (a) beginning social skills, (b) advanced social skills, (c) feelings-relevant skills, (d) aggression-management skills, (e) stress-management skills, (f) planning skills, and (g) total planning skills score. Furthermore, work adjustment yielded significant differences for ART participants. Arrest and rearrest records also favored the ART intervention's effectiveness.

Independent researchers have replicated some of Goldstein's findings and found discrepancies in certain settings. Behavior-disordered adolescents in a Texas residential facility improved skill knowledge without improving actual behavior (Coleman, Pfeiffer, & Oakland, 1991). Although overt acting-out behaviors were significantly reduced, Curulla (1990) found no significant reduction in recidivism among young adult offenders in a Seattle community setting. Jones (1990) found ART an effective intervention among aggressive high school students. Finally, Leeman et al (1991) found ART plus a positive peer culture significantly reduced recidivism at the Buckeye Youth Center in Ohio.

The ART psychoeducational program consists of three components

that possess several similarities to Lochman's (1981 and 1984) Anger Coping Program. First, the skillstreaming intervention teaches fifty prosocial behaviors through modeling, role-playing, performance feedback, and transfer training. The curriculum is sequentially presented in six parts. Part one teaches beginning social skills like starting a conversation, introducing yourself, and giving a compliment. The second step presents advanced social skills like asking for help, apologizing, and giving instructions. Part three teaches skills for coping with feelings like anger, affection, and fear. The fourth step teaches alternatives to aggression. Coping with stress comprises the fifth step. Finally, participants learn planning skills such as goal setting, decision making, and setting priorities.

The second component of ART consists of a cognitive-behavioral intervention to reduce anger - Anger Control Training (ACT). Participants learn methods to control anger through a multi-step process. First, external and internal triggers are identified. Second, physiological cues are recognized to help identify when an anger episode is occurring. Third, self-statements help calm participants during anger episodes. Fourth, anger reducers like deep breathing and consequence evaluation is taught. Finally, self-evaluation skills are taught to enhance understanding of patterns of behavior.

The third component of ART teaches moral values to raise the participant's level of fairness and justice. This component consists of a series of moral dilemmas that group members evaluate based on Kohlberg's (1981) theory of moral development. Moral education research has produced mixed results. Therefore, this component possesses the weakest research base of the three components of ART.

#### Social Competence Promotion

Highly aggressive persons often possess less social competence than less aggressive individuals. For example, along with academic and work skill deficits, adolescents with police contact records also possess lower measures of interpersonal skill than nondelinquent adolescents (Dishion et al,



1984). Therefore, social competence training makes sense as an intervention strategy for aggressive adolescents and children. Elias (1988, 1989) and others have developed programs to meet the needs of this group.

Weissberg et al (1989) designed a social competence promotion program framework for school-based implementation. First, programs should use theory, research findings, and intervention experience to provide the right combination of resources to address the target population. Second, programs should be designed with replicable curriculum that includes both the teaching of targeted skills and opportunities for practice and reinforcement. Third, programs must fit into the the school framework and fully utilize localized skills and facilities. Fourth, evaluations are crucial to document and improve program effectiveness. Fifth, evaluation results must filter out ineffective strategies and develop more effective social competence promotion methods.

Social skills training plus behavioral prohibitions and response costs proved more effective than social skills instruction alone with rejected boys (Bierman et al, 1987). Negative behavior in social situations decreased along with a temporary increase in positive responses from peers. However, instruction plus the reinforcement of specific social skills resulted in longer term positive peer responses six weeks later.

A 20-session program made up of units that studied stress management, self-esteem, problem solving, substances and health information, assertiveness, and social networks had positive treatment effects with suburban and inner-city sixth and seventh grade students (Caplan et al, 1992). These subjects improved coping skills involving interpersonal problems and anxiety. Teachers noted improvements in problem-solving efficacy, impulse control, and popularity among peers. Subjects reported improved problem-solving efficacy along with lower substance use intentions and lower excessive alcohol use.

Elias (1983) found that social problem-solving discussions following a

video showing children solving selected problems improved emotional control, personality functioning, and prosocial behavior among special education classes in a residential treatment center. These gains were maintained at a two-month follow-up.

Interpersonal context helps determine the quality of responses used by children and adolescents in social settings. Caplan, Bennetto, and Weissberg (1991) found that sixth and seventh graders generated better solutions when the social interaction involved friends as opposed to acquaintances. More cooperation and less physical aggression, snatching, or help-seeking strategies were employed with friends than with acquaintances.

Programs designed to promote social competence have become an integral feature of interventions for aggressive youth. Lochman (1981 and 1984) and Goldstein (1998) have both integrated this facet into the ACP and ART interventions.

### Hypotheses

Social-Cognitive behavior theorists have linked preadolescent aggression to later negative outcomes such as delinquency, conduct disorder, school maladjustment, and substance abuse among adolescents and young adults (Coie, Lochman, Terry, & Hyman, 1992; Kupersmidt & Coie, 1990; Kupersmidt & Patterson, 1991). Most subjects in these longitudinal studies were firmly established into the adolescent developmental stage when the outcome phase was conducted. Since middle school constitutes such a significant check-point because this setting encompasses the transition from preadolescence toward adolescence for most children (Eccles et al, 1984), Albee's (1984) model suggests this an opportune time to assess personal adjustment in children.

This age-group experiences increasing stressors due to developmental, academic and social causes. Seventh-grade students often span the developmental spectrum from preadolescence through a transitional period toward early adolescence and adolescence for a few. The individual



and social turmoil that this transition represents serves to amplify normal day to day stressors. Among the increasing arrays of stressors, middle school structure exacerbates adjustment difficulties for many children partially because of the multi-classroom format (Eccles, Midgley, & Adler, 1984).

Middle school students appraise the cause of stress differently than administrators (Elias et al, 1985). Students attribute conflict with authority figures, substance abuse, fighting, and missing friends from elementary school as major causes of stress in sixth grade. However, administrators believe increased academic demands cause students the greatest stress. Very few students mention academic concerns as a significant stressor for them. Furthermore, administrators see support systems such as teachers, counselors, and administrators as more helpful for student transition than students. Students view friends as their best source of support in coping with stress. Therefore, this increased stress in combination with a perceived lack of adult support and developmental complications further compound the adjustment challenge for middle school students (Elias et al, 1985).

Middle school children also experience significant peer group disruptions due to the larger school populations - compared with typical elementary school size - and the increased opportunity for unsupervised interaction with others. This age-group often struggles for acceptance in a supportive group. These and other factors plus the physical, mental, and emotional developmental effects all contribute to an extremely stressful stage of life for this age group (Coie, Lochman, Terry, and Hyman, 1992). Therefore, the middle school years (grades 6-8) provide a logical benchmark to study the predictive connection between aggression in children and the later negative outcomes found by social-cognitive behavior research.

