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ADOLESCENTS AND ANGER: AN INVESTIGATION OF VARIABLES THAT INFLUENCE THE EXPRESSION OF ANGER

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

Kirsten L. Stiffler

Indiana University of Pennsylvania

August 2008

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Title: Adolescents and Anger: An Investigation of Variables that Influence the Expression of Anger

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This descriptive design study investigated anger demonstrated by an adolescent population and added to the limited body of research that investigates anger in adolescents. Specifically, the research explored the effects of variables including sex, grade level, number of friends, academic achievement, school behavior, friends' behavior, and number of household members on levels of Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger.

The sample for this study was comprised of seventh, ninth, and eleventh grade students in a rural school district in Pennsylvania. Seventy-four subjects completed the *Adolescent Anger Rating* Scale (AARS). Analyses for this study involved use of independent t-tests, multivariate analysis of variance (MANOVA), and analysis of variance (ANOVA) to detect differences in levels of RA, IA, AC, and Total Anger when variables were considered.

Results of the data analyses reveal that no significant differences are detected in RA, IA, AC, and Total Anger levels for males versus females or younger versus older students. Additionally, no significant differences of anger expression or anger control were detected when examining variables individually including number of friends reported or number of household members reported. Results reveal that average grade earned, number of school suspensions, and friends' behavior had a significant effect on the data.

Specifically, average grade earned had a significant effect on Reactive Anger, Instrumental Anger, Anger Control, and Total Anger. Those indicating lower average grades earned were observed to report higher levels of Reactive Anger, Instrumental Anger, and Total Anger, along with lower levels of Anger Control than those indicating higher average grades earned. Number of school suspensions was found to have a significant effect on Anger Control, with those reporting no school suspensions having significantly higher levels of Anger Control than those reporting more school suspensions. Finally, results reveal that friends' behavior had a significant effect on Reactive Anger, Instrumental Anger, Anger Control, and Total Anger. Those rating their friends' behavior as Good reported significantly less Reactive Anger, Instrumental Anger, and Total Anger, along with significantly more Anger Control, than those rating their friends' behavior as more negative.

ACKNOWLEDGEMENTS

There are many individuals that I am forever grateful for helping me finish this project. First, I would like to thank my dissertation chair, Dr. Mary Ann Rafoth, and committee members, Dr. Victoria Damiani, Dr. Joseph Kovaleski, and Dr. William Barker. Without their knowledge and guidance, I could not have made my way through this research journey. I would also like to thank my friend Matt in the Applied Research Lab that lead me through the world of statistics and gave me confidence in comprehending the analyses.

Second, I would like to thank my friends and co-workers who gave me more support than anyone could ask for. Leslie, Kelley, Meghan, and Shannon, thank you for all of the advice hotline hours, encouragements, and willingness to listen to my frustration when things got rough! Debbie and Becky at the office, thank you for all the professional advice and listening when I needed to talk. And, Michelle, this study would have never been completed without the continuous assistance you so unselfishly offered. Thank you for all of your wisdom! (And thank you for encouraging me not to throw my computer out the window when my margin settings were not cooperating!)

Third, for my family who I hold so very near and dear to my heart. For my parents, Terry and Blythe Johns, I thank you for instilling in me faith in God, a motivation to achieve, and a will to never give up even when the tough gets going. For my brother Nate, thank you for always sharing your knowledge and opinions with me… I am proud to call you my Gifted brother. For my mother-in-law, Agnes and sister-in-law Rose, thank you for the never ending prayers. For my grandparents, Jack, Jean, Gladys, and Hicks, sister-in-law, Jennifer, aunts Sheri and Sue, uncles Tom and Huck, cousins, Dan, Pat, Adam, John, and Shanna, and cousin-in-laws, Dom and Ashley, along with the

rest of my Stiffler family, I thank you for checking in on my progress, taking an interest in my work, and offering me verbal reinforcements and praise. For my best friend Senta, I thank you for always offering an open ear and helping me believe in myself. For my aunt Nancy, I thank you for being an inspiration to us all; for teaching me that, no matter what life throws at you, to lift your head up and soar through each day with laughter leading the way.

And, for my most prized possessions, my husband John, and our little blessings Ayden and Gabriella, I thank you. John, I could not have made it through without you. Your willingness to play Mr. Mom for countless hours when the computer was calling my name will never be forgotten. For all the bath times and nighttime tuck-ins that I missed, I thank you for being there. You are the best dad in the world! Ayden and Gabriella, you have been my saving grace and the best gifts I could have ever been blessed with. Thank you for bringing stress relief to my life through cars, trucks, baby dolls, and lots and lots of fun!

Finally, I thank you, God, for every day that you bless me with and for this incredible opportunity. I thank you for these wonderful individuals that you have introduced into my life. And I thank you for my Lord and Savior Jesus Christ that gives me strength.

Thank you all again for your countless acts of kindness and the hours of help that you so willingly offered to me throughout this experience. You all mean more to me than any amount of letters after my name…

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CHAPTER I

AN INTRODUCTION

According to the National School Safety and Security Services (2007), American school staff and students suffered 31 school-related violent deaths and 59 nonfatal shooting incidents during the 2006-2007 school year. The National Center for Education Statistics (2007) reports that, in 2005, 4% of students ages 12 to 18 reported being victimized at school during the previous six months. In 2004, students ages 12 to 18 were victims of approximately 1.4 million nonfatal crimes at school, including 583,000 violent crimes (National Center for Education Statistics, 2007).

It is these violent acts of tragedy that have led our schools to take significant steps to improve school security. Schools have embarked on safety missions through the implementation and enforcement of safe school practices. Specifically, schools have initiated efforts to develop close relationships with law enforcement, regulate access to school buildings, establish security surveillance systems to monitor school activity, improve knowledge of crisis management and school policies, and implement violence prevention programs in schools (Butler, 2007). In addition, schools have made themselves unsuitable targets for unstable individuals through practicing safety drills and exercises, fostering positive and inviting school climates, modeling good behavior, and encouraging students and staff to be the eyes and ears of school buildings (Dillon, 2006). Fortunately, these measures taken over the last decade have resulted in lower rates of school violence incidents (Dillon, 2006).

Unfortunately, despite drastic measures taken, the threat of the possibility of school violence continues to loom in the hallways of our

academic institutions. In 2005, approximately 6% of students ages 12 to 18 reported being afraid of an attack or harm occurring at school (National Center for Education Statistics, 2007). Moreover, students in today's schools are instilled with a sense of fear and threat that impacts their emotional well-being and academic success in the classroom (Soriano & Soriano, 1994).

Fryxell and Smith (2000) report that "although school violence is a complex issue with multiple causal pathways, one potentially important variable is the high degree of anger and hostility existing among some students today" (p.86). Anger is one critical factor associated with aggression and violent behavior in our children (Averill, 1983). Anger has also been correlated with increased substance abuse among students, lower grade point averages, and higher levels of student depression (Lehnert, Overholser, & Spirito, 1994; Silver, Field, Sanders, & Diego, 2000). Anger experienced during the school-aged years may place individuals at a higher risk for difficulties later in life including serious coronary problems, depression, and domestic violence (Lehnert et al., 1994; Swaffer & Hollin, 2001).

The Problem

Burney (2001) indicates that most studies conducted on children have focused on aggression rather than anger. Despite research proposing that anger often serves as a precursor to violence and aggression (Hinshaw, Lahey, & Hart, 1993; Walker et al., 1991), the "role of anger has received less empirical attention as an independent research variable when compared to aggression" (Burney, 2001, p.1). While some anger research has been conducted with the primary/ intermediate school-aged population, approximately ages 5 to 12, and the adult population, ages 18 and over, there appears to be a gap in

the literature when exploring adolescent anger expression and control. Furthermore, there has been even less research conducted on differences in the expression and control of anger when considering specific variables such as sex, grade level, social acceptance, academic achievement, school behavior, friends' behavior, and number of household occupants of the adolescent population.

Given the continued problems of violence and angry behaviors committed on our middle and high school campuses, along with the negative impact on the academic success and emotional well-being of students (Soriano & Soriano, 1994), examination of adolescent anger is a critical gap that needs to be filled. Exploring specific ways in which adolescents express and control their anger, along with variables that may influence anger expression and control, is imperative in order to gain information to address angry behaviors and violence displayed in our schools (Burney, 2001).

Problem Significance

Herrmann and McWhirter (2003) state, "In addition to statistical figures, today one has to look no further than a local edition of a community newspaper to realize the extent to which violence has infiltrated our children's lives, and consequently the public and private schools they attend" (p. 274). The Center for Disease Control and Prevention (2005) recommends that schools continue efforts to establish physical and social environments that prevent violence and promote safety in schools. As aggressive and violent behaviors demonstrated by adolescents in schools have been correlated with increased levels of anger (McWhirter & McWhirter, 1995), the investigation of adolescent anger expression is warranted to facilitate the development and implementation of anger management programs that prevent and decrease violent behaviors in our schools (Burney, 2001).

Therefore, this study will examine variables that may influence adolescent anger including sex, grade level, social acceptance, academic achievement, school behavior, friends' behavior, and number of household occupants. This study will also explore adolescent anger in a targeted school district in an attempt to gather local norms to assist in the development and implementation of a needs-based anger management program. As most anger management programs present with a "one size fits all" approach to dealing with anger, a focus on linking specific treatments to specific types of anger demonstrated in targeted districts is needed (Burney, 2001).

This study will focus on the work of Burney (2001), a leader in the research of specific adolescent anger types and developer of the *Adolescent Anger Rating Scale* (AARS). Burney's work was selected as the area of focus for this research because it concentrates on assessing anger expression and anger control differences of adolescents ages 11 to 19. In addition, a review of the literature of approximately the past 60 years, along with a web-based search of psychometrically sound assessments of adolescent anger, reveals that Burney's anger scale, the AARS, presents as the most valid and reliable method of solely evaluating modes of adolescent anger expression and anger control.

Specifically, this study will focus on Burney's developed and investigated constructs including Reactive Anger, Instrumental Anger, Anger Control, and Total Anger. Burney (2001) defines Reactive Anger as "an immediate angry response to a perceived negative, threatening, or fearful event" (p.2). This type of anger results in a retaliatory and impulsive response to an anger provocation. Instrumental Anger is defined as "a negative emotion that triggers a delayed response resulting in a desired and planned goal of revenge and/or retaliation"

(Burney, 2001, p.2). This type of anger assists an individual in obtaining a specific outcome or goal.

Anger Control is defined as "a proactive cognitive-behavioral method used to resolve instrumental and/or reactive responses to anger" (Burney, 2001, p.2). Cognitive processes and skills needed to manage anger-related behaviors are utilized by individuals who demonstrate high levels of Anger Control, while persons who exhibit low levels of Anger Control lack the cognitive-behavioral strategies to positively confront anger provocations.

Finally, Total Anger is defined as "a general index of anger expression" (Burney, 2001, p. 8). Total Anger incorporates an adolescent's self-reported levels of Reactive Anger, Instrumental Anger, and Anger Control items into one overall rating scale score.

Research Questions

For the purpose of this study, the following research questions will be investigated: 1) Do adolescent males and females express anger differently, with regard to Reactive Anger, Instrumental Anger, Anger Control, and Total Anger?; 2) Are there significant differences in the frequency of Reactive Anger, Instrumental Anger, Anger Control, and Total Anger demonstrated by students in seventh, ninth, and eleventh grades?; and 3) Do variables such as number of friends reported, average grade earned reported, number of school suspensions reported, friends' behavior reported, and number of household members reported influence levels of Reactive Anger, Instrumental Anger, Anger Control, and Total Anger?

Hypotheses

The following hypotheses are developed, corresponding to the above-mentioned research questions: 1) Adolescent males will demonstrate higher levels of Reactive Anger, Instrumental Anger, and

Total Anger than adolescent females and females will demonstrate higher levels of Anger Control; 2) The amount of Reactive Anger, Instrumental Anger, and Total Anger will decrease and the amount of Anger Control will increase with each higher grade; and 3)The amount of Reactive Anger, Instrumental Anger, and Total Anger will decrease and the amount of Anger Control will increase with those who report having more friends, higher average grades, less school suspensions, friends with better behavior, and less household members. *Figure 1* illustrates the relationships between the hypothesized constructs.

Definitions

Anger has been defined as an "experiential state consisting of emotional, cognitive and physiological components that co-occur, rapidly interacting with and influencing each other in such a way that they tend to be experienced as a single phenomenon" (Deffenbacher, 1999, p. 295). It is also described as a negative emotion in terms of subjective experience. Anger is considered to be the drive or motive behind aggressive behavior and the subjective experience that accompanies aggressive impulses (Averill, 1983).

For this study, *anger expression* will be defined via the following anger dimensions: Reactive Anger, Instrumental Anger, Anger Control, and/or Total Anger. Frequencies of these anger dimensions will be represented by AARS subscale scores. First, *Reactive Anger* (RA) is defined as "an immediate angry response to a perceived negative, threatening, or fearful event" (Burney, 2001, p.2). This type of anger results in a retaliatory and impulsive response to an anger provocation. Adolescents who exhibit significant levels of RA struggle with cognitively processing environmental cues and demonstrate few positive solutions to problems when they are angered. They also display negative attributions that lead to hyperactive and impulsive

response styles (Burney, 2001). RA is marked by deficits in cognitive processing, anger control, and social skills (Dodge & Coie, 1987).