Among the many negative outcomes associated with the trait of aggression, the most pertinent to school counseling relates to academic performance and behavior at school. Previous research has found a connection between aggression and school performance in this age-group



(Lochman, 1987). For example, a significant correlation between off-task classroom behavior among middle school students and aggression was observed.

This study will examine the relationship between current levels of aggression and school adjustment in a seventh-grade population. Although current levels of aggression were used in this study, the constancy of the aggression (Olweus, 1979) supports the predictive phenomena of this construct. Presumably, aggression levels among this seventh-grade population would have correlated with measures if the same sample would have been examined in preadolescence. School adjustment will include the dependent variable measures of Grade Point Average (GPA), Stanford Achievement Test (SAT) composite percentiles, and office discipline counts. Aggression levels will be measured by the Missouri Children's Behavior Checklist (MCBC) aggression subscale.

Any relationship found between aggression and these school-based variables may further support more global connections. Since school adjustment problems are related with delinquency, conduct disorder, and substance abuse among adolescents and young adults (Coie, Lochman, Terry, & Hyman, 1992; Kupersmidt & Coie, 1990; Kupersmidt & Patterson, 1991), a correlation between school adjustment problems and aggression would tend to support the connection between aggression and all the negative outcomes listed.

This study will examine the following hypotheses:

- H(o) There is no relationship between aggression and GPA.
- H(o) There is no relationship between aggression and SAT scores.
- H(o) There is no relationship between aggression and behavior at school as measured by office administered disciplinary action counts.

## Chapter III

### Method

#### Participants (Appendix C)

The average age of these seventh-grade subjects ( $n=30$ ) was 13.67 years old. Ages ranged from 12 years 11 months to 15 years 3 months. Ninety-three percent ( $n=28$ ) of the subjects were Caucasian and 7% ( $n=2$ ) were African-american. Although the total seventh-grade population ( $n=230$ ) is comprised of a balanced gender ratio (males  $n=111$ ; females  $n=119$ ), this sample is made up of eleven females (37%) and nineteen (63%) males. The gender ratio of the sample is statistically insignificant compared with the total population as determined by a chi-square analysis (chi-square = 2.41;  $p \leq .12$ ). Thirty-three percent ( $n=10$ ) of the sample qualified for free or reduced lunch (Appendix D) and sixty-seven percent ( $n=20$ ) live in households above the free/reduced lunch threshold of 185% of the national poverty level. Nine participants (30%) participate in a special education program because of a learning disability and two subjects (6.67%) are diagnosed behaviorally disordered.

#### Instrument

Participants were evaluated by teachers (Appendix A) that knew them well on the aggression subscale of the Missouri Children's Behavior Checklist (MCBC) (Appendix B). Sines et al (1969) developed the MCBC to identify clinically different children across the six relatively independent dimensions of (a) aggression, (b) inhibition, (c) activity level, (d) sleep disturbance, (e) somatization, and (f) sociability. The original checklist was designed from the existing literature in 1969 and tested in 15 children's clinics across the United States and Canada. A total of 654 (404 boys and 250 girls) children between the ages of 5 and 16 were rated by their mothers across each of the six dimensions. Each mother was asked to indicate yes or no whether their child had shown the described behavior during the previous six months.



The original MCBC aggression subscale supports reasonable reliability that discriminates a minimum of two groups of clinically different children (Sines et al, 1969). Aggression subscale internal consistency supported reliability in an odd-even test (Pearson  $r = .76$  and Spearman Brown correction =  $.86$ ). Intercorrelations between checklist dimensions supported sufficient independence between aggression and the other dimensions (Inhibition =  $.19$ ,  $p < .01$ ; Activity Level =  $.43$ ,  $p < .01$ ; Sleep Disturbance =  $.27$ ,  $p < .01$ ; Somatization =  $.21$ ,  $p < .01$ ; Sociability =  $-.10$ ,  $p < .05$ ).

Although criteria validity cannot be established for the MCBC or any other aggression measure for lack of available criterion, teacher and parent observations possess predictive validity because subjects generally exhibit the behaviors listed on the MCBC aggression subscale one year later, five years later, and into adulthood (Sines, 1988).

Further, construct validity is supported by adopted children studies. Antisocial behavior is genetically influenced. Adopted children with antisocial biological parents score higher on the MCBC aggression subscale than adopted children with biological parents who are not antisocial (Thompson & Curry, 1983). Content validity for the MCBC and other aggression measures cannot be established for lack of items that representatively sample the domain of children's aggressive behavior (Sines, 1999).

Sines (1988) compared teacher MCBC ratings with parent ratings. Gender differences were comparable although teacher ratings were significantly lower than parent ratings providing evidence for convergent and discriminant validity of the Missouri Children's Behavior Checklist.

Lochman (1985, 1986) used the aggression subscale to measure aggression levels among children. Sines (1999) asserted that the aggression dimension can be confidently administered alone because intercorrelations between checklist dimensions support sufficient independence between aggression and the other dimensions (Sines, 1969).



### Variables

This study compared three dependent variables with one independent variable for statistical significance. First, Grade Point Average (GPA) provided one measure of academic success by ranking classroom achievement of the subjects. GPA was treated as an ordinal level variable. Second, Stanford Achievement Test (SAT) composite percentiles measured standardized academic achievement of these subjects. SAT was treated as an interval level variable because the results are nationally normed and standardized. The third dependent variable ranked the subjects at school behaviorally. Although office discipline counts cover a wide array of student conduct infractions (Reprimands, After-School-Detentions, In-School-Suspensions - ISS, Saturday Campuses, and Out-of-School Suspensions - OSS), a simple incident tally was used to rank subject behavioral pattern severity. Subjects in this study are responsible to a school district-wide discipline code that is consistently enforced by teachers and administrators. Office discipline counts were treated as an ordinal level variable.

The independent variable measured aggression levels of the subjects. Teacher rated MCBC aggression subscale raw scores were translated into a standardized t-score for each subject (Appendix B). Aggression was treated as an interval level variable because the t-scores were nationally normed.

### Procedure

Thirty participants (Appendix C) were randomly selected from a seventh-grade class (N=230) located in a mid-western suburban middle school. This seventh-grade class is comprised of two teams taught by four core teachers - World History, English, Life Science, and Math. Each core teacher on both teams completed the Missouri Children's Behavior Checklist (MCBC) aggression subscale on three to five students. The MCBC was completed in May - thus allowing teachers eight months to work with the selected subjects being evaluated.