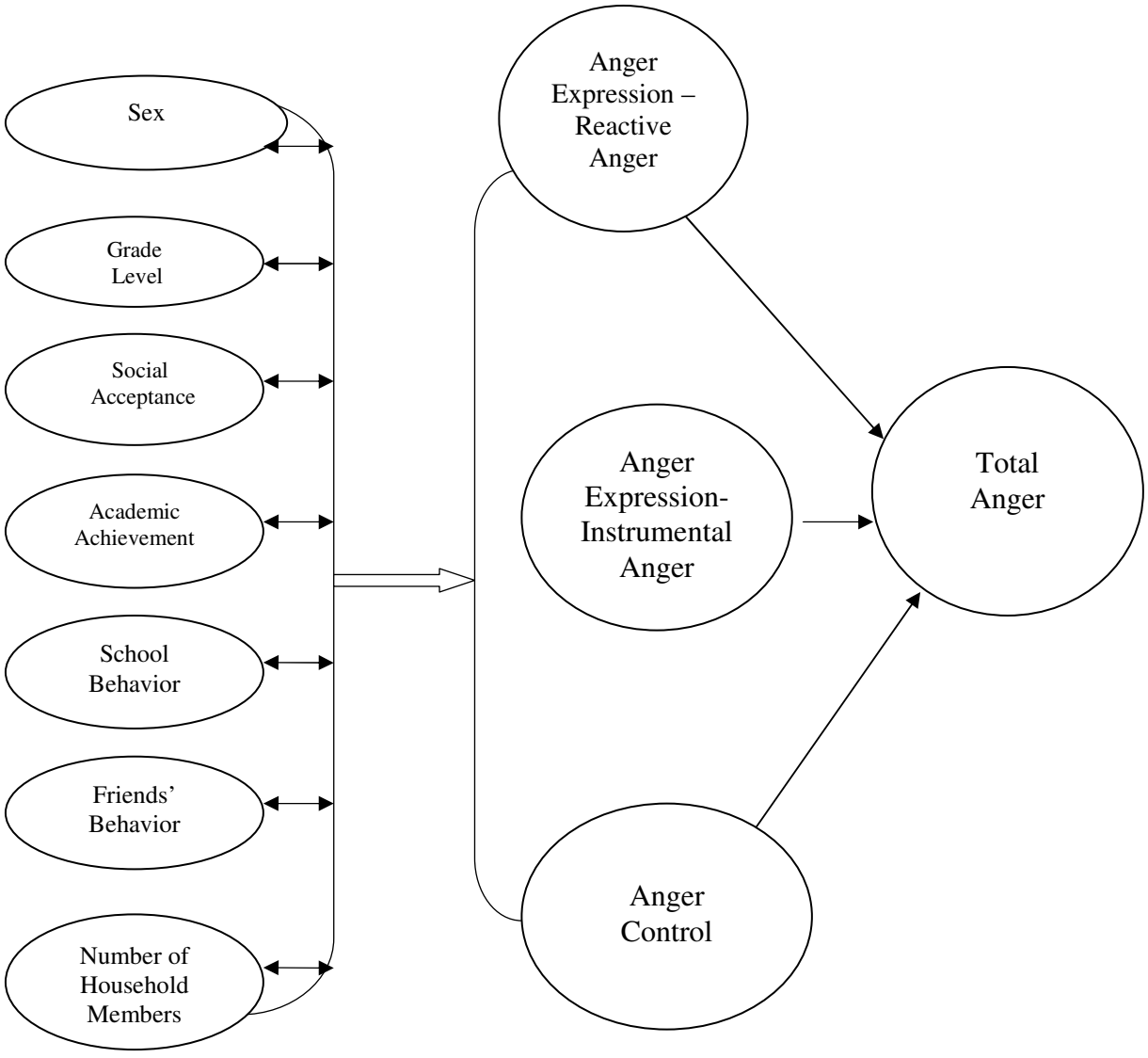

Figure 1: The relationship between the hypothesized constructs.

For this research, RA will be represented by one's score yielded on the Reactive Anger subscale of the AARS.

Second, *Instrumental Anger* (IA) is "a negative emotion that triggers a delayed response resulting in a desired and planned goal of revenge and/or retaliation" (Burney, 2001, p.2). This type of anger assists an individual in obtaining a specific outcome or goal. IA is internally motivated by a memory of a previous provocation and, in turn, the revengeful acts that result are maliciously planned and carried out. Delinquency and antisocial behavior are demonstrated by adolescents who exhibit significant levels of instrumental-type anger (Burney, 2001). For this study, IA will be represented by one's score yielded on the Instrumental Anger subscale of the AARS.

Anger Control (AC) is "a proactive cognitive-behavioral method used to resolve instrumental and/or reactive responses to anger" (Burney, 2001, p.2). Cognitive processes and skills needed to manage anger-related behaviors are utilized by individuals who demonstrate high levels of AC. On the other hand, persons who exhibit low levels of AC lack the cognitive-behavioral strategies to positively confront anger provocations. For this study, AC will be represented by one's score yielded on the Anger Control subscale of the AARS.

Total Anger is "a general index of anger expression" (Burney, 2001, p. 8). It is a measurement based on responses to items on the RA, IA, and AC subscales. For this study, Total Anger will be represented by one's overall score yielded on the AARS, as calculated by incorporating all items on the RA, IA, and AC subscales.

Adolescent is a term that refers to individuals that have typically undergone puberty; however, have not reached full physical maturity. An adolescent typically experiences the following changes: biological, cognitive, moral reasoning, self-concept, self-esteem,

identity, gender-role socialization, sexuality, and vocational choice (Snowman & Biehler, 2006). For this study, adolescents in the seventh, ninth, and eleventh grades will be studied. The sample will include adolescents ages 12 to 13, 14 to 15, and 16 to 17.

District refers to the school district of study for this research. Specifically, the district under examination, the Blacklick Valley School District, is a rural school district in West Central Pennsylvania.

Regular Education students refer to those adolescents who participate strictly in Regular Education, or the general education curriculum, with no Special Education programming or accommodations received.

Special Education students refer to those adolescents who receive Special Education accommodations or programming in the form of Learning Support, Emotional Support, Vision Support, and/or Hearing Support.

Variables investigated for this study will include sex, grade level, social acceptance, academic achievement, school behavior, friends' behavior, and number of household occupants. Variables will be specified via responses provided by study participants on the rating scale administered.

Sex refers to the participants being male or female. *Grade Level* differentiates those participants that are in the seventh, ninth, or eleventh grade, along with the chronological age of the participant including the following: seventh grade students – 12 to 13 years of age; ninth grade students – 14 to 15 years of age; and eleventh grade students – 16 to 17 years of age.

Social acceptance is defined via specification of one's number of friends and may include "0" or "1-5+". For the purpose of this study, the terms *social acceptance* and *number of friends* are interchangeable.

Academic achievement refers to one's average letter grade earned in general and may include "A-B" or "C-D". For the purpose of this study, the terms *academic achievement* and *average grade earned* are interchangeable.

School behavior is defined via specification of times suspended in the last year and may include "0" or "1-5+". For the purpose of this study, the terms *school behavior* and *number of school suspensions received* are interchangeable.

Friends' behavior is defined by the participant rating his/her friends' behavior as "Good" or "OK-Bad." Finally, *number of household occupants* is defined via the participant listing individuals that reside in the home such as "mother," "father," "brother," "sister," "grandmother," "aunt" etc. For the purpose of this study, the terms *number of household occupants* and *number of household members* are interchangeable.

Assumptions

It is assumed that classrooms selected to participate are representative of the population of the district of study. First, classrooms selected are composed of students that are receiving Regular Education and/or Special Education. Secondly, given that the entire population of the Blacklick Valley School District is Caucasian, students participating are representative of the ethnicity of the district.

Limitations

One limitation of this study is the lack of sample representation of the general population. First, as the study's sample is strictly Caucasian, there is no representation of other races. Second, as this study is sampling seventh, ninth, and eleventh grade students, all ages of the adolescent population are not sampled. In turn, generalization

of results yielded from this study do not represent students of different races and all adolescent ages.

Summary

Anger is one critical factor associated with aggression and violent behavior in our children (Averill, 1983). Given the continued problems of violence and angry behaviors committed on our middle and high school campuses, along with the negative emotional and academic impact on students (Soriano & Soriano, 1994), examining adolescent anger is a critical gap that needs to be filled. Exploring adolescent anger expression and control is imperative in order to gain information to address specific angry behaviors and violent acts displayed in our schools (Burney, 2001).

This study will investigate anger demonstrated by an adolescent population and add to the limited body of research that investigates anger in adolescents. Specifically, this study will investigate differences in the expression of RA, IA, AC, and Total Anger when considering variables such as sex, grade level, social acceptance, academic achievement, school behavior, friends' behavior, and number of household occupants. In addition, this study attempted to gather local norms to aid in the future development and implementation of anger management programming that links specific anger treatments to specific types of angry behaviors demonstrated at the targeted school district.

CHAPTER II

A REVIEW OF THE LITERATURE

A web-based review of anger studies conducted over the past 60 years, utilizing the Elton B. Stephens Company (EBSCO) electronic research data base, reveals that anger experienced in both early childhood and adolescence can contribute to significant difficulties. Young children who display excessive anger are found to be at-risk for a host of negative developmental outcomes (Dodge & Coie, 1987; Hudley, 1993; Kazdin, 1987). Specifically, they are put at-risk for social rejection by peers, which may lead to poor school adjustment, school dropout, social problem-solving skills deficits, and higher rates of mental health referrals (Cox & Gunn, 1980). Anger in young children has also been found to be negatively related to social status and positively related to the display of aggressive behavior (Eisenberg et al., 1993; Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994). Early childhood anger and aggression have been linked to later crimes against other persons (Loeber & Stouthamer-Loeber, 1987) and may place individuals at a higher risk for difficulties later in life including serious coronary problems, depression, and domestic violence (Lehnert et al., 1994; Swaffer & Hollin, 2001).

Regarding the adolescent population, Modrcin-Talbott, Pullen, Zandstra, Ehrenberger, and Muenchen, (1998) state that anger hinders "the teen's adaptation of day-to-day events and achievement of the tasks of the adolescent period" (p. 239). Anger is communicated by adolescents through aggression and acting out behaviors that may lead to acceptance by deviant peer groups (McWhirter & McWhirter, 1995). Additionally, an adolescent's level of self-esteem is found to be higher when less anger is experienced and, as anger increases, self-esteem decreases (Modrcin-Talbott et al., 1998).

Considering anger may contribute to significant difficulties in the lives of our students and, more specifically, influence aggressive and violent behaviors demonstrated in our schools, it is imperative that anger be closely examined. Underwood, Hurley, Johanson, and Mosley (1999) state, "If psychologists and educators knew more about how children successfully manage anger, we might be able to devise better intervention programs for children who behave aggressively or who have difficulty being assertive" (p. 1428).

Therefore, to facilitate a thorough examination of anger, several tenets will be explored including definitions of anger, anger influences, the socialization of anger, anger and its relationship to sex, and anger differences among those of varying ages. In addition, ways to measure and treat anger, along with the theoretical foundation of attribution theory and its relationship to anger, will be presented. Finally, studies which have addressed expressions of anger, both those that have investigated the targeted types of anger for this study (Reactive Anger, Instrumental Anger, Anger Control, Total Anger) and those that have defined "anger" with different labels (ex. Internalized Anger versus Externalized Anger), will be reviewed. Refer to *Figure 2* to examine the logical structure of the review of the literature.

Defining Anger

Anger has been defined as an "experiential state consisting of emotional, cognitive and physiological components that co-occur, rapidly interacting with and influencing each other in such a way that they tend to be experienced as a single phenomenon" (Deffenbacher, 1999, p. 295). Regarding the emotional component of anger, research suggests that anger is experienced as a feeling state. It may vary in intensity from mild irritation and annoyance, to frustration, to rage and fury (Deffenbacher, 1999). McKellar (1949) defined anger as a

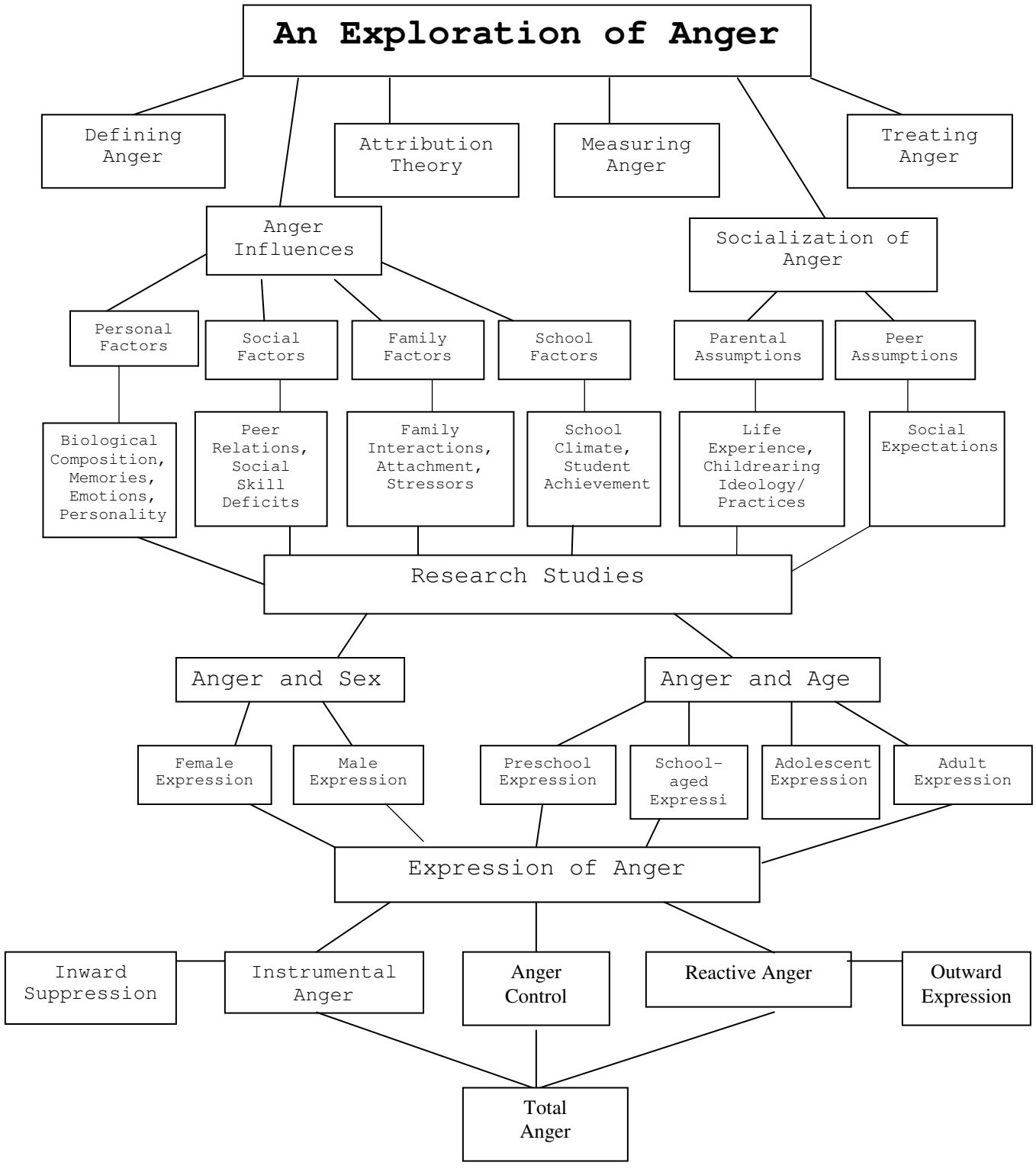

Figure 2: The logical structure of the review of the literature.

negative reaction to a stimulus event that may vary in frequency, intensity, and rate of response. While anger may be a residue of our biological past, it cannot be understood apart from the social context in which it occurs, as “anger is a highly interpersonal emotion” (Averill, 1983, p. 1149).