These raw scores were converted to standardized t-scores and correlated with GPA, SAT composite percentiles, and office administered disciplinary counts for statistical significance (Table 8 & 9). The dependent variables and other demographic or descriptive data were obtained through a district data base and other student records.

Nonparametric statistics were used to analyze for significance between GPA, office discipline counts and aggression levels. Although the MCBC aggression subscale is a normed interval level variable, GPA and office discipline were treated as ordinal level variables. The Gamma statistic was selected here over the Spearman  $r$  or Kendall tau because the chosen test design better accommodates multiple tied observations (Statsoft, 1994). Gamma correlations were analyzed for significance at the p-level of .05.

Parametric statistics were used to analyze significance between MCBC aggression subscale scores and SAT composite percentiles because both sets of data were treated as interval level variables. Pearson product moment correlations (Pearson  $r$ ) were analyzed at the p-level of .05.



## Chapter IV

### Results

Academic performance among this sample ranges from a GPA of .58 to 4.0 on a 4.0 scale. The mean GPA equaled 2.46 with a standard deviation of 1.06 (Table 5). The SAT composite mean equaled 53.63 with a standard deviation of 29.71 within a range of the 6th and 89th percentile (Table 6). This sample contained no students that qualified for the gifted program.

GPA (Table 5) and achievement scores (Table 6) appear atypical from a normal distribution. Forty-three percent ( $n=13$ ) of the sample had a GPA below 2.0 whereas only 13.34% ( $n = 4$ ) had a GPA between 2.0 and 3.0. However, forty-three percent of the subjects ( $n=13$ ) had a GPA between 3.0 and 4.0. Therefore, this sample included a higher percentage of low and high Grade Point Averages and a lower percentage of midrange Grade Point Averages than a normal distribution would predict.

The SAT distribution possessed slightly different tendencies than the GPA distribution. Although twenty-six percent of the subjects ( $n= 7$ ) scored below the twentieth percentile, the distribution clusters toward the upper range of the scale slightly more than a normal distribution would predict. Fifty-percent of the subjects ( $n=15$ ) scored at the sixtieth percentile or higher whereas only seventeen percent of the subjects ( $n=5$ ) scored between the thirtieth and sixtieth percentile. Furthermore, none of the subjects scored above the ninetieth percentile. Therefore, like the GPA distribution, the SAT distribution possesses fewer midrange scores than normal distribution would predict. However, the SAT distribution is skewed slightly more toward the upper range ( $< 90$ th percentile) than the GPA distribution. Overall, the upper ranges of this sample may perform slightly better on achievement tests than in the classroom and slightly worse on achievement tests than in the classroom in the lower ranges. Considering the highly significant correlation between GPA and SAT ( $N=27$ ; Spearman  $r = .71$ ;  $p = .00$ ), further study is merited into the interrelationships of these variables.

Behaviorally, this sample compared with the standardized norms of the MCBC as noted in Table 7. Compared with the norms, this sample appears relatively typical or slightly less aggressive when measured by the MCBC aggression subscale. The outlier found in the female subjects significantly distorted the female mean of this sample. When the outlier is excluded, the sample mean drops from 1.55 (S.D. = 3.01) to .77 (S.D. = 1.16) compared with the standardized normative mean of 1.36 (S.D. = 2.71) for female subjects. In addition, two males and one female (of the 19 males and 11 females) fell at least one standard deviation above the mean MCBC aggression subscale raw score on both the national standardized norms and localized norms. One additional male subject scored more than one standard deviation ( $z = 1.26$ ) above the mean on localized norms. On the other hand, five male subjects (of the remaining 16 males) fell more than one standard deviation below the mean on localized norms but not on nationally

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Table 5

GPA Frequencies

<u>GPA</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum.</u>	<u>Cum %</u>
.5 ≤ - < 1.0	1	3.33	1	3.33
1.0 ≤ - < 1.5	5	16.67	6	20.00
1.5 ≤ - < 2.0	7	23.33	13	43.33
2.0 ≤ - < 2.5	2	6.67	15	50.00
2.5 ≤ - < 3.0	2	6.67	17	56.67
3.0 ≤ - < 3.5	7	23.33	24	80.00
3.5 ≤ - < 4.0	4	13.33	28	93.33
4.0 ≤ - ≤ 4.5	2	6.67	30	100.00

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standardized norms.

Office administered disciplinary measure counts ranged from 0 to 41 with a mean of 7.87 and standard deviation of 10.42. When normed locally,



Table 6

SAT Percentile Frequencies

<u>SAT composite Percentiles</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum.</u>	<u>Cum %</u>
0 ≤ - < 10	3	11.11	3	11.11
10 ≤ - < 20	4	14.81	7	25.93
20 ≤ - < 30	0	.00	7	25.93
30 ≤ - < 40	2	7.41	9	33.33
40 ≤ - < 50	2	7.41	11	40.74
50 ≤ - < 60	1	3.70	12	44.44
60 ≤ - < 70	2	7.41	14	51.85
70 ≤ - < 80	7	25.93	21	77.78
80 ≤ - ≤ 90	6	22.22	27	100.00

Table 7

MCBC aggression subscale raw scores compared with national normsLocalized NormsNational Norms

## Males

Mean = 2.74

Mean = 2.99

S.D = 2.60

S.D = 3.92

## Females

Mean = 1.55

Mean = 1.36

S.D = 3.01

S. D. = 2.71

An outlier existed (> 3 standard deviations above the mean) in the female population. Because of the small sample size of female subjects (N=11), this outlier produced dramatic effects on the mean and standard deviation. The female mean = .7 with a standard deviation of 1.16 when the outlier data was excluded.

three students fell more than one standard deviation above the mean on this variable. However, only one of these students also fell at least one standard deviation above the mean on the national and/or localized MCBC aggression subscale mean. Interestingly, the other two students that fell at least one standard deviation above the mean on the aggression subscale did not receive significantly more disciplinary measures than their more unaggressive cohorts.



## Chapter V

## Discussion

Seventh-grade represents a convenient mid-point between preadolescence and adolescence to assess the impact of aggression on school performance. Several studies have looked at preadolescent aggression correlates with adjustment problems in ninth-grade, early adolescence, or early adulthood (Lochman, 1992 & 1990; Coie et al, 1992; Hawkins et al, 1992; Kupersmidt, 1990 & 1991; Loeber, 1990; Ollendick,

Table 8

Significant correlations with MCBC aggression subscale t-scores

<u>Variable</u>	<u>Valid N</u>	<u>Gamma r</u>	<u>t(N-2)</u>	<u>p-level</u>
*GPA	30	-.473404	-3.41460	.0006388
*Discipline counts	30	.530792	3.73599	.0001870

\*These values include outlier data. One subject scored > 3 standard deviations above the mean on the MCBC aggression subscale. Significant relationships were unaffected by exclusion of outlier data.

Table 9

MCBC aggression subscale and SAT - Trend toward significance

<u>*Variable</u>	<u>Valid N</u>	<u>Pearson r</u>	<u>p-level</u>
**SAT	27	-.35187	p < .072

\*These values include outlier data. Significant relationships are unaffected by exclusion of outlier data.

\*\*Three students did not complete the Stanford Achievement Test. The casewise deletion method was used to compensate for missing data.

1992; Olweus, 1979; Parker and Asher, 1987 ). Most subjects in these

longitudinal studies were firmly established into the adolescent developmental stage when the outcome phase was conducted . However, seventh-grade spans the developmental spectrum from preadolescence through a transitional period toward early adolescence and adolescence. The significant connections found in this study with this transitional age group further support the connection between higher levels of aggression and adjustment problems in this and other developmental stages.

Academic performance and behavior at school represent a significant dimension of an adolescent's adjustment. Lower GPA scores combined with higher counts of disciplinary actions at school appear indicative of school maladjustment. Since problems at school are related to problems at home and in the community (Coie, Lochman, Terry, & Hyman, 1992; Kupersmidt & Coie, 1990; Kupersmidt & Patterson, 1991; Loeber, 1990), these findings presumably supported the global connection between aggression and delinquency, conduct disorder, and substance abuse when all of this population finally reaches the adolescent and young adult developmental stage.

Aggressive behavior does impact school performance. Two of the three hypotheses connecting aggression with behavior and academic performance at school were confirmed. First, increased levels of aggression correlated with lower GPA supporting the literature based connection between aggression and school failure.

Aggression may affect GPA in several ways. First, behavior associated with aggression may deter class participation because of office referrals, counselor contacts, and school suspensions. These students may receive less instruction time because of their behavior. Second, these subjects may exhibit lower than normal on-task classroom behavior because of the frequency of aggressive and disruptive behavior. Third, behavior associated with aggression may decrease the time spent on outside homework assignments resulting in missing assignments and learning. Third,



teachers may subjectively punish aggressive behavior with lower grade marks. Finally, the literature is mixed regarding the connection between intelligence and aggression (Lochman, 1990; Lochman, 1986). If aggressive subjects possess a commensurate lower level of intellect, then innate ability may better and inadvertently explain this relationship between aggression and GPA. Further literature review and study is merited regarding this interrelationship between intelligence, aggression, and school performance.

Aggression and high frequencies of office discipline counts were significantly related. Although too predictable perhaps, this relationship does connect many of the MCBC aggression subscale items directly to the school discipline code. For example, fighting (Item - 2) results in a three day OSS consequence for the first infraction. Stealing (10) carries an ISS punishment. Although the degree of severity and frequency may affect the consequence, after-school detentions are typically administered for threatening other students (1), lying (7), teasing others (14), inappropriate language (18), etc. ISS is typically administered for chronic temper tantrums (8), scuffling or horseplay(9, 13, 15), vandalism (11), etc. Therefore, the aggression construct may closely parallel school behavior problems. Unfortunately, discipline code enforcement appears an ineffective intervention to lower aggressive behavior at school.

Although the correlation between aggression and discipline counts produced a very high magnitude relationship, the most aggressive subjects did not necessarily get punished commensurate with their aggression level. Two out of three aggressive subjects that fell one or more standard deviations above the mean on the MCBC aggression subscale fell within one standard deviation of the localized mean on the discipline counts variable. Although the small sample size of significantly aggressive subjects ( $N = 3$ ) merits cautious interpretation, this finding may also further support the literature based aggression construct. These highly aggressive subjects may use well learned behavioral patterns to intimidate adults into reducing consequences

for antisocial actions. Since frequently rewarded and rarely punished, aggression becomes an increasingly entrenched behavioral pattern because it works. Further study is merited here utilizing a larger sample size of significantly aggressive subjects to replicate and test for statistical significance.

The significant correlations found between aggression with GPA and the office discipline counts variables do support the literature. However, the insignificant trend between aggression and SAT composite percentiles does deserve some analysis to posit some possible explanations, particularly with the high magnitude GPA and SAT correlation ( $N = 27$ ; Spearman  $r = .71$ ;  $p = .00$ ). The trend toward association between aggression and SAT (Pearson  $r = -.35$ ;  $p < .07$ ) scores compared with the significant correlation between aggression and GPA ( $N = 30$ ; Gamma  $r = -.47$ ;  $p\text{-level} = .00$ ) reflect a minimal difference. Actually, if the less powerful nonparametric statistic were used for significance testing, a significant relationship does emerge between aggression and SAT ( $N = 27$ ; Gamma  $r = -.32$ ;  $p\text{-level} = .03$ ). Therefore, any interpretation of the importance of this finding deserves caution because of the strong trend toward association between aggression and SAT. Another reason for skepticism involves the three missing observations of SAT percentile data. Although the more powerful casewise method of accommodating missing data was used in this calculation, these missing observations (10% of the sample) could have affected significance results.

Some explanations do support the literature based connection between aggression and school adjustment problems. Classroom performance does necessitate different requirements on students than standardized testing. More aggressive subjects may perform slightly better on standardized tests than in the classroom because (a) the environment may be less stimulating, (b) motivation to succeed may be higher, (c) of the novelty of the situation, (d) there are no homework assignments to complete and turn in to teachers, (e) results are more objective, and/or (f) standardized achievement tests more accurately reflect student learning.



Other explanations for this discrepancy involves the constancy of aggression over the developmental stages. These subjects were administered the SAT during October of seventh-grade. The tested material reflected sixth-grade learning. Assuming a progression toward increasing school failure among aggressive subjects, this seventh-grade population may be entrenched into a negative outcomes transition described in the literature. A follow-up comparison among this sample one year later could help substantiate this theoretical explanation for the insignificant relationship between aggression and SAT composite percentile scores. A significant relationship between SAT and aggression at the one year follow-up could support the pattern of losing ground academically as the population becomes more mature developmentally.

Aggressive children and adolescents behave in a manner that may affect teacher objectivity. Although the most aggressive subjects were disciplined less frequently than the less aggressive subjects, teachers may include a behavioral component to assigning letter grades. If this theoretical explanation could be substantiated, aggressive subjects may receive deflated letter grades as a punishment for classroom behavior. A follow-up comparison could lend credence to this theory If standardized achievement holds through next year and GPA drops or remains constant.

Interventions that were reviewed - ACP and ART - appear promising for working with aggressive children and adolescents. However, further study is needed to further identify new methods and techniques because the cognitive behavioral approach fails to help a significant portion of aggressive individuals. Treatment effect studies could shed light on this deficiency.