According to Novaco (1975), anger can be emotionally defined through the adaptive functioning that it serves, as anger may act as an emotional mechanism of defense in actual or perceived attacks on oneself or a significant other. Deffenbacher (1999) states, “When angry, some individuals respond with physical and/or verbal assault. Others may engage in passive, indirect aggression” (p.298). Contrarily, research has also shown moderate levels of anger to result in individuals engaging in adaptive behavior such as assertiveness, conflict management, problem-solving, limit setting, and appropriate disengagement from others (Deffenbacher, 1999).

With regard to the cognitive component of anger, research suggests that the process of anger involves deficits in cognitive processing of social events (Dodge & Coie, 1987). Significant levels of anger have been correlated to biased information-processing of thoughts, images, and attributions that involve one feeling excessively violated, wronged, blamed, attacked or inferior. Specifically, individuals may demonstrate anger due to having difficulty assessing and utilizing social cues and, in turn, engaging in misattributions (Deffenbacher, 1999; Smith, 1999).

Finally, physiologically speaking, the emotion of anger results in both hormonal and muscular anatomical changes in an individual. Anger consists of sympathetic arousal, a release of adrenal hormones, and increased muscle tension. Essentially, anger serves as an energizer

providing heightened sensory-motor strengths to carry out defensive attacks (Novaco, 1975).

In particular, the physiological process of anger first involves a surge in adrenaline, the stress hormone that boosts one's blood pressure and pulse rate. The heart's workload is then increased and a need for oxygen is multiplied (Harvard Medical School, 2006). During times of anger, adrenaline may cause abnormal heart rhythms and activate platelets, the tiny blood cells that trigger blood clots that can block arteries. It is noted that high levels of anger may provoke a coronary artery spasm which results in the narrowing of a partially blocked blood vessel (Harvard Medical School, 2006).

Concerning the demonstration of anger, anger may be "either expressed outwardly or inwardly" (Swaffer & Hollin, 2001, p. 91). Anger-Out refers to responding with physical or verbal aggression, while Anger-In refers to anger that is actively suppressed by the individual (Spielberger, 1988). Anger-Control, on the other hand, is defined as "the frequency with which an individual attempts to control the expression of anger" (Spielberger, 1988 p. 1).

Over the last 50 years, researchers have assigned various labels to the construct of anger to clarify different modes of expression. McKellar (1949) introduced three forms of anger including Overt Anger, Non-Overt Anger, and Delayed Anger. Overt Anger is defined as "an immediate and impulsive reaction to a stimulus event, as demonstrated by verbal and/or physical aggression," Non-Overt Anger is defined as "a passive expression of internalized emotions," and Delayed Anger is described as "planned aggression" (p. 1). Similarly, Spielberger (1988) introduced the following: a) State Anger - "the intensity of angry feelings at a particular time"; b) Trait Anger - "general propensity to experience and express anger without specific

provocation"; c) Anger-In – "the frequency with which angry feelings are held in or suppressed"; and d) Anger-Out – "how often an individual expresses anger toward other people or objects" (p.1). It is noted that the label Externalized Anger is often used to represent Anger-Out, while Internalized Anger is used to represent Anger-In (Cautin, Overhoser, & Goetz, 2001).

More recently, in exploring adolescent anger of individuals ages 11 to 19, Burney (2001) identified and examined four dimensions of anger including Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger. First, RA is defined as "an immediate angry response to a perceived negative, threatening, or fearful event" (Burney, 2001, p.2). This type of anger results in a retaliatory and impulsive response to an anger provocation. Adolescents who exhibit significant levels of RA struggle with cognitively processing environmental cues and demonstrate few positive solutions to problems when they are angered. They also display negative attributions that lead to hyperactive and impulsive response styles (Burney, 2001). RA is marked by deficits in cognitive processing, anger control, and social skills (Dodge & Coie, 1987).

Burney (2001) defines Instrumental Anger (IA), as "a negative emotion that triggers a delayed response resulting in a desired and planned goal of revenge and/or retaliation" (Burney, 2001, p.2). This type of anger assists an individual in obtaining a specific outcome or goal. Furthermore, IA is internally motivated by a memory of a previous provocation and, in turn, the revengeful acts that result are maliciously planned and carried out. Delinquency and antisocial behavior are demonstrated by adolescents who exhibit significant levels of instrumental-type anger (Burney, 2001).

Anger Control (AC) is defined as "a proactive cognitive-behavioral method used to resolve instrumental and/or reactive responses to anger" (Burney, 2001, p.2). Cognitive processes and skills needed to manage anger-related behaviors are utilized by adolescents who demonstrate high levels of AC. On the other hand, adolescents who exhibit low levels of AC lack the cognitive-behavioral strategies to positively confront anger provocations.

Finally, Total Anger is defined as "a general index of anger expression" (Burney, 2001, p. 8). It is calculated by incorporating responses provided in the areas of RA, IA, and AC.

Burney (2001) reports that, while many researchers have provided various definitions of anger, careful review of definitions in the literature reveal the following three common trends that further clarify and consolidate a current definition of anger: 1) Anger is an intense, negative emotion that is based on both cognitive interpretations and previous experiences; (2) Anger is cognitive in nature and is resolved behaviorally based on one's perception of the stimuli causing the provoking event; and (3) An individual's interpretation, attribution, and appraisal of self determines his/her actual response to resolve the anger-provoking event. These trends are further explored through examination of Attribution Theory and its relationship to anger.

Attribution Theory and Anger

The vast literature base on attribution theory investigates beliefs or causality of why a particular event, behavior, or outcome has occurred (Kenworthy & Miller, 2002; Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Weiner, 1980; Weiner, 2000;). Attribution theory proposes that causal ascriptions produce affect and, in turn, emotions guide the motor and direction for behavior. Moreover, attribution

theory proposes a “sequential organization between the tripartite division within the psychology of thought, feeling, and action” (Weiner, 1980, p. 186).

Three dimensions of causality have been identified in attribution theory. These include locus, stability, and controllability (Weiner, 1979). First, locus refers to the location of a cause, which may be within or outside of an individual. Locus considers both internal factors involved, such as an individual’s ability or effort, and external factors such as task difficulty or assistance provided by others (Weiner, 2000).

Second, stability refers to the duration of a cause. Duration may be temporary or constant. For example, factors such as math aptitude or ability may be perceived as constant or stable. Other factors such as chance or effort may be considered temporary or unstable (Weiner, 2000).

Finally, controllability considers the extent to which causes are able to be willfully controlled by an individual (Rudolph et al., 2004). For example, Weiner (2000) states, “Causes such as effort are subject to volitional alteration, whereas others cannot be willfully changed. Luck and aptitude have this property” (p. 4).

Regarding anger, research proposes that the controllability factor of attribution theory plays a role in anger experienced by an individual. Specifically, studies conducted have detected an increase in anger when the cause of a negative event is perceived to be controllable by another individual (Mikula, 1993; Weiner, 1980; Weiner, 2000). Anger is observed to increase when another individual is held responsible or blamed for the occurrence of a negative outcome. According to Averill (1983), “More than anything else, anger is an attribution of blame” (p.1150). Individuals may misattribute

intentionality on the part of others, believe that anger is warranted, and in turn, exhibit negative and hostile behaviors (Deffenbacher, 1999; Dodge & Coie, 1987; Fryxell & Smith, 2000). Anger "appears to direct attention, interests, perceptions, and memory into paths of impulsive aggression" (Smith, 1999, p. 135).

Concerning the locus and stability dimensions of causality, studies have proposed that anger is observed to increase when internal, more unstable factors that are able be controlled by an individual occur. For example, when one does not put forth adequate effort to complete a task, he/she is held responsible for failure that may result (Weiner, 2000). Furthermore, if an individual is held responsible, then anger is elicited by others, and as a result, tendencies to engage in hostile retaliation develop (Rudolph et al., 2004). Essentially, "responsibility for a negative outcome, in turn, gives rise to anger" (Weiner, 2000, p. 7).

Attribution theory sheds light on why angry behaviors may be demonstrated, as theory principles link perceptions to feelings and, in turn, actions. As anger has been correlated to deficits in cognitive processing of social events (Dodge & Coie, 1987) and biased information-processing of thoughts, images, and attributions that involve one feeling excessively violated, wronged, blamed, attacked or inferior (Deffenbacher, 1999; Smith, 1999), attribution theory provides insight into the experience and demonstration of angry behaviors. However, to understand the experience of anger more thoroughly, an examination of the influential triggers of anger is warranted.

Anger Influences

Research has suggested that, generally speaking, anger is both a residue of our biological past, as well as a socially constituted syndrome that is maintained because of its consequences. At the

biological end of the spectrum, anger may result due to our genetic make-up and hormonal system. At the social end of the spectrum, anger may stem from social influences that may provide one with a sense of acceptance, gain, or success (Averill, 1983). More specifically, anger influences presented in the literature are found to be classified under one of the following four categories: personal, social, family, and school characteristics.

Personal Factors

Personal factors include such variables as an individual's biological composition, anger-related memories and images, thoughts or emotions, and personality traits and disposition. The first variable, an individual's biological composition, includes an individual's bodily cells and hormones that play a part in the way behavior is regulated and expressed and in the way one demonstrates impulse control. Specific cells involved in behavioral regulation and impulse control include "excitatory cells" and "inhibitory cells" (Lehnert et al., 1994). Excitatory cells play a role in the firing of nerve cells, whereas inhibitory cells reduce the responsivity of nerve cells to incoming stimulation. Individuals who exhibit reactive anger may have an increased rate of nerve cells firing, thereby increasing the negative response rate to anger provocation. Contrarily, individuals who demonstrate lower rates of excitatory cell functions may display higher levels of self-control when confronted with anger events. Inhibition of cell firing may end in instrumental responses to anger-provoking events (Lehnert et al., 1994).

Hormonally speaking, research has revealed that a correlation between aggression and circulating levels of testosterone exists (Maccoby & Jacklin, 1980). Therefore, higher levels of testosterone may influence increased levels of anger. Maccoby and Jacklin (1980)

indicate that, while biological factors cannot be viewed as the single underlying influence of the difference between the amounts anger/aggression experienced between the sexes, it most certainly should not be ignored or discarded when considering factors that contribute to anger.

The second variable, anger-related memories and images, has been found to trigger anger when memories of past situations that resulted in angry feelings or images are paired with an external event. In situations such as this, an individual may generalize his anger to any and all people or events that may trigger angry feelings from the past (Deffenbacher, 1999).

The third variable, thoughts and emotions, includes both brief and longer episodes of thoughts or emotions that may trigger anger. In particular, brief periods of thoughts or emotions that consist of hurt, anxiety, rejection, loss or frustration may act as antecedents of angry feelings (Averill, 1983; Deffenbacher, 1999). In addition, anger has been correlated to more chronic episodes of emotional difficulties, such as depression, as anger has been found to co-occur with depressive periods experienced by an individual (Newman, Fuqua, & Gray, 2006).

Finally, the fourth variable involves examination of one's personality and disposition. Smith (1999) reports that individuals with increasingly dependent personalities, accompanied by intensified feelings of weakness, may experience feelings of inferiority and anger, as anger acts as a means for compensation. One's pre-anger state or disposition may also "significantly influence the probability, intensity, and course of anger expression" (Deffenbacher, 1999, p.296). According to Zillman (1971), excitation from a prior state of anger may transfer and increase the chance of anger in future situations. Any aversive emotional or physical states such as hunger, illness, or

fatigue raise the probability of anger due to aversive feelings and images being increased when these states are experienced (Berkowitz, 1990).

Social Factors

Social factors include such variables as peer relationships and social skill deficits. Specifically, individuals that demonstrate high frequencies of angry behaviors, along with the inability to effectively regulate negative feelings in peer interactions, are less likely to be accepted by others (Eisenberg et al., 1994).

Concerning peer relationships, studies conducted have revealed that negative peer interactions may increase anger levels in children. In examining personal, social, and family characteristics of angry students ages 10 and 11, Fryxell and Smith (2000) concluded that children who demonstrate high levels of anger are more likely to be teased by peers. Similarly, Stadler, Rohrmann, Steuber, and Poustka (2006), in their study on the effects of peer provocation among 34 aggressive children ages 9 to 14, determined that high levels of anger were positively correlated with children being provoked by peers.

Regarding social skills, Burney (2001) proposes that adolescents who demonstrate difficulty in accessing and utilizing social cues may misattribute peer interactions and, as a result, demonstrate more negative and hostile interactions and fewer positive, problem-solving strategies. Preadolescents who demonstrate poor social skills and difficulty in making and keeping friends manifest more anger problems. Essentially, angry adolescents are rejected from peer groups and, as a result, may then turn to deviant peer groups that are observed to demonstrate more angry behaviors (Burney, 2001; Fryxell & Smith, 2000).

Family Factors

Family factors include variables such as family interactions, attachment relationships, and family stressors. Sigfusdottir, Farkas, and Silver (2004) propose that negative family interactions may contribute to one experiencing increased negative emotions such as anger and depressed mood, as the effects of family conflict are, in part, mediated through anger. Thus, adolescents that witness conflict between parents may learn to respond to difficulties by using aggressive behavior (Sigfusdottir, et al., 2004). Similarly, Reid and Patterson (1991) suggest that a child's opinion and disposition with regard to anger and aggression are shaped and modified through family interactions. Early coercive family interactions serve as models of aggressive behaviors and, in turn, children are reinforced for such behaviors.

In terms of attachment relationships, degrees of nurturance have been found to influence a child's social/emotional development and their ability to attach to others. Children who do not experience attachment to family members may be at-risk to exhibit more aggressive and angry acts toward others (Soriano & Soriano, 1994). In addition, angry adolescents have been found to experience less intimacy with their parents (Silver et al., 2000). Fryxell and Smith (2000) suggest that family support is related to levels of anger demonstrated in school and that positive parent-child relationships likely influence subsequent relations, both in school and with peers. Results of their study on factors associated with fifth and sixth grade students manifesting anger problems in school revealed that preadolescents who had "little parental support were at-risk for experiencing chronic anger" (p. 91).

Regarding family stressors, research has shown that anger may be influenced by factors such as physical abuse, neglect, or parental psychopathology that increase strain within the family unit. Increased anger may also result from a large number of individuals living in one household and poverty-stricken conditions surrounding family members (Huston, 1991). As dysfunctional family environments subjected to stressors influence parental levels of anger, generational patterns of behavior may result in offspring of these homes (Burney, 2001).