Among the effective interventions for coping with aggression at school, selective institutional situational factor preventions can significantly reduce aggression levels of all students (Goldstein, 1998). Aggressive acts occur more frequently in less structured settings such as the cafeteria, stairwells, and bathrooms. March accounts for more aggressive acts than any



other month of the year. Larger and more autocratic or permissive schools experience more acts of aggression than smaller institutions that practice fairness within a firm structure.

Team sporting events also possess certain characteristics affecting aggression among athletes and spectators. Higher levels of aggression occur later in the season and later in the game. Home teams become more aggressive than visiting teams. Teams at the top or bottom of the standings are less aggressive than teams ranked in the middle of the standings.

These predictable aggression facilitating situational factors offer a multiplicity of opportunities for institutional intervention. Specific strategies that address each of these factors and others can reduce aggression at school. For example, vandalism can be reduced by (a) making it more difficult to execute by denied access or other protective efforts, (b) monitoring targeted areas, and (c) setting firm rules that are consistently enforced (Goldstein, 1988).

Results of this study should be interpreted with caution. The sample size was small ( $N = 30$ ) and the subjects were drawn from a midwestern suburban middle school. Therefore, results may not represent a true measure of other populations such as urban or rural areas.

Overall, results of this study did support the literature. Higher levels of aggression corresponded with falling grades and increased discipline contacts for inappropriate school behavior. Therefore, the transition toward later negative results such as delinquency, conduct disorder, school maladjustment, and substance abuse when this population reaches the adolescent and young adult developmental stage (Coie, Lochman, Terry, & Hyman, 1992; Kupersmidt & Coie, 1990; Kupersmidt & Patterson, 1991; Botvin et al, 1990; Loeber, 1990) was supported.

## Appendix A

**MEMO**

TO: Dream Team and Tiger Kings

FROM: Anderson

RE: Master of Arts in School Counseling Thesis

Today's Date:

I am requesting your assistance to complete a thesis requirement for the Master of Arts in School Counseling from Lindenwood. The research topic explores aggressive behavior correlations with school performance.

The Missouri Children's Behavior Checklist (MCBC) contains a 19-item aggression subscale. Would each teacher be willing to complete this 19-item checklist on 3 to five students that you know well?

After the subjects are selected, I will distribute the checklists for you to complete. Control numbers will protect the confidentiality of the students and your evaluation.

Thanks

**I will buy the team lunch.**

**CONFIDENTIAL**

Appendix B  
Missouri Children's Behavior Checklist Aggression Subscale (Form T)

Child's first name \_\_\_\_\_ Age \_\_\_\_\_ Sex \_\_\_\_\_

Child's Date of Birth \_\_\_\_\_ Grade in school \_\_\_\_\_

Your relationship to child \_\_\_\_\_ Today's Date \_\_\_\_\_

Instructions:

On this page and the following a number of statements appear. Please read each statement and circle the word "yes" for those which describe behaviors your child has shown IN THE LAST 6 MONTHS. Be sure to read all the questions carefully. Complete this questionnaire by yourself; do not discuss your answers while you are completing it.

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Yes No 1. Says as for instance, "I'll get even," "You won't get away with that," "I'll show him," expresses desire for revenge.</p> <p>Yes No 2. Fights.</p> <p>Yes No 3. Says "Others are to blame" for own actions.</p> <p>Yes No 4. Selfish.</p> <p>Yes No 5. Unscrupulously takes advantage of others.</p> <p>Yes No 6. Hurts animals.</p> <p>Yes No 7. Makes statements contrary to fact (lying, telling untruths).</p> <p>Yes No 8. Screams, bangs objects when denied something, has temper tantrums,</p> <p>Yes No 9. Pulls other children's hair, punches, steps on toes, etc., annoys children.</p> <p>Yes No 10. Steals.</p> <p>Yes No 11. Destroys or defaces property.</p> | <p>Yes No 12. Plays with matches.</p> <p>Yes No 13. Hurts other children (pinches, hits, kicks or other destructive acts).</p> <p>Yes No 14. Teases other children.</p> <p>Yes No 15. Hits smaller children, "picks on" weaker or smaller children.</p> <p>Yes No 16. Screams more than others.</p> <p>Yes No 17. Threatens to kill someone.</p> <p>Yes No 18. Swears or curses uses "Hell," "God damn" or other four-letter words).</p> <p>Yes No 19. Does not answer when spoken to, pouts, looks mean or sullen.</p> <p>*Key - Count yes responses.</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



MCBC aggression subscale t-score norms (Teacher's Form)

<u>Boys</u>		<u>Girls</u>
<u>Raw Score</u>	<u>t-score</u>	<u>t-score</u>
19	91	114
18	88	110
17	86	107
16	83	104
15	81	100
14	78	97
13	76	93
12	73	89
11	71	86
10	68	82
9	65	78
8	63	75
7	60	71
6	58	67
5	55	63
4	53	60
3	50	56
2	47	52
1	45	49
0	42	45
<u>Girls (Form - T)</u>	<u>Boys</u>	
Mean = 1.36	2.99	
S.D. = 2.71	3.92	

MCBC aggression subscale t-score norms (Parent's Form)

<u>Boys</u>		<u>Girls</u>
<u>Raw Score</u>	<u>t-score</u>	<u>t-score</u>
19	91	107
18	88	103
17	85	100
16	83	96
15	80	93
14	77	89
13	74	86
12	71	82
11	69	78
10	66	75
9	63	71
8	60	68
7	58	64
6	55	61
5	52	57
4	49	53
3	46	50
2	44	46
1	41	43
0	38	39
<u>Girls (Form - P)</u>	<u>Boys</u>	
Mean = 3.05	4.29	
S.D. = 2.8	3.6	



Appendix C  
Descriptive Statistics Tables

Table 10

Age

Minimum=12.93      Maximum=15.27

<u>Category</u>	<u>Cumulativ</u>		<u>Cumulativ</u>	
	<u>Freq.</u>	<u>Percent</u>	<u>Freq.</u>	<u>Percent</u>
12.8 <= - < 13.3	9	30.00	9	30.00
13.3 <= - < 13.8	11	36.67	20	66.67
13.8 <= - < 14.3	7	23.33	27	90.00
14.3 <= - < 14.8	2	6.67	29	96.67
14.8 <= - < 15.3	1	3.33	30	100.00