School Factors

School factors involve variables such as climate and academic achievement. In their study on the impact of exposure to school violence on students in grades 3 through 12 in 17 public schools from two different states, Flannery, Wester, and Singer (2004), concluded the following: "Witnessing violence and being a victim of violence at school were found both positively and significantly associated with child psychological trauma symptoms and self-reported violent behavior, even after controlling for the effects of various demographic factors" (p. 569). Moreover, results suggested that both witnessing school violence and being victimized oneself contributes to serious emotional and behavioral consequences including violent behavior.

Concerning academic performance, students may be placed at risk of anger if academic failure or a lack of academic competence is experienced. Academic failure may increase feelings of rejection or "non-acceptance" and, as a result, influence the possibility of an angry emotional state (Fryxell & Smith, 2000).

Along with investigating the above-mentioned factors, the influences on the expression of anger can be more thoroughly understood by considering the socialization of anger itself. In particular, social acceptances, such as beliefs, values, and experiences that one

is exposed to may contribute to the manner in which individuals express emotion. The "interactional context" and communicative relationships in which individuals participate also influence how one experiences the emotion of anger.

The Socialization of Anger

A common theory highlighted in the literature suggests that emotion is governed by social norms (Averill, 1983; Hochschild, 1979; Levy & Rosaldo, 1983; Sabini & Silver, 1982; Shott, 1979). Furthermore, research has proposed that children's developing expression of emotions is influenced by culturally-patterned parental and peer assumptions about emotional life that are intentionally and unintentionally communicated to the child. Regarding parental assumptions, the following three contexts have been designated as playing a role in the socialization of anger: a caregiver's life experiences and understanding of emotions; a caregiver's beliefs, values, and childrearing goals; and the behavioral/situational context of anger expression (Miller & Sperry, 1987).

The first context, a caregiver's life experiences and understanding with respect to a particular emotion, recognizes the meaning of anger to the child's caregiver. For example, a caregiver that has been exposed to years of physical abuse from a spouse may understand the reaction of anger in a way that differs from that of a caregiver involved in a harmonious relationship with his/her spouse. The abused spouse may consider anger to be a defense that may resolve and remove internal conflict of a relationship, whereas the "non-abused spouse" may view anger as an "unhealthy" coping mechanism to utilize during discord in a relationship (Miller & Sperry, 1987). Hence, children who are exposed to angry interactions between parents may

"learn to respond to difficulties by using aggressive behavior" (Sigfusdottir et al., 2004, p. 518).

The second context, a caregiver's beliefs, values, and childrearing goals, considers how a child was "socialized" with respect to the emotion of anger. For example, the caregiver that may have been exposed to many years of abuse from a spouse may motivate his/her child to react to others in a defensive way and fight back when engaged in conflict. On the other hand, a caregiver involved in a marriage with little turmoil may encourage his/her child to resolve problems in a more non-violent manner that is characterized by communication and resolution (Miller & Sperry, 1987). Children's decisions to regulate emotions in the presence of others of varying degrees of affiliation, authority, and status is dependent upon the level of support received from these individuals and the history between the child and that individual (Zeman & Garber, 1996).

Finally, context three examines the behavioral/ situational context in which anger is expressed. This involves exploring the nature of interactions between a caregiver and his/her child when anger is demonstrated. For example, a child raised by a caregiver exposed to physical aggression, whereby defensive interactions are acceptable, may be provided with opportunities that allow for practice and encouragement of anger and aggression. The caregiver that evolves from a harmonious relationship may discourage angry and aggressive interactions with others and motivate his/her child to resolve conflict in a more appropriate fashion (Miller & Sperry, 1987).

In all three of the above-mentioned contexts, justification of anger by reference to social and moral standards is central. Specifically, anger may be viewed as a self-protective device in families where conflictual or aggressive histories were experienced, as

angry acts may be demonstrated when one is wronged as a means of self-defense. On the other hand, when one has not been wronged, anger may be demonstrated as a form of self-indulgence (Miller & Sperry, 1987).

Regarding peer assumptions, children are socialized to react emotionally in ways defined as "acceptable" by their peer group; ways that are not met with negative responses from peers (Underwood, 1997). Furthermore, during middle childhood, children appear to become deeply concerned about maintaining composure and avoiding embarrassment in front of peers (Gottman & Mettetal, 1986). In their study of responses to peer provocation in girls and boys, ages 10 and 12, Underwood et al. (1999) concluded that preadolescents responded to provocation from peers with control and a lack of angry responses, thereby supporting the proposal that middle childhood emphasizes and encourages responses that are not characterized by negative or angry actions. On the other hand, rejected youth have been observed to be affected by the value and beliefs of deviant peer groups which results in increased displays of anger (Coie & Lennox, 1994).

Anger and Sex

Much of the research in the literature proposes that anger differences exist between the sexes, with women exhibiting less anger than men (Biaggio, 1989; Brody & Hall, 1993; Eagly & Steffen, 1986; Maccoby & Jacklin, 1980). In general, theories explaining the female experience of anger tend to share the following common theme: "Women are emotionally expressive, with the exception of anger. That is, women are socialized to show their emotions more openly than are men, but women's open expressions of anger are viewed as unfeminine." (Sharkin, 1993, p. 386). In addition, females are taught to hide or suppress their anger and learn to become terrified of becoming angry. The female population inhibits direct expression of anger due to the

social sanctions of society and the concomitant interpersonal fears about the destructiveness of their own anger that they experience (Lerner, 1988). Additionally, due to consistently focusing on the needs of others, women have difficulty expressing anger (Lemkau & Landau, 1986).

Males, on the other hand, have been viewed in the literature as "emotionally inexpressive with the exception of anger" (Sharkin, 1993, p. 386). Anger is often described as the primary male emotion, with every other negative or painful emotion (i.e. jealousy, sadness, etc.) being transferred into anger over and over again. Anger is considered to be a more masculine emotion because it appears aggressive and strong; other emotions are viewed as feminine and weak (Pasick, Gordon, & Meth, 1990). Anger for men may serve as a defense against or an expression of other feelings (Heppner & Gonzales, 1987).

As a limited number of studies has been conducted on adolescent males and females exclusively and, more specifically on Reactive Anger, Instrumental Anger, and Anger Control, research conducted on both general anger and specific types of anger will be reviewed. Exploring research that investigates anger demonstrated by both males and females in the preschool, school-aged, adolescent, and adult populations, may further support an understanding of anger differences that have been reported between the sexes.

Concerning anger demonstrated by the preschool population, mixed reviews of differences in anger expression of the sexes exist. Dunn and Hughes (2001), in their study on violent pretend play demonstrated by preschoolers, concluded that male preschoolers, in both a "hard-to-manage" and "control" group demonstrated more anger than female members of the "control" group. Research focusing on hypothetical situations of conflict has revealed that preschool girls express more anger than

boys (Zahn-Waxler, Cole, Richardson, & Friedman, 1994). Preschool boys have been observed to verbally vent their anger, while preschool girls tended to actively assert themselves when angry (Fabes & Eisenberg, 1992).

With regard to school-aged studies examining anger, the majority of existing research suggests that school-aged males are more likely to demonstrate anger than school-aged females (Crick, Bigbee, & Howes, 1996; Hubbard, 2001; Zeman & Garber, 1996). Specifically, in studying emotional expressions in second-grade peer groups, Hubbard (2001) found that second-grade males were observed to demonstrate increased angry behaviors across three modalities including angry verbal intonation, angry nonverbal behaviors, and angry facial expressions; this possibly resulting due to males expressing more concern with competition than the females. Similarly, in examining relational aggression demonstrated by third- through sixth-grade children, Crick & Grotpeter (1995) found that school-aged boys reported that, more than any other behavior, overt physical and verbal aggression (e.g., hitting or pushing others, threatening to beat up others) is the norm for boys' angry behavior. Girls, on the other hand, indicated that relational aggression (behavior that focuses on damaging or manipulating relationships with peers) is the norm for angry behavior exhibited by girls (Crick, Bigbee, & Howes, 1996; Crick & Grotpeter, 1995).

While Buntaine and Constenbader (1997) reported that no significant differences were observed between the self-reported anger levels of fourth and fifth grade students, both males and females were found to exhibit significantly higher levels of anger under specific situations. Specifically, males expressed higher levels of anger when they were harmed by accident, whereas females experienced significantly more anger when not invited to participate in social situations.

In terms of adolescent research, the majority of studies suggest that males demonstrate more anger than females (Bjorkqvist, Osterman, & Kaukiainen, 1992; Burney, 2001; Cox, Stabb, & Hulgus, 2000; Headley, 2000). Males have been found to utilize more anger-based strategies to cope with daily situations (Headley, 2000). Adolescent males have also been found to demonstrate greater levels of anger leading to violence more often than females. Burney (2006), in exploring anger styles in adolescents ages 14 through 19, concluded that male adolescents report displaying higher levels of Reactive and Instrumental Anger than females. Similarly, Burney (2001), in investigating anger expression differences of adolescents 12 to 19 indicated that males reported demonstrating higher levels of Reactive Anger, Instrumental Anger and Total Anger than adolescent females, while females reported higher levels of Anger Control.

Contrarily, research suggests that female adolescents demonstrate increased levels of relational aggression, in the form of social exclusion, as they mature (Bjorkqvist et al., 1992). In addition, females use more internalized means for coping with anger than male students (Bjorkqvist et al., 1992; Cox et. al, 2000), along with higher levels of Anger Control (Burney, 2006). Cox et al. (2000), in examining anger and depression of students in fifth through ninth grade, concluded that, while males expressed oppositional feelings toward others, females suppressed them more often. Females also utilized more problem-focused strategies than males (Cox et. al, 2000).

Finally, adult research conducted on anger expression sex differences has yielded mixed reviews. When observing real-life situations, Biaggio (1989) concluded that adult men may be “more likely to respond to irritations with anger, more likely to be subjected to such provocations, and/or have a lower recognition threshold for

aggression" (p. 25). Higher levels of Trait Anger and Anger-Out have been also been detected for males (Fischer et al., 1993), while females have been found to inhibit angry feelings when subjected to real-life provocations (Biaggio, 1989). Similarly, when self-reporting, adult women have reported experiencing more guilt and anxiety as a consequence of aggression, along with more concern about the danger that their aggression might bring to themselves and its victims (Eagley & Steffen, 1986).

While sex differences in anger levels have been observed in some adult studies, other research conducted has concluded that no significant differences were detected. Biaggio (1989) reported no significant anger differences between adult males and females when considering the effects that resulted from a controlled experimental situation; this possibly due to women understanding that anger was an expected or reasonable response when participating in a controlled situation that called for such a response. In predicting mental health variables of college students, Kopper (1993) found no significant sex differences in the areas of Anger-In, Anger-Out, and Anger Control. Fischer et al. (1993) also found no significant sex differences for Anger Control or Anger-In when examining self-reports of male and female adults.

In an adult study of everyday experiences, Averill (1983) stated that "women reported becoming angry as often as men, as intensely, and for much the same reasons" (p. 1152). Also, when examining ratings provided by adults on a self-report scale, of both the intensity of anger and the disposition associated with anger expression, men and women have been found to provide similar responses (Stoner & Spencer, 1986). Finally, Bartz and Blume (1996) report that "men and women

differ minimally in the experience, expression, and control of anger" (p. 243).

In conclusion, while preschool and adult studies conducted on anger have yielded mixed reviews, the majority of studies conducted on anger expression differences of school-aged and adolescent males and females have suggested that males experience and demonstrate more anger than females.

Anger and Grade Level

To better understand anger expression in male and female adolescents, and given that the existent literature on adolescent anger is sparse, studies conducted on populations of all ages will be reviewed. To begin, research has suggested that anger is a strong, negative interpersonal emotional that requires even young children to respond when they feel violated, surprised, or hurt (Underwood, 1997). As young as three months of age, children may demonstrate angry behaviors that do not receive positive responses from others (Malatesta & Haviland, 1982). However, as children mature, they have been found to demonstrate decreased levels of anger. Research has suggested that this decrease may be a result of developmental and behavioral maturity (Gottman & Mettetal, 1986; Saarni & von Salisch, 1993; Underwood, 1997; Underwood et al., 1999; Zeman & Shipman, 1996).

First, anger has been shown to decrease as children acquire skills to maintain emotional composure (Gottman & Mettetal, 1986). This involves a complex interaction of social, cognitive, linguistic, and physiological skills. Children of older ages can identify how to alter their emotional expressions, demonstrate the physical ability to control the necessary muscles involved in regulating affective displays, and experience the motivation to use emotional regulation in appropriate situations (Zeman & Garber, 1996). In addition, older

children can regulate emotional expression due to being able to do the following: "(a) reason about antecedents and consequences of emotional expression, (b) distinguish between one's own and someone else's emotional experience, and (c) implement their knowledge in appropriate situations" (Zeman & Garber, 1996, p. 968).

Second, anger may decrease with age due to children expressing more concern for the maintenance of relationships with their peers (Underwood et al., 1999). Maturing children learn much about managing anger in peer relations and have acquired considerable amounts of skill in regulating their emotions so as to preserve relationships within the peer group. Furthermore, older children recognize that anger expression is usually received negatively in terms of peer relations (Saarni & von Salisch, 1993; Underwood, 1997; Zeman & Shipman, 1996).

Regarding specific research on anger and age, studies conducted on preschool children, approximately ages 3 to 5, have yielded results that conclude that emotions are more controlled with age and maturity. In particular, younger preschool children have been reported to demonstrate more difficulty in regulating their emotions. Unlike older preschool children, younger preschool children have been found to exhibit a lack of strategies that facilitate coping with anger and, in turn, more angry behaviors are demonstrated (Fabes & Eisenberg, 1992).

Similarly, concerning the school-aged population, approximately ages 5 through 12, research results have suggested that older school-aged children demonstrate more emotional control in times of anger than younger school-aged children (Jenkins & Ball, 2000; Underwood et al., 1999; Zeman & Garber, 1996). In exploring negative emotions of school-aged children, ages 6 through 12, Jenkins and Ball (2000) concluded that older school-aged children demonstrated a stronger recognition of regulating emotions than younger children. They also identified the

effects of emotions exhibited more than younger children, possibly due to presenting with an ability to recognize social consequences of negative emotional expressions such as anger. In addition, more mature children substituted more positive displays of emotion, possibly to avoid the negative social consequences that may result (Jenkins & Ball, 2000).

Furthermore, research has suggested that older school-aged children appear to be able to mask their feelings of anger and display more socially acceptable emotions even when internal experiences are negative (Jenkins & Ball, 2000; Underwood et al., 1999). In exploring the responses to peer provocation of school-aged children, ages 10 and 12, Underwood et al. (1999) concluded that the younger children exhibited increased levels of facial and verbal expressions in anger situations; the older children demonstrated decreased outward expressions of anger. Similarly, in studying emotional reactions of first, third, and fifth grade students, Zeman and Garber (1996) found that older children used more emotionally-neutral activity in response to circumstances when they expressed feeling angry. These students also developed active distraction strategies in response to anger.

However, while most school-aged studies conclude that anger decreases with age, some research has found insufficient evidence to support this notion. Miller, Danaher, and Forbes (1986), in their study on the ability of children ages 5 and 7 to cope effectively with interpersonal conflict situations, concluded that there were no significant differences in the amount of conflict engaged in or initiated. Furthermore, neither the five year-old children, nor the seven year-old children, were observed to engage in strategies that maintained composure.

Existing research on adolescent anger and age is limited. However, the majority of studies conducted have suggested that significant differences between younger and older adolescents are detected. Burney (2006), in her study on Reactive Anger, Instrumental Anger, and Anger Control, reported that adolescent students in ninth grade demonstrated higher levels of Reactive and Instrumental Anger than twelfth grade students. The twelfth graders were found to exhibit higher levels of Anger Control. Burney reported similar findings in 2001, indicating that younger students observed in seventh, eighth, and ninth grades reported demonstrating higher levels of Reactive and Instrumental Anger than older twelfth grade students. Additionally, the older twelfth grade students reported demonstrating higher levels of Anger Control than the seventh, eighth, and eleventh grade students assessed. Similarly, in examining Externalizing Anger of adolescent participants, Auchenbach (1991) concluded that levels of Externalizing Anger exhibited decreased with age. On the other hand, Cautin et al., (2001) found in their study on psychiatric inpatients, ages 12 to 17, that no differences in Internalizing Anger versus Externalizing Anger were self-reported.

Measuring Anger

The assessment of anger typically involves measuring external and/or internal behavioral responses that occur when one becomes angry (Burney & Kromrey, 2001). Novaco (1975) proposes that external variables include violent and aggressive actions such as physical aggression (i.e. hitting, kicking, etc.) and verbal aggression (i.e. screaming, name-calling, etc.). Internal variables consist of factors such as withdrawing from others and anxiety (Spielberger, Jacobs, Russell, & Crane, 1985). Anger is generally assessed in three ways: self-report, observed behavior, and psychophysiological recording.

According to Mayne and Ambrose (1999), "self-report is certainly the most practical for clinicians" (p. 357). More specifically, the use of self-report behavior rating scales is a common practice to assess the construct of anger (Bartz & Blume, 1996; Buntaine & Costenbader, 1997; Burney, 2006; Cautin et al., 2001; Cox et al., 2000; Flannery et al., 2004; Fryxell & Smith, 2000; Modrcin-Talbott et al., 1998; Newman et al., 2006; Stadler et al., 2006; Swaffer & Hollin, 2001), as these measures provide an organized and scientific format to assess the frequency of individuals' behavior over time (Burney & Kromrey, 2001). The majority of rating scales that assess anger employ a self-report format that requires rating frequencies of behavior based on a Likert-type continuum response system. Self-report rating scales have been determined to be useful for diagnosing and are supported by empirical studies (Siegel, 1986; Spielberger et al., 1985).

One example of a self-report anger measure is the *State-Trait Anger Expression Inventory*-2 (STAXI-2) (Spielberger, 1999). The STAXI-2 is a revised and expanded version of the *State-Trait Anger Expression Inventory* (STAXI). This measure is a 57-item, self-report behavior inventory that measures the experience, expression, and control of anger of adolescents and adults, ages 16 to 63. The STAXI-2 consists of six scales (State Anger, Trait Anger, Anger Expression-Out, Anger Expression-In, Anger Control-Out, and Anger Control-In), five subscales (State Anger/Feeling, State Anger/Verbal, State Anger/Physical, Trait Anger/Temperament, and Trait Anger/Reaction), and an Anger Expression Index. Test takers provide self-ratings based on a 4-point Likert scale (Spielberger, 1999).

Siegal (1986) also developed a self-report measure, the *Multidimensional Anger Inventory* (MAI). This instrument measures reports of anger frequency, duration and magnitude, range of anger-

arousing simuli, mode of anger expression, and hostile outlook, of adults ages 40 to 63. This rating scale allows for examination of covariation among a person's frequency and level of hostility, along with certain dimensions of anger (Siegal, 1986).

The *Anger Discomfort Scale* (ADS) (Sharkin & Gelso, 1991) is a self-report inventory, composed of 15 items, that is designed to assess the construct of anger discomfort of individuals ages 18 to 38. Respondents reference a 4-point Likert-type scale to express their level of discomfort to peer and adult reactions of their anger (Sharkin & Gelso, 1991).

The *Children's Inventory of Anger* (Nelson, Hart, & Finch, 1993) is a self-report behavior rating scale that measures the intensity of anger of children ages 6 to 16. Specifically, this measure presents stick-figure drawings of facial expressions that correspond to a 4-point Likert-type scale (Nelson et al., 1993).

The *Multidimensional School Anger Inventory* (MSAI), developed by Smith, Furlong, Bates, and Lauglin (1998), is a self-report rating scale that assesses anger arousal, cynical hostility, and negative anger expression in students grades 6 to 12. It is composed of 36 items that involve responding to anger situations by referencing a 4-point Likert-type scale. This measure was initially designed to assess anger in adolescent males (Smith et al., 1998). However, more recent norm development has extended validation of administration of this measure to adolescent females.

The *Adolescent Anger Rating Scale* (AARS) (Burney, 2001) is a 41-item, self-report, Likert-type rating scale designed to identify Reactive Anger, Instrumental Anger, Anger Control, and Total Anger of adolescents ages 11 to 19. The AARS involves providing answers to

items by circling a number, ranging from 1 (Hardly Ever) to 4 (Very Often), which best describes one when angry (Burney, 2001).

In addition to self-report measures, anger may also be recorded through direct and indirect observation techniques. Methods of observation may include coding facial expressions, body language, and/or occurrences of defined behavioral displays of anger (Mayne & Ambrose, 1999). Observational data may be documented via time sampling techniques, videorecording, checklists, or observational ratings or nominations provided by the targeted individual's family members or peers (Finch & Eastman, 1983; Mayne & Ambrose, 1999).

Finally, regarding psychophysiological recordings, these techniques involve the incorporation of biofeedback practices into measuring one's level of anger. Specifically, physiological responses that are related to respiratory and motoric functions are monitored and may include heart rate, irregular breathing, muscle stiffness, perspiring, and blood pressure (Burney & Kromrey, 2001). This method of assessment facilitates evaluating anger-related arousal and taps aspects of anger most closely associated with cardiovascular disease and other psychosomatic disorders (Mayne & Ambrose, 1999).

Treating Anger

According to Kellner and Bry (1999), "a growing number of researchers are addressing the needs of adolescents with anger difficulties" (p. 646). Specifically, in response to a growing national concern regarding youth violence, the development of anger management programming has been encouraged in order to prevent violent acts from occurring (Hains & Ellmann, 1994; Herrmann & McWhirter, 2001; Tremblay, Masse, Pagani, & Vitaro, 1996; Wilcox & Dowrick, 1992). Feindler and Ecton (1986) report that anger management training typically involves providing information on the cognitive and

behavioral components of anger, teaching cognitive and behavioral techniques to manage anger, and encouraging the application of newly learned skills in the real-world setting.

Deffenbacher (1999), in reviewing various methods that address anger difficulties, suggests that programs focusing on cognitive-behavioral techniques attempt to intervene with cognitive, emotional, and physiological components of anger. These approaches recognize how an individual behaves, the consequences that result, and the variability of adaptive and maladaptive behavior across anger episodes. Specifically, cognitive-behavioral interventions designed to address anger may include one or more of the following: self-awareness training, relaxation techniques, cognitive therapy, and conflict management skill training (Deffenbacher, 1999).

Regarding self-awareness training, this cognitive-behavioral approach focuses on encouraging awareness of oneself and recognizing triggers of anger. In particular, self-awareness of anger can target the experience of when and how anger is experienced and what precedes the outburst of angry behavior. Techniques such as recording one's reactions, role plays, and behavioral experiments that involve attending to experiential and behavioral elements are practiced (Deffenbacher, 1999).

Relaxation techniques include interventions that focus on physiological and emotional arousal. Techniques train individuals to lower arousal levels and increase a sense of calmness and control. In turn, overall coping capacity is maximized. Specific techniques such as deep breathing, muscle relaxation, and visual imagery may be practiced (Deffenbacher, 1999).

Cognitive therapy approaches focus on cultural and cognitive components of the pre-anger state, biased appraisal processes, and the

cognitive component of experienced anger. These approaches assist the individual in identifying and altering anger-engendering cognitive and schema themes. Specific practices may include self-instructional training and problem-solving that address cognitive elements of anger, facilitation of angry self-dialogue change, and guiding one's self through angry events in a more task-focused, calmer approach (Deffenbacher, 1999).

Finally, conflict management skill training involves encouraging the individual to respond to interpersonal conflict in a more functional manner. Strategies that focus on improving assertion skills, communication skills, decision-making skills, and goal-setting are implemented (Deffenbacher, 1999).

While these cognitive-behavioral approaches have been found to yield success in reducing anger expression in general (Deffenbacher, Lynch, Oetting, & Kemper, 1996), most existing anger management programs present with a "one size fits all" approach to dealing with anger, and in turn, do not address specific modes of anger expression. A focus on linking specific treatments to specific types of anger demonstrated in targeted districts is needed (Burney, 2001).

Summary

Anger consists of emotional, cognitive and physiological components that interact with one another and result in the demonstration of angry behaviors (Deffenbacher, 1999). Anger is influenced by personal, social, family, and school factors and is governed by both social norms and parental/peer expectations. A historical review of anger studies reveals that, in general, males exhibit more anger and aggressive behavior than females (Biaggio, 1989; Brody & Hall, 1993; Eagly & Steffen, 1986; Maccoby & Jacklin, 1980). Regarding age, research has suggested that the frequency of anger

declines with age, as children acquire skills to maintain emotional composure and react in ways that promote peer relations and on-going friendships (Underwood et al., 1993; Gottman & Mettetal, 1986; Saarni & von Salisch, 1993; Underwood, 1997; Zeman & Shipman, 1996).

As anger is correlated to aggressive and violent behaviors demonstrated by adolescents in schools (McWhirter & McWhirter, 1995), and given that existent research on adolescent anger is limited, adolescent anger expression research is a critical gap that needs to be filled. Exploring specific ways in which adolescents express and control their anger, along with examining variables that may affect adolescent anger, is imperative in order to gain information to address angry behaviors and violence displayed in our schools. Moreover, the investigation of adolescent anger expression is warranted to facilitate the development and implementation of anger management programs that prevent and decrease specific violent behaviors in our academic institutions (Burney, 2001).

CHAPTER III

RESEARCH METHODS AND PROCEDURES

The purpose of this study is to add to the limited body of research that investigates anger in adolescents. In addition, this study will attempt to develop local norms to aid in the future development and implementation of anger management programming at the targeted school district. Specifically, the goal of this research is to investigate the following: 1) differences in anger expression and anger control of male and female adolescent students 2) differences in anger expression and anger control of younger versus older adolescent students and 3) the effects of variables, including number of friends, average grades earned, number of school suspensions received, friends' behavior, and number of household members, on adolescent anger expression and anger control.

Permission to conduct this study was obtained through the Superintendent at Blacklick Valley School District. The principal of Blacklick Valley Junior-Senior High School, along with the teachers of the participating classrooms, also agreed to the study. Finally, the Institutional Review Board at the Indiana University of Pennsylvania gave approval for this research.

This study was conducted in the Blacklick Valley School District, a rural district in Nanty Glo, Pennsylvania. In total, 672 students are enrolled in this district; 341 are enrolled in the Blacklick Valley Elementary and 331 are enrolled in the Blacklick Valley Junior-Senior High School. The elementary grades consist of Kindergarten through 6, while the junior-senior high school is composed of grades 7 through 12. Blacklick Valley School District's enrollment is 100% Caucasian.

Design

A descriptive, correlational design was used for this study. Specifically, levels of Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger were designated as the dependent variables, while variables including sex, grade level, number of friends, average grade earned, number of school suspensions received, friends' behavior, and number of household members served as the predictor variables. Refer to *Figure 3* for an examination of the study's design.

Population

Male and female students who attended Blacklick Valley Junior-Senior High School, were in the seventh, ninth, or eleventh grade, and were enrolled in special course classrooms such as Gym, Art, Music, Consumer Science, or Industrial Arts were asked to participate in this research study. Special courses were selected to be sampled for this research, because these courses are composed of same-grade students and are representative of the population at Blacklick Valley Junior-Senior High School. Selected courses are entirely composed of male and female Caucasian students and also include both those students participating in strictly Regular Education and also those receiving Special Education programming.