Table 11

GPA

Minimum=.58      Maximum=4.00

<u>Category</u>	<u>Cumulativ</u>		<u>Cumulativ</u>	
	<u>Freq.</u>	<u>Percent</u>	<u>Freq.</u>	<u>Percent</u>
.5 <= - < 1.0	1	3.33	1	3.33
1.0 <= - < 1.5	5	16.67	6	20.00
1.5 <= - < 2.0	7	23.33	13	43.33
2.0 <= - < 2.5	2	6.67	15	50.00
2.5 <= - < 3.0	2	6.67	17	56.67
3.0 <= - < 3.5	7	23.33	24	80.00
3.5 <= - < 4.0	4	13.33	28	93.33
4.0 <= - <=4.0	2	6.67	30	100.0

Table 12

Minority Status

<u>Category</u>	<u>Freq.</u>	<u>Cumulativ</u>	
		<u>Percent</u>	<u>Freq.</u>
MAJOR	28	93.33	28
MINOR	2	6.67	30
			100.00

Table 13

Gender

<u>Category</u>	<u>Freq.</u>	<u>Cumulativ</u>	
		<u>Percent</u>	<u>Freq.</u>
FEMALE	11	36.67	11
MALE	19	63.33	30
			100.00

Table 14

SAT

<u>Category</u>	<u>Freq.</u>	<u>Percent</u>	<u>Cumulativ</u>	
			<u>Freq.</u>	<u>Percent</u>
0 ≤ - < 10	3	11.11	3	11.11
10 ≤ - < 20	4	14.81	7	25.93
20 ≤ - < 30	0	.00	7	25.93
30 ≤ - < 40	2	7.41	9	33.33
40 ≤ - < 50	2	7.41	11	40.74
50 ≤ - < 60	1	3.70	12	44.44
60 ≤ - < 70	2	7.41	14	51.85
70 ≤ - < 80	7	25.93	21	77.78
80 ≤ - ≤ 90	6	22.22	27	100.00

Table 15

Socioeconomic Status

<u>Category</u>	<u>Freq.</u>	<u>Percent</u>	<u>Cumulativ</u>	
			<u>Freq.</u>	<u>Percent</u>
FREDUCED	10	33.33	10	33.33
REG	20	66.67	30	100.00

Table 16

Learning Disabilities

<u>Category</u>	<u>Freq.</u>	<u>Percent</u>	<u>Cumulativ</u>	
			<u>Freq.</u>	<u>Percent</u>
NO	21	70.00	21	70.00
YES	9	30.00	30	100.00

Table 17

Behavior Disorders

<u>Category</u>	<u>Freq.</u>	<u>Percent</u>	<u>Cumulativ</u>	
			<u>Freq.</u>	<u>Percent</u>
NO	28	93.33	28	93.33
YES	2	6.67	30	100.00



Table 18

Office Discipline Counts

<u>Category</u>	Minimum=.00      Maximum=41.00			
	<u>Freq.</u>	<u>Percent</u>	<u>Cumulatv Freq.</u>	<u>Cumulatv Percent</u>
0 ≤ - < 5.	15	50.00	15	50.00
5. ≤ - < 10.	5	16.67	20	66.67
10. ≤ - < 15	2	6.67	22	73.33
15 ≤ - < 20	5	16.67	27	90.00
20 ≤ - < 25	0	.00	27	90.00
25 ≤ - < 30	1	3.33	28	93.33
30 ≤ - < 35	1	3.33	29	96.67
35 ≤ - < 40	0	.00	29	96.67
40 ≤ - ≤45	1	3.33	30	100.00

Table 19

MCBC Aggression Subscale T-Score

<u>Category</u>	Minimum=42      Maximum=82			
	<u>Freq.</u>	<u>Percent</u>	<u>Cumulatv Freq.</u>	<u>Cumulatv Percent</u>
40 ≤ - < 45	5	16.67	5	16.67
45 ≤ - < 50	11	36.67	16	53.33
50 ≤ - < 55	9	30.00	25	83.33
55 ≤ - < 60	2	6.67	27	90.00
60 ≤ - < 65	1	3.33	28	93.33
65 ≤ - < 70	1	3.33	29	96.67
70 ≤ - < 75	0	.00	29	96.67
75 ≤ - < 80	0	.00	29	96.67
80 ≤ - ≤85	1	3.33	30	100.00

Table 20

MCBC Aggression Subscale Standard Deviation Distribution

---

<u>Category</u>	<u>Freq.</u>	<u>Percent</u>	<u>Cumulativ</u>	
			<u>Freq.</u>	<u>Percent</u>
-1 <= - < 1 S.D.	27	90	27	90
1 <= - < 2 S.D.	2	6.67	29	96.67
2 <= - < 3 S.D.	0	0	29	96.67
3 <= - <= 4 S.D.	1	3.33	30	100

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## Appendix D

The National School Lunch Program (NSLP) income eligibility guidelines were used to approximate socioeconomic status among this population. Students were classified either free/ reduced lunch, or full price lunch. According to the USDA Food and Nutrition Service guidelines, students from a family of four with an annual income of \$20,865 or less were eligible for free school lunches during the 1997-98 school year. Likewise, students from a family of four with an annual income of \$29,694 or less were eligible for reduced lunches. The USDA calculated these figures by multiplying the Federal Poverty level by 130% for the free lunch eligibility ceiling and 185% for the reduced lunch eligibility ceiling. Therefore, free and reduced lunch participants live within economic parameters relative to the federal poverty level. Granted, NSLP participation falls short of 100% and income reporting compliance distorts the true income levels of participants.



## References

- Albee, G.W. (1984). Prologue: A model for classifying prevention programs. In J.M. Joffe, G.W. Albee, & L.D. Kelly (Eds.), Readings in primary prevention of psychopathology: Basic concepts (pp.228-245). Hanover, NH: University Press of New England.
- Bierman, K. L., Miller, C. M., & Staub, S. (1987). Improving the social behavior and peer acceptance of rejected boys: Effects of social skills training with instructions and prohibitions. Journal of Consulting and Clinical Psychology, 55, 194-200.
- Botvin, G. J., Baker, E., Filazzola, A. D., & Botvin, E. M. (1990). Preventing adolescent drug abuse through a multi-modal cognitive-behavioral approach: Results of a three-year study. Journal of Consulting and Clinical Psychology, 58, 437-446.
- Camp, B.W., Blom, G., herbert, F., & Van Doorninck, W. (1971). Think Aloud: A program for developing self-control in young aggressive boys. Journal of Abnormal Child Psychology, 5, 157-168.
- Caplan, M., Bennetto, L., & Weissberg, R. P. (1991). The role of interpersonal context in the assessment of social problem-solving skills. Journal of Applied Developmental Psychology, 12, 103-114.
- Caplan, M., Weissberg, R. P., Grober, J. S., Sivo, P J., Grady, K., & Jacoby, C. (1992). Social competence promotion with inner-city and suburban young adolescents: Effects on social adjustment and alcohol use. Journal of Consulting and Clinical Psychology, 60, 56-63.
- Coleman, M, Pfeiffer, S., & Oakland, T. (1991). Aggression replacement training with behavior disordered adolescents. Unpublished manuscript. (Available from Coleman, Special Education, University of Texas).
- Coie, J. D., Lochman, J. E., Terry, R., & Hyman C. (1992). Predicting early adolescent disorders from childhood aggression and peer rejection. Journal of Consulting and Clinical Psychology, 60, 783-792.