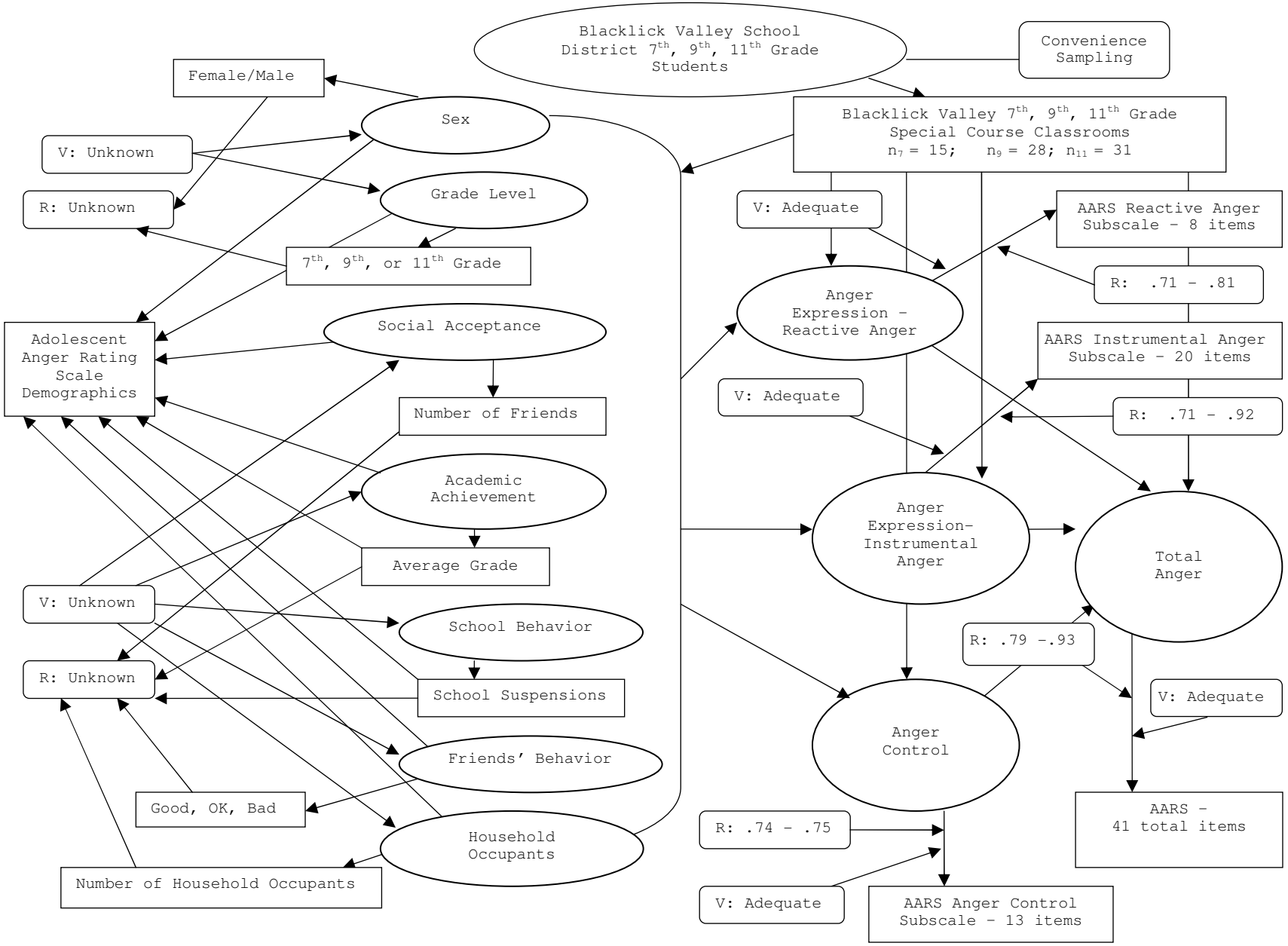

Figure 3: Structure of the study design.

Sample

Out of 158 possible participants, the sample for this study consisted of 74 students enrolled at Blacklick Valley Junior-Senior High School. Specifically, 15 seventh graders, 28 ninth graders, and 31 eleventh graders agreed to participate with parent permission and were included in this research. The age of participants was as follows: seventh grade students – 12 to 13 years of age; ninth grade students – 14 to 15 years of age; and eleventh grade students – 16 to 17 years of age. Please refer to Table 1 to view a description of the sample.

Table 1

Description of the Sample

Sex	Seventh Grade	Ninth Grade	Eleventh Grade	Total
Males *(n)*	5	14	11	30
Females *(n)*	10	14	20	44
Total	15	28	31	74

Instrumentation

Data for this study were collected using a rating scale, the *Adolescent Anger Rating Scale* (AARS) (Burney, 2001). The AARS is a 41-item, self-report, Likert-type rating scale designed to identify an adolescent's typical mode of anger expression and anger control. It is designed to assess anger expression and control in adolescents ages 11 to 19. The AARS requires participants to provide answers to items by

circling a number, ranging from 1 (Hardly Ever) to 4 (Very Often), which best describes the respondent when angry. Completion time is approximately 15 to 20 minutes (Burney, 2001).

Of the 41 items included on the AARS, eight items compose the Reactive Anger (RA) subscale. RA is defined as "an immediate angry response to a perceived negative, threatening, or fear-provoking event" (Burney, 2001, p. 8). This type of anger results in a retaliatory, impulsive, and immediate response to an anger provocation. Items included on the RA subscale assess the frequency of behaviors such as acting without thinking, having a hot temper, talking loudly, having difficulty controlling one's temper, etc. RA subscale raw scores range from 8 to 32, with higher raw scores reflecting higher levels of RA (Burney, 2001).

Twenty items compose the Instrumental Anger (IA) subscale on the AARS. IA is defined as "a negative emotion that triggers a delayed response resulting in a desired and planned goal of revenge and/or retaliation" (Burney, 2001, p. 7). This type of anger helps one to obtain a specific goal or outcome. In particular, items on the IA subscale assess instrumental-type anger reactions such as cheating, bullying others, planning to fight, running away, planning to destroy property, getting into trouble with the police, etc. Subscale raw scores range from 20 to 80, with higher raw scores reflecting greater endorsements of IA (Burney, 2001).

The Anger Control (AC) subscale consists of 13 items on the AARS. AC is defined as "a proactive cognitive/behavioral method used to respond to reactive and/or instrumental provocation" (Burney, 2001, p. 9). AC subscale items assess the frequency of behaviors such as trying to work problems out, having self-control to walk away to avoid a fight, planning how to talk nicely to avoid arguing, ignoring others

when put down, etc. AC subscale raw scores range from 13 to 52, with higher raw scores reflecting greater AC (Burney, 2001).

Finally, the Total Anger score is derived via inclusion of responses on all 41 items of the AARS. It considers all items of the RA, IA, and AC subscales. Raw scores may range from 41 to 164 (Burney, 2001).

The AARS is considered to be a psychometrically sound instrument because this measure presents with strong internal consistency and test-retest reliability levels (Burney, 2001). In terms of internal consistency, correlations for the entire standardization sample ranged from .81 to .94. Table 2 illustrates internal consistency alpha coefficients and standard errors of measurement for the AARS subscales. Tables 3, 4, and 5 present the mean and standard deviation values for items on the RA, IA, and AC subscales respectively. Item-total correlations for the AARS subscales are as follows: RA – .37 to .64; IA – .42 to .69; and AC – .34 to .65. Test-retest reliability was measured using 175 pairs of AARS protocols with a 2-week interval between ratings. Table 6 presents the test-retest reliability results for each AARS subscale and for the Total Anger scale.

Table 2

Alpha Coefficients (α) and Standard Errors of Measurement (SEM) for the Adolescent Anger Rating Scale

	Males				Females				Total	
	Grades 6–8		Grades 9–12		Grades 6–8		Grades 9–12		Stand. Sample	
Subscale	α	SEM	α	SEM	A	SEM	α	SEM	α	SEM
Instrumental Anger	.92	3.10	.94	2.84	.90	2.59	.90	2.42	.92	2.69
Reactive Anger	.81	2.47	.81	2.28	.80	2.44	.81	2.24	.81	2.46
Anger Control	.84	3.23	.85	3.22	.84	3.33	.84	3.31	.85	3.15
Total Anger	.92	5.48	.93	5.32	.91	5.11	.90	5.22	.92	5.77

Note. Stand. = Standardization.

Table 3

Means, Standard Deviations, and Item-Total Correlations (r_{it}) for the Reactive Anger Subscale of the Adolescent Anger Rating Scale

Reactive Anger Item	M	SD	r_{it}
When I am angry, I...			
Act without thinking.	2.07	0.95	.50
Have a hot temper.	2.35	1.10	.59
Talk loudly.	2.31	1.06	.51
Have difficulty controlling my temper.	1.94	1.05	.64
Just can't sit still.	2.15	1.10	.49
Can't focus on anything else.	1.91	1.00	.45
Get into trouble because of my temper.	1.96	1.05	.62
Talk too much.	2.10	1.12	.37

Note. N = 4,187.

Table 4

Means, Standard Deviations, and Item-Total Correlations (r_{it}) for the Instrumental Anger Subscale of the Adolescent Anger Rating Scale

Instrumental Anger Item	M	SD	r_{it}
When I am angry, I...			
Cheat to get even.	1.43	0.78	.53
Will hurt the person who upset me.	1.63	0.86	.57
Leave class without permission.	1.28	0.66	.51
Bully others.	1.36	0.72	.52
Will find a weapon to deliberately hurt someone.	1.25	0.70	.61
Have thoughts about starting fires.	1.28	0.74	.56
Have thoughts on how to kill the person who made me mad.	1.33	0.77	.61
Plan to destroy property.	1.37	0.80	.66
Plan to fight.	1.62	0.90	.64
Will hurt myself to get back at others.	1.25	0.66	.42
Try to hurt someone on purpose.	1.46	0.82	.69
Pick fights with anyone.	1.31	0.72	.64
Use anything as a weapon to fight.	1.38	0.82	.64
Set fires on purpose.	1.22	0.68	.62
Take it out on animals.	1.15	0.55	.48
Feel relieved after hurting the person who upset me.	1.63	0.95	.59
Run away from home.	1.24	0.65	.51
Enjoy hitting and kicking people.	1.47	0.88	.69
Get into trouble with the police.	1.28	0.70	.63
Break rules.	1.79	0.96	.61

Note. n = 4,187.

Table 5

Means, Standard Deviations, and Item-Total Correlations (r_{it}) for the Anger Control Subscale of the Adolescent Anger Rating Scale

Anger Control Item	M	SD	r_{it}
When I am angry, I...			
Hit right back if someone hits me.	2.39	1.13	.44
Try to work the problem out without fighting.	2.48	1.07	.54
Try to understand the feelings of others.	2.36	1.04	.54
Have self-control to walk away to avoid a fight.	2.52	1.12	.65
Do not plan to use a weapon to hurt someone.	2.62	1.35	.34
Think about how to make peace with the person who upset me.	2.31	1.06	.59
Plan how to talk nicely to avoid arguing.	2.09	1.01)	.53
Can ignore it when put down by others.	2.23	1.08	.40
Have enough self-control not to hit back.	2.31	1.13	.61
Ignore when called bad names.	2.15	1.05	.47
Avoid people to stay out of trouble.	2.11	1.04	.37
Walk away to avoid fighting.	2.32	1.05	.59
Still make good choices.	2.79	1.07	.45

Table 6

Test-Retest Reliability (r_{tt}) for the Adolescent Anger Rating Scale

Subscale	r_{tt}
Reactive Anger	.71
Instrumental Anger	.71
Anger Control	.74
Total Anger	.79

Regarding validity, the AARS "demonstrates sufficient construct validity to support its use for both clinical and research purposes" (Burney, 2001, p. 29). A series of exploratory and confirmatory factor analyses were conducted to evaluate items of the AARS. Results of an exploratory factor analysis resulted in identification of the following three-factor structure of the AARS: Instrumental Anger, Anger Control, and Reactive Anger. Unique variance explained by each factor are as follows: RA = 15.88%; IA = 21.72%; and AC = 21.72%. Pearson-product moment correlations coefficients *(r)* were computed between the RA, IA, and AC subscales. Results suggest a 31% shared variance of RA and IA, a 14% shared variance between IA and AC, and a 10% shared variance between RA and AC. *Table* 7 illustrates correlations among the AARS subscales.

Furthermore, the AARS demonstrates high convergent validity when compared with two subscales of the *Conners-Wells Self-Report Scales-Long* (CASS-L), the Anger Control Problems (ACP) subscale and the Conduct Problems (CP) subscale. Lower negative correlations are observed between the AC and ACP subscales and the AC and CP subscales. Please refer to Table 8 for an illustration of convergent validity values for the AARS and two subscales of the CASS-L.

Table 7

Correlations of the Adolescent Anger Rating Scale Subscales

Subscale	Instrumental Anger	Reactive Anger	Anger Control
Instrumental Anger	-		
Reactive Anger	0.56	-	
Anger Control	-0.38	-0.31	-

Table 8

Convergent Validity for the Adolescent Anger Rating Scale and Two Subscales of the Conners-Wells' Adolescent Self-Report Scales-Long

	Adolescent Anger Rating Scale			
CASS-L Subscale	Reactive Anger	Instrumental Anger	Anger Control	Total Anger
Anger Control Problems	0.61	0.35	-0.24	0.48
Conduct Problems	0.45	0.57	-0.26	0.54

Note. CASS-L - Conners-Wells' Adolescent Self-Report Scales-Long.

Regarding discriminant validity, correlations between the *Multidimensional Anger Inventory* (MAI) and the IA and RA subscales of the AARS were moderately low (.46 and .44, respectively). The correlation between the MAI and the AC subscale of the AARS was low (-.11) (Burney, 2001). This was as expected given that the AARS and the MAI subscales measure different, unique aspects of anger. In addition, a low correlation between the MAI and the Anger Control Subscale was also as expected given that the two measure entirely different constructs (Burney, 2001). Table 9 presents discriminant validity values for the AARS and the MAI.

Table 9

Discriminant Validity for the Adolescent Anger Rating Scale and the Multidimensional Anger Inventory

AARS Subscale	MAI	% Variance Shared
Reactive Anger	0.44	0.11
Instrumental Anger	0.46	0.21
Anger Control	-0.11	0.01

Note. AARS-Adolescent Anger Rating Scale; MAI - Multidimensional Anger Inventory.

The AARS was chosen for this study because it is one of the few available rating scales that presents as a psychometrically sound instrument that solely measures adolescent anger expression and anger control. Burney (2001) states, "Statistical analyses since 1994 support use of the AARS in both clinical and research applications" (p.39). Moreover, strong evidence of both validity and reliability coefficients have been obtained for the AARS, suggesting that that AARS adequately assesses specific anger dimensions, including RA, IA, and AC, along with Total Anger in adolescents.

Predictor variables for this study including sex, grade level, number of friends, average grade earned, number of school suspensions, friends' behavior, and number of household members were identified via participants completing a "Demographics" section on the AARS. Demographic items including sex and grade level were close-ended questions. Items concerning number of friends, average grade earned, number of school suspensions, friends' behavior, and number of household members were presented in multi-choice format and required participants to select from three to five responses. While validity and reliability values for the predictor variables examined in this study are unknown, both the closed-ended and multiple-choice items support the likelihood of increasing the validity of items and the reliable self-reporting of participants (Carmines & Zeller, 1979).

Previous studies conducted have concluded that children as young as five years of age can reliably and validly complete self-report measures (Varni, Limbers, & Burwinkle, 2007; Hume, Ball, & Salmon, 2006). And, while self-report data may be influenced by beliefs or behaviors that are not accurate, some self-report measures can provide insight into the perceptions and behaviors of children. Coyle,

Russell, Shields, & Tanaka (2007) state the following: “Despite these overall concerns about the reliability of self-report data, there are characteristics of “good” survey systems – that is, survey methodologies that address the limitations of self-report data” (p. 2). In particular, systems that utilize age-appropriate language that promotes comprehension of test items, clear formatting of test items, and setting and procedures that protect anonymity of responders may mitigate the potential for error in self-report data (Coyle, Russell, Shields & Tanaka, 2007). Because the AARS is found to present rating scale items in a clear format with age-appropriate language, and given that the administration of the rating scale occurred in a quiet, non-distracting, and private setting, it is felt that anonymity of responses was facilitated and that the possibility of error in self-reporting was minimal.