Coie, J. D., Rabiner, D. L., & Lochman, J. E. (1989). Promoting peer relations in school settings. In L. A. Bond, B. E. Compas, & C. Swift (Eds.), Prevention in the schools (pp. 207-234). Newbury Park CA: Sage.

Curulla, V.L. (1990). Aggression replacement training in the community for adult learning disabled offenders. Unpublished Manuscript, University of Washington, Seattle.

Dishion, T. J., Loeber, R., Stouthamer-Loeber, M., & Patterson, G. R. (1984). Skill deficits and male adolescent delinquency. Journal of Abnormal Child Psychology, 12, 37-54.

Dodge, K, Coie, J., & Brakke, N (1982). Behavior patterns of socially rejected and neglected adolescents: The roles of social approach and aggression. Journal of Abnormal Child Psychology, 10, 389-410.

Dodge, K. A. (1985). Attributional bias in aggressive children. In P. C. Kendall (Ed.), Advances in cognitive-behavioral research and therapy (Vol. 4 pp. 73-110). New York: Academic Press.

Dodge, K. A. (1986). A social information processing model of social competence in children. In M. Perlmutter (Ed.), Cognitive perspectives on children's social and behavioral development (pp. 77-125). Hillsdale, NJ: Erlbaum.

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

Dodge, K. A., Pettit, G. S., McClaskey, C. L., & Brown, M. M. (1986). Social competence in children. Monographs of the Society for Research in Child Development, 51.

Dodge, K. A., & Somberg, D. R. (1987). Hostile attributional biases among aggressive boys are exacerbated under conditions of threat to the self. Child Development, 58, 213-224.

Dodge, K. A. (1990). The structure and function of reactive and proactive aggression. In D Pepler & K.H Rubin (Eds.), The development



and treatment of childhood aggression. Hillsdale, NJ: Erlbaum.

Eccles, J.E., Midgley, C.M., & Adler, T.F. (1984). Age-related changes in the school environment: Effects on achievement motivation. In J.P. Nicholls (Ed.), The development of achievement motivation (pp. 283-331). Greenwich, CT: JAI Press.

Elias, M. J. (1983). Improving coping skills of emotionally disturbed boys through television-based social problem solving. American Journal of Orthopsychiatry, 58, 61-72.

Elias, M. J., & Branden, L. (1988). Primary prevention of behavioral and emotional problems in school-aged populations. School Psychology Review, 17, 581 -592.

Elias, M. J., & Clabby, J. F. (1989). Social decision making skills: A curriculum guide for the elementary grades. Rockville, MD: Aspen.

Elias, M. J., Gara, M., & Ubrico, M. (1985). Sources of stress and support in children's transition to middle school: An empirical analysis. Journal of Clinical Child Psychology, 14, 112-118.

Elias, M. J., & Weissberg, R. P. (1989). School-based social competence promotion as a primary prevention strategy: A tale of two projects. Prevention in Human Services, 7, 177-200.

Forman, S. G. (1980). A comparison of cognitive training and response cost procedures in modifying aggressive behavior of elementary school children. Behavior Therapy, 11, 594-600.

Gersten, J. C., Langner, T. S., Eisenberg, J. C., Simcha-Fagan, D., & McCarthy, E. D. (1976). Stability and change in types of behavioral disturbance of children and adolescents. Journal of Abnormal Child Psychology, 4, 111-127.

Goldstein, A.P. & Glick, B. (1994). Aggression replacement training: Curriculum and evaluation. Simulation & Gaming, 25, 9-27.

Goldstein, A. P., Glick, B., Reiner, S., Zimmerman, D., & Coultry, T. (1986). Aggression replacement training. Champaign, IL: Research Press.



(1986). Aggression replacement training. Champaign, IL: Research Press.

Goldstein, A. P., Glick, B., Irwin, M. J., McCartney, C., & Rubama, I. (1989).

Reducing delinquency: Intervention in the community. New York: Pergamon.

Goldstein, A.P., Glick, B., & Gibbs, J.C. (1998). Aggression replacement training: A comprehensive intervention for aggressive youth. Champaign, IL: Research Press.

Goodwin, S.F., & Mahoney, J.J. (1975). Modification of aggression through modeling: An experimental probe. Journal of Behavior Therapy and Experimental Psychiatry, 6, 200-202.

Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. Psychological Bulletin, 112, 64-105.

Hawkins, J. D., & Weis, J. G. (1985). The social development model: An integrated approach to delinquency prevention. Journal of Primary Prevention, 6, 73-97.

Jones, Y. (1990). Aggression replacement training in a high school setting. Unpublished manuscript. (Available from Center for Learning & Adjustment Difficulties, 242 Gladstone Road, Dutton Park 4102, Brisbane, Australia).

Kazdin, A. E. (1991). Aggressive behavior and conduct disorder. In T. R. Kratochwill & R. J. Morris (Eds.), The practice of child therapy (2nd ea., pp. 174-221). New York: Pergamon.

Kettlewell, P.W. & Kausch, D.F. (1983). The generalization of the effects of a cognitive-behavioral treatment program for aggressive children. Journal of Abnormal Child Psychology, 44, 586-596.

Kohlberg, L. (1981). The philosophy of moral development: Moral stages and the idea of justice. San Francisco: Harper & Row.

Kupersmidt, J. B., & Coie, J. D. (1990). Preadolescent peer status,

aggression, and school adjustment as predictors of externalizing problems in adolescence. Child Development, 61, 1350-1362.

Kupersmidt, J. B., & Patterson, C. J. (1991). Childhood peer rejection, aggression, withdrawal, and perceived competence as predictors of self-reported behavior problems in adolescence. Journal of Abnormal Child Psychology, 19, 427-449.

Leeman, L. W., Gibbs, J. C., Fuller, D., & Potter, G. (1991). Evaluation of multi-component treatment program for juvenile delinquents. Unpublished manuscript. (Available from Gibbs, Psychology Dept., Ohio State University).

Lochman, J. E. (1985). Effects of different treatment lengths in cognitive-behavioral interventions with aggressive boys. Child Psychiatry and Human Development, 16, 45-56.

Lochman, J. E. (1987). Self and peer perceptions and attributional biases of aggressive and nonaggressive boys in dyadic interactions. Journal of Consulting and Clinical Psychology, 55, 404-410.