Procedures

To obtain permission for subject participation, an Informed Consent Letter (see Appendix A), Permission to Participate in Research Form (see Appendix B), and Information Form to Students (see Appendix C) were sent home to all students in selected special course classrooms such as Gym, Art, Music, Consumer Science, or Industrial Arts class. A designated district secretary collected signed student permission forms by a specified date in each of the selected classrooms. Forms were then sealed in an envelope and housed in a confidential location in order to protect anonymity of participants and prevent release of student names to the examiner and district teachers.

Once parent and student permission forms were received for each grade with signatures, a packet was assembled, distributed, and collected for each student by the designated district secretary. The investigator conferred with teachers of selected classrooms to

designate a suitable day for packet distribution and collection and then informed the designated secretary of chosen days. For those students participating in the study, the packet contained a Rating Scale Cover Letter (see Appendix D) and rating scale. The cover letter included the following directions:

> Thank you for participating in this study. Remember, DO NOT write your name anywhere on the rating scale. Please open your rating scale booklet and complete the following:
>
> 1. Fill in your grade beside where it says "grade."
> 2. Circle "M" if you are a male and "F" if you are a female.
> 3. Write in your age.
> 4. Circle which describes your average letter grade "A-B, C, D, or F."
> 5. Circle the times you have been suspended this school year "0, 1-2, 3-4, or 5 or more times."
> 6. Circle the approximate number of friends you have "0, 1-2, 3-4, or 5 or more friends."
> 7. Circle how you would rate your friends' behavior "Good, OK, or Bad."
> 8. List who you live with but DO NOT list names. (ex. list mother, father, brother, sister, grandmother, aunt, etc.).
>
> Next, please read each item and circle the number that best tells about you when you become angry. To make sure that others will not know your answers, you SHOULD NOT write your name on the rating scale. Please know that if you experience negative feelings after completing the rating scale, you may ask your teacher to speak to someone about your feelings. Please put your rating scale back in the envelope when finished. Thank you for participating.

Students participating in the study were given the opportunity to speak to staff, should negative feelings be experienced during or following rating scale completion. Specifically, staff members at Blacklick Valley Junior-Senior High School, including the Guidance Counselor, Student Counselor, and School Social Worker were available, however a request for consultation was not made by any study participant.

For those students who did not agree to participate, or whose parents/guardians did not grant permission, the packet contained an alternative short assignment, as chosen by the classroom teacher, for them to complete. The assignment required the same amount of time and effort as the rating scale. Directions to complete the assignment were specified on an enclosed cover letter. Students were asked to put the assignment back in a provided envelope when finished.

Results of the instrument were then analyzed and a final report was prepared and reviewed with the Junior-Senior High Principal and Superintendent at Blacklick Valley. The final report of study results, along with a thank-you letter was then disseminated to the participating school district. Table 10 highlights the procedural tasks of the study.

Sample Size

To justify the sample size was large enough to detect statistically significant differences, an appeal to authority was used. When considering cell size, one “rule of thumb” recommends using 30 subjects per group (Gay, 1996). When utilizing t-test analyses, 30 subjects per cell are also considered to be the general “rule of thumb” (personal communication with W. F. Barker, May 2, 2008). For analyses involving ANOVA, 30 participants per cell have been recommended to lead to 80% power, the minimum suggested for an ordinary study (Cohen, 1988;

VanVoorhis & Morgan, 2007). For MANOVA analyses, 20 participants per cell have been recommended (Hair, Black, Anderson, Tatham, and Babin, 2007).

Considering these rules of thumb, cell size for sex is satisfied when conducting data analyses utilizing a t-test. Grade level cell size for this sample was also satisfied for grade eleven, however, was not for grades seven and nine when conducting data analyses utilizing an ANOVA test. Regarding predictor variables and MANOVA analyses, cell size was satisfied for friends' behavior and also those reporting the following: 5 or more friends, "A-B" average grade earned, "0" school suspensions, and "3" household members. Cell size was not satisfied for those reporting less than five friends, more than "0" school suspensions, average grade earned lower than a "B" or household members less or more than "3."

Table 10

Adolescent Anger Project Task Table

#	Name	Description	Begin	End	Person
1	Project Idea	Based upon school district need, design a study to examine ways that adolescents express and control anger in order to develop anger management programming for the district.	09-05	10-05	School Psychologist, Junior-Senior High Principal, Superintendent + Research Consultant
2	Refine Study Design	Review existing literature base on adolescent anger expression, anger control, and anger management. Identify instruments that measure adolescent anger.	10-05	10-06	School Psychologist
3	Obtain Materials	Obtain instrument to be used.	10-06	12-06	School Psychologist

Table 10 (continued).

#	Name	Description	Begin	End	Person
4	Obtain Permission to Participate	Obtain student and parent/guardian permission via signed permission forms. Permission forms developed and distributed in selected seventh, ninth, and eleventh grade classrooms.	12-06	03-07	School Psychologist, Junior-Senior High Principal, Seventh Grade Teachers, Ninth Grade Teachers, Eleventh Grade Teachers + Designated District Secretary
5	Assessment	Administer Adolescent Anger Rating Scale (AARS) to study participants in selected Seventh, Ninth, and Eleventh grade classrooms. Rating scale immediately collected upon completion.	05-07	05-07	Designated District Secretary

Table 10 (continued).

#	Name	Description	Begin	End	Person
6	Scoring and Data Entry	Score the AARS. Enter the scores into an Excel spreadsheet.	07-07	08-07	School Psychologist + Research Consultant
7	Final Report Preparation	Obtain data. Check data. Examine data to see if it meets the assumptions for analysis to be used. Run the analysis. Interpret analysis results. Write the report.	08-07	03-08	School Psychologist + Research Consultant
8	Final Report Review	Meet with all parties to review study results and district normative data.	04-08	04-08	School Psychologist, Junior-Senior High Principal, Superintendent
9	Final Report Presentation	Present the final report to district staff at junior-senior high in-service training.	04-08	04-08	School Psychologist, Junior-Senior High Principal, Superintendent, Junior-Senior High Teachers

Statistical Analyses

Data for this study, collected through the administration of the AARS, were analyzed utilizing the computer program *Statistical Package for the Social Sciences 15.0* (SPSS 15.0). The hypotheses, variables, statistical analyses, and statistical assumptions for each research question are presented in Table 11. The following research questions were investigated.

Research Question 1: Do adolescent males and females express anger differently, with regard to Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger? It was hypothesized that adolescent males will demonstrate higher levels of RA, IA, and Total Anger than adolescent females and females will demonstrate higher levels of AC. An independent t-test was planned to be run to compare the levels of RA, AC, and Total Anger for males versus females. Interval data, normality and equal variance of the data, and adequate sample size were checked and found to be acceptable.

Research Question 2: Are there significant differences in the frequency of RA, IA, AC, and Total Anger demonstrated by students in seventh, ninth, and eleventh grades? It was hypothesized that the amount of RA, IA, and Total Anger will decrease and the amount of AC will increase with each higher grade. To compare differences between the levels of RA, IA, AC, and Total Anger of those in seventh, ninth, and eleventh grades, an Analysis of Variance (ANOVA) was planned to be run. Interval data, normality and equal variance of the data, and an adequate sample size were checked and found to be acceptable.

Research Question 3: Do variables such as number of friends reported, average grade earned reported, number of school suspensions reported, friends' behavior reported, and number of household members reported influence levels of RA, IA, AC, and Total Anger? It was

hypothesized that the amount of RA, IA, and Total Anger will decrease and the amount of AC will increase with those who report having more friends, higher average grades, less school suspensions, friends with better behavior, and less household members. To examine the effect of variables including number of friends, average grade earned, number of suspensions received, friends' behavior, and number of household members on levels of RA, IA, AC, and Total Anger, a MANOVA was planned to be run. An ANOVA was planned to be used as a post-hoc procedure. Interval data, normality and equal variance of the data, and an adequate sample size was checked and found to be acceptable. Table 11 summarizes the research questions, hypotheses, variables, statistical analyses, and statistical assumptions for this study.

Summary

The sample for this study was composed of 74 adolescents from the Blacklick Valley School District, a rural district in the state of Pennsylvania. Participating subjects in seventh, ninth, and eleventh grade were asked to complete the AARS to assess levels of RA, IA, AC, and Total Anger. This standardized instrument was selected as the measurement tool for this study because it presents as a psychometrically sound instrument that measures adolescent anger expression and anger control.

Data yielded from this study were analyzed to detect the effects of sex, grade level, number of friends reported, average grade earned reported, number of school suspensions reported, friends' behavior reported, and number of household members reported on levels of RA, IA, AC, and Total Anger of adolescent participants.

Table 11

Research Questions, Hypotheses, Variables, Statistical Analyses, and Statistical Assumptions for the Adolescent Anger Study

Research Questions	Hypotheses	Variables	Statistic	Assumptions	Assumptions Appropriateness
1.Do adolescent males and females express anger differently, with regard to RA, IA, AC, and Total Anger?	Adolescent males will demonstrate higher levels of RA, IA, and Total Anger than adolescent females and females will demonstrate higher levels of AC.	Sex and RA, IA, AC, and Total Anger levels	t-test for independent samples Mann-Whitney U test	1. Interval Data 2. Normality for each group 3. Equal variances for groups 4. Adequate sample size	1. Examine the instrument 2. Histogram with a normal curve 3. Descriptive statistics 4. "Rules of Thumb"
2. Are there significant differences in the frequency of RA, IA, AC, and Total Anger demonstrated by students in seventh, ninth, and eleventh grades?	The amount of RA, IA, and Total Anger will decrease and the amount of AC will increase with each higher grade.	Grade level and RA, IA, AC, and Total Anger levels	Analysis of Variance (ANOVA)	1. Interval Data 2. Normality for each group 3. Equal variances for groups 4. Adequate sample size	1. Examine the instrument 2. Histogram with a normal curve 3. Descriptive statistics 4. "Rules of Thumb"

Table 11 (continued).

Research Questions	Hypotheses	Variables	Statistic	Assumptions	Assumptions Appropriateness
3. Do variables such as number of friends, average grade earned, number of school suspensions received, friends' behavior, and number of household members influence levels of RA, IA, AC, and Total Anger?	The amount of RA, IA, and Total Anger will decrease and the amount of AC will increase with those who report having more friends, higher average grades, less school suspensions, friends with better behavior, and less household members.	Reported number of friends, average grade earned, number of school suspensions received, friends' behavior, and number of household members and RA, IA, AC, and Total Anger levels.	MANOVA + ANOVA	1. Interval Data 2. Normality for each group 3. Equal variances for groups	1. Examine the instrument 2. Histogram with a normal curve 3. Descriptive statistics

CHAPTER IV

RESULTS OF THE STUDY

This chapter describes the results of the data-analysis procedures that were presented in Chapter III. The chapter has been divided into three components. The first component includes information regarding response rates. The second component provides demographic information about the sample and describes the characteristics of the participants. The third component provides information about data analyses of the research questions. Research questions of this investigation address the effect of sex, grade level, number of friends reported, average grade earned reported, number of school suspensions received reported, friends' behavior reported, and number of household members reported on adolescent Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger levels.

Complications

One complication of this study included the lack of student participation. Given that the sample for this study only consisted of 15 seventh graders, 28 ninth graders, and 31 eleventh graders, norms could not be developed for the targeted school district as intended.

Additionally, due to the limited sample size and lack of representation of variables being examined, recommended cell sizes were not satisfied and data analyses of variable interactions could not be conducted. To support analyses of the data given the small cell sizes, predictor variable cells including number of friends reported, average grade earned reported, number of school suspensions reported, and friends' behavior reported had to be combined.

Computer Program Used

Data collected for this study were analyzed through the utilization of the *Statistical Package for the Social Sciences 15.0* (SPSS 15.0). This statistical program "includes programs for many statistics, from the most basic to the most sophisticated, frequently used in research studies" (Gay, 1996, p. 426). Through the use of SPSS 15.0, analyses needed for this study, including Multivariate Analysis of Variance (MANOVA), Analysis of Variance (ANOVA), and independent t-tests were conducted.

Response Rates of the Study

Data were collected through the completion of the *Adolescent Anger Rating Scale* (AARS). Out of 157 possible participants, 74 students obtained parent/guardian permission, agreed to participate in the study, and completed the administered rating scale.

Demographic Information of the Sample

The sample for this study was taken from the population of seventh, ninth, and eleventh grade students at Blacklick Valley Junior-Senior High School. Students who were enrolled in special course classrooms such as Gym, Art, Music, Consumer Science, or Industrial Arts, agreed to participate in this study, and who obtained parent/guardian permission were included in the sample. Only 74 students, including 15 seventh graders, 28 ninth graders, and 31 eleventh graders returned signed permission forms and completed the administered rating scale. All participants were Caucasian reflecting the population of the targeted school district.

Sex

Females composed 40.5% of the sample and males made up 59.5% of the sample. Results of a chi-square test revealed that the sample is

representative of the population of the school district when considering sex (p = 0.104).

Grade Level

Seventh grade students accounted for 20.3% of the sample, ninth grade students made up 37.8% of the sample, and eleventh grade students comprised 41.9% of the sample. Results of a chi-square test revealed that seventh grade students were under-represented in the study's sample, when comparing the sample to the composition of the school district (p = 0.039).

Data Analyses of the Research Questions

Anger and Sex

Analysis of the data for anger and sex focused on answering the following research question: Do adolescent males and females express anger differently, with regard to Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger? To answer this question, RA, IA, and AC subscale raw scores, along with Total Anger raw scores, were compared for males versus females. Figures 4, 5, 6, and 7 present RA, IA, AC, and Total Anger levels respectively for males versus females.

A review of the data yielded for RA, AC, and Total Anger indicated a normal distribution; IA data positively skewed to the right. Results of the Levene's Test revealed equal variance for RA and Total Anger and unequal variance for AC. Because IA data do not present as normally distributed, a non-parametric test, the Mann-Whitney U test, was conducted. Sample sizes, means, standard deviations, and standard error of means for RA, AC, and Total Anger of males versus females are presented in Table 12. Table 13 presents mean rank and sum of ranks for IA and sex.