Lochman, J. E. (1990). Modification of childhood aggression. In M. Hersen, R. Eisler, & P. M. Miller (Eds.), Progress in behavior modification (Vol. XXV, pp.47-85). Newbury Park, CA: Sage.

Lochman, J. E. (1991). Cognitive development. In J. L. Paul & B. C. Epanchin (Eds.), Educating emotionally disturbed children and youth: Theories and practices for teachers (Second ed., pp.180-217). New York: Merrill.

Lochman, J. E. (1992). Cognitive-behavioral interventions with aggressive boys: Three year follow-up and preventative efforts. Journal of Consulting and Clinical Psychology, 60, 426-432.

Lochman, J. E., Burch, P. R., Curry, J. F., & Lampron, L. B. (1984). Treatment and generalization effects of cognitive-behavioral and goal-setting interventions with aggressive boys. Journal of Consulting and Clinical Psychology, 52, 915-916.



Lochman, J. E., Coie, J. D., Underwood, M., & Terry, R. (1993). Effectiveness of a social relations intervention program for aggressive and nonaggressive rejected children. Journal of Consulting and Clinical Psychology, 61, 1053-1058.

Lochman, J. E., & Curry, J. F. (1986). Effects of social problem-solving training and self-instruction training with aggressive boys. Journal of Clinical Child Psychology, 15, 159-164.

Lochman, J. E., & Lampron, L. B. (1986). Situational social problem-solving skills and self-esteem of aggressive and nonaggressive boys. Journal of Abnormal Child Psychology, 14, 605-617.

Lochman, J. E., Lampron, L. B., Burch, P. R., & Curry, J. F. (1985). Client characteristics associated with behavior change for treated and untreated boys. Journal of Abnormal Child Psychology, 13, 527-538.

Lochman, J. E., Lampron, L. B., Gemmer, T. C., & Harris, S. R. (1987). Anger coping intervention with aggressive children: A guide to implementation in school settings. In P. A. Keller & S. R. Heyman (Eds.), Innovations in clinical practice: A source book (Vol. 6, pp. 339-356). Sarasota, FL: Professional Resource Exchange.

Lochman, J. E., Lampron, L. B., Gemmer, T. C., Harris, S. R., & Wyckoff, G. M. (1989). Teacher consultation and cognitive-behavioral intervention with aggressive boys. Psychology in the Schools, 26, 179-188.

Lochman, J. E., Lampron, L. B., & Rabiner, D. L. (1989). Format and salience effects in the social problem-solving of aggressive and nonaggressive boys. Journal of Clinical Child Psychology, 18, 230-236.

Lochman, J. E., Meyer, B. L., Rabiner, D. L., & White, K. J. (1991). Parameters influencing social problem-solving of aggressive children. In R. J. Prinz (Ed.), Advances in behavioral assessment of children and families (Vol. 5, pp. 31-63). Greenwich, CT: JAI Press.

Lochman, J. E., Nelson, W. M. III, & Sims, J. P. (1981). A cognitive-behavioral program for use with aggressive children. Journal of Clinical Child



Psychology, 13, 527-538.

Lochman, J. E., Wayland, K. K., & White, K. J. (1993). Social goals: Relationship to adolescent adjustment and to social problem-solving. Journal of Abnormal Child Psychology, 21, 135-151.

Lochman, J. E., White, K. J., & Wayland, K. K. (1991). Cognitive-behavioral assessment and treatment with aggressive children. In P. Kendall (Ed.), Therapy with children and adolescents: Cognitive-behavioral procedures. New York Guilford.

Lochman, J.E. (1999). Aggression in children and adolescents. Unity-Hyland Training Institute. St. Louis, MO: Unity Health.

Loeber, R. (1990). Development and risk factors of juvenile antisocial behavior and delinquency. Clinical Psychology Review, 10, 1-42.

Meichenbaum, D.H., & Goodman, J. (1971). Training impulsive children to talk to themselves: A means of developing self control. Journal of Abnormal Psychology, 77, 115-126.

Nelson, M. (1997). Aggressive and violent behavior: A personal perspective. Education & Treatment of Children, 20 (3) 250-263.

Nugent, W.R. & Bruley, C. (1998). The effects of aggression replacement training on antisocial behavior in a runaway shelter. Research on Social Work Practice, 8, 637-657.

Ollendick, T.H., Weist, M.D. Borden, M.C., & Ross, W.G. (1992). Sociometric status and academic, behavioral, and psychological adjustment: A five-year longitudinal study. Journal of consulting and clinical psychology, 60, 80-87.

Olweus, D. (1979). Stability of aggressive behavior patterns in males: A review. Psychological Bulletin, 86, 852-875.

Parker, J.G. & Asher, S.R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? Psychological Bulletin, 102, 357-389.

Robin, A.L., Schneider, M., & Dolnick, M. (1976). The Turtle

Technique: An extended case study of self-control in the classroom.  
Psychology in the Schools, 73, 449-453.

Rubin, K. H., LeMare, L.J., & Lollis, S. (1990). Social withdrawal in childhood: Developmental pathways to peer rejection. In S.R. Asher & J.D. Coie (Eds.), Peer rejection in childhood (pp 17-59), Cambridge, England: Cambridge University Press.

Sines, J.O., Pauker, J.D. Sines, L.K. & Owen, D.R. (1969). Identification of clinically relevant dimensions of children's behavior. Journal of Consulting and Clinical Psychology, 33, 728-734.

Sines, J.O. (1988). Teachers' norms and teacher-parent agreement on the missouri children's behavior checklist. Journal of School Psychology, 26, 413-416.

Sines, J.O. (1999). Correspondence with the MCBC originator and author. [jacob-sines@uiowa.edu](mailto:jacob-sines@uiowa.edu).

Schinke, S. R., Botvin, G. J., & Orlandi, M. A. (1991). Substance abuse in children and adolescents: Evaluation and intervention. Newbury Park, CA: Sage.

Statsoft (1994). Statistica for the macintosh. Tulsa OK: StatSoft.

Thompson, R.J. & Curry, J.F. (1983). A construct validity study of the missouri children's behavior checklist with developmentally disabled children. Journal of Pediatric Psychology, 39, 691-698.

Weissberg, R. P., Caplan, M., & Bennetto, L (1988). The Yale-New Haven Social Problem-Solving Program for Young Adolescents. New Haven, CT: Yale University.

Weissberg, R. P., Caplan, M., & Sivo, P. J. (1989). A new conceptual framework for establishing school-based social competence promotion programs. In L. A. Bond & B. E. Compas (Eds.), Primary prevention and promotion in the schools (pp.255-296). Park, CA Sage.