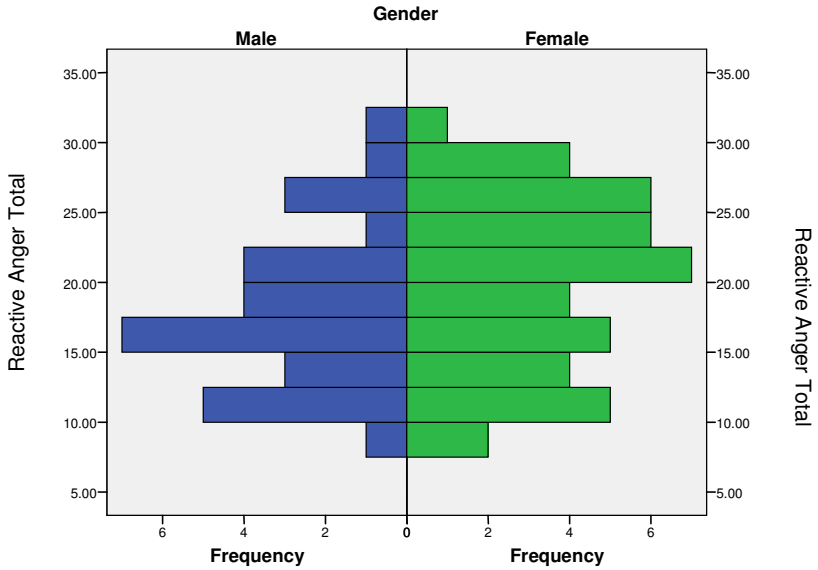

Figure 4. Reactive Anger frequencies of sex.

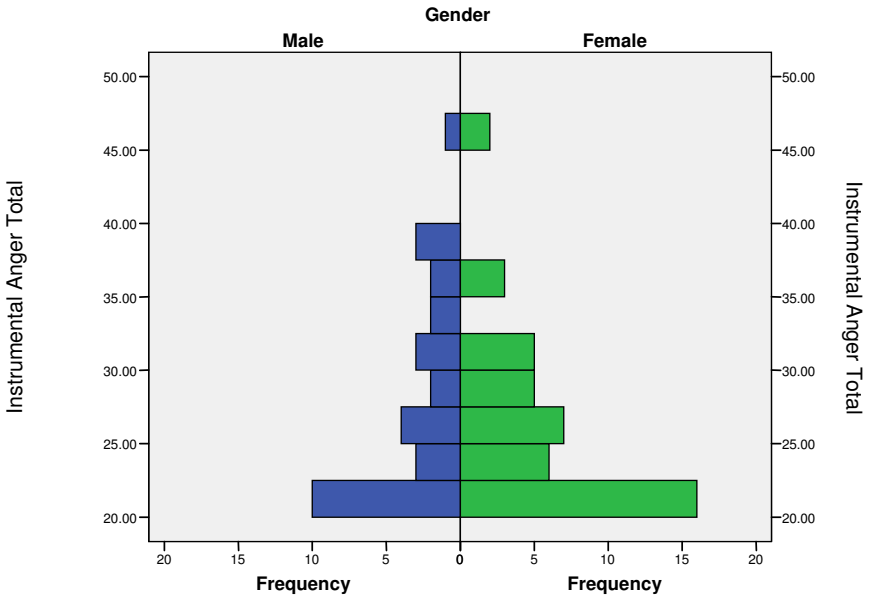

Figure 5. Instrumental Anger frequencies of sex.

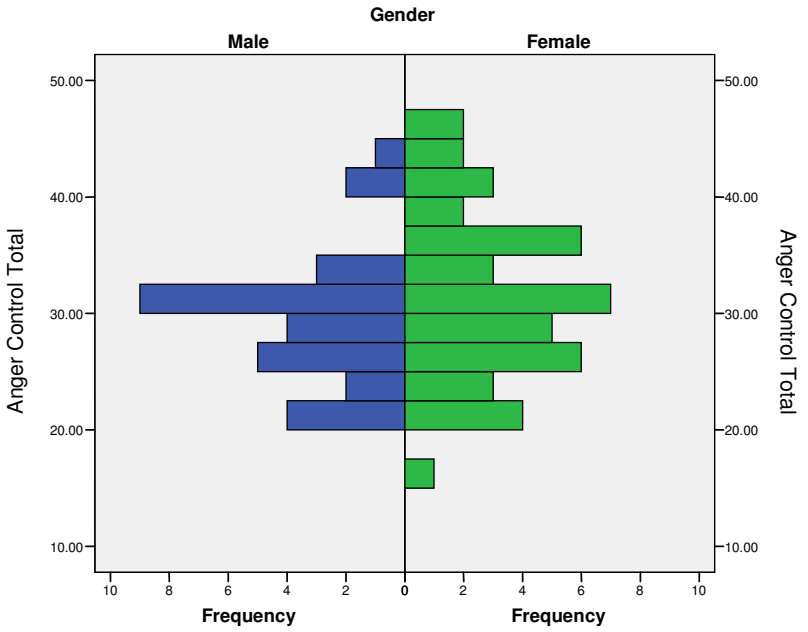

Figure 6. Anger Control frequencies of sex.

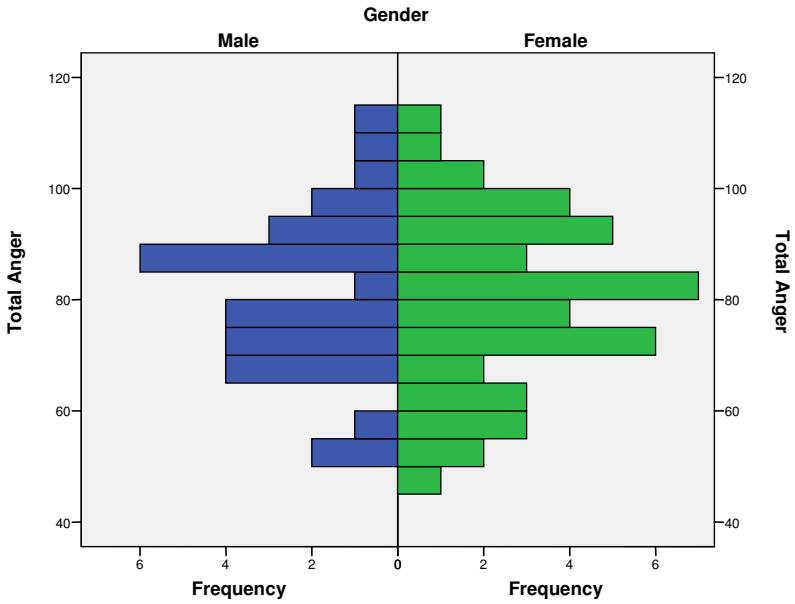

Figure 7. Total Anger frequencies of sex.

Table 12

Means, Standard Deviations, Standard Error of the Means, and Range for Reactive Anger, Anger Control, Total Anger, and Sex

Group	n	Mean	S.D.	Min-Max	Std. Error Mean
Reactive Anger					
Male	30	17.8	5.8	9 to 32	1.1
Female	44	19.8	6.2	8 to 32	0.9
Anger Control					
Male	30	29.4	5.6	20 to 45	1.0
Female	44	31.5	7.6	20 to 46	1.1
Total Anger					
Male	30	81.2	15.2	53 to 112	2.8
Female	44	79.4	15.9	47 to 112	2.4

Table 13

Mean Ranks and Sum of Ranks Data for Instrumental Anger and Sex

	n	Mean Rank	Sum of Ranks
Instrumental Anger			
Male	30	40.7	1220.0
Female	44	35.3	1555.0
Total	74		

Independent t-test results reveal that, concerning RA and AC, no statistically significant differences were detected between male RA and female RA (p = 0.175, df = 72) or male AC and female AC (p = 0.172, df

= 71.54). Similarly, concerning IA, Mann Whitney U test results reveal no significant differences were observed between male IA and female IA (p = 0.293). In terms of Total Anger, independent t-test analyses reveal p = 0.637, df = 72, suggesting no statistically significant difference between male Total Anger and female Total Anger. Table 14 highlights values yielded for sex and IA from the Mann-Whitney U test. Table 15 illustrates results of the independent samples test for RA, AC, and Total Anger and sex.

Table 14

Mann-Whitney U Test Data for Instrumental Anger and Sex

Mann-Whitney U	565.000
Z	-1.051
Asymp. Sig. (2-tailed)	0.293

Table 15

Independent Samples Test Data of Reactive Anger, Anger Control, and Total Anger and Sex

Group	n	Mean	S.D.	Min-Max	df	t	p
Reactive Anger							
Male	30	17.8	5.8	9 to 32	72.00	-1.371	0.175
Female	44	19.8	6.2	8 to 32			
Anger Control							
Male	30	29.4	5.6	21 to 43	71.54	-1.378	0.172
Female	44	31.5	7.6	15 to 47			
Total Anger							
Male	30	81.2	15.2	53 to 112	72.00	0.474	0.637
Female	44	79.4	15.9	47 to 112			

Anger and Grade Level

To answer the second research question "Are there significant differences in the frequency of Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger demonstrated by students in seventh, ninth, and eleventh grades?" RA, IA, and AC subscale raw scores, along with Total Anger raw scores, were compared for seventh, ninth, and eleventh grade students. Figures 8, 9, 10, and 11 illustrate RA, IA, AC, and Total Anger levels respectively for each grade level.

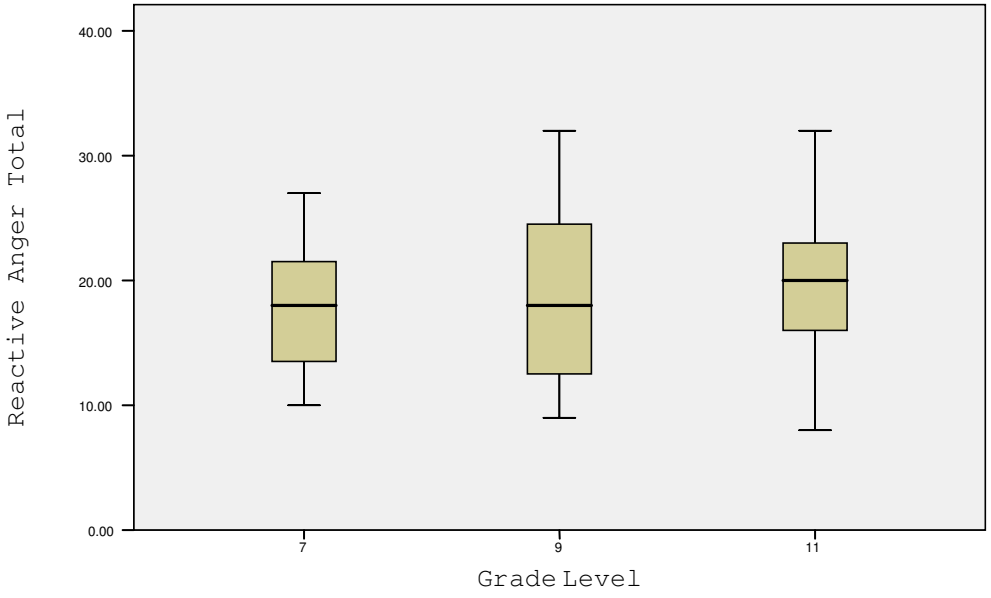

Figure 8. Reactive Anger frequencies for seventh, ninth, and eleventh grade participants.

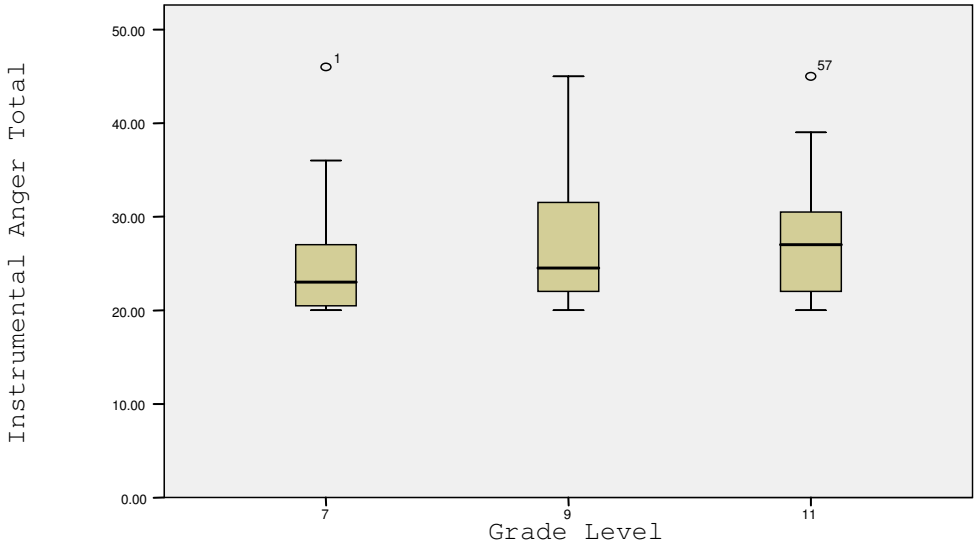

Figure 9. Instrumental Anger frequencies for seventh, ninth, and eleventh grade participants.

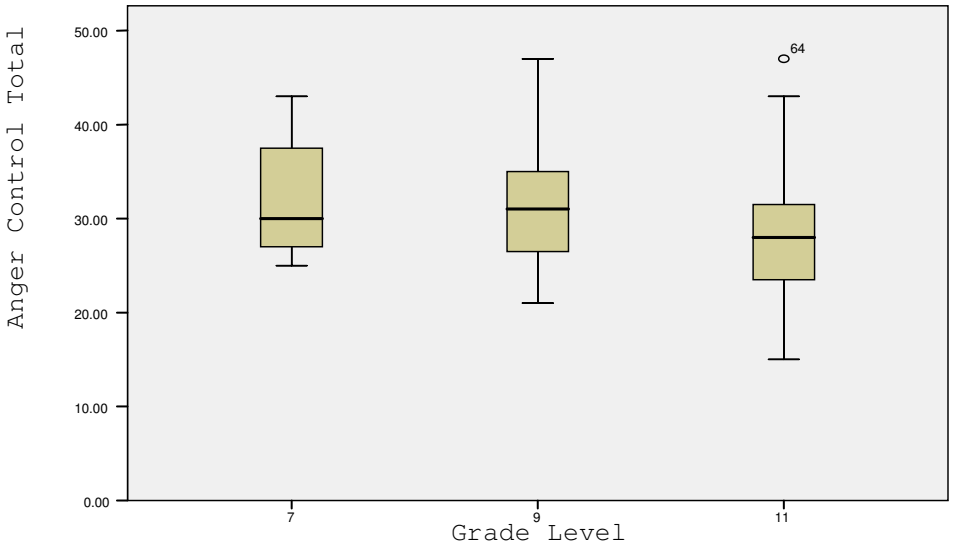

Figure 10. Anger Control frequencies for seventh, ninth, and eleventh grade participants.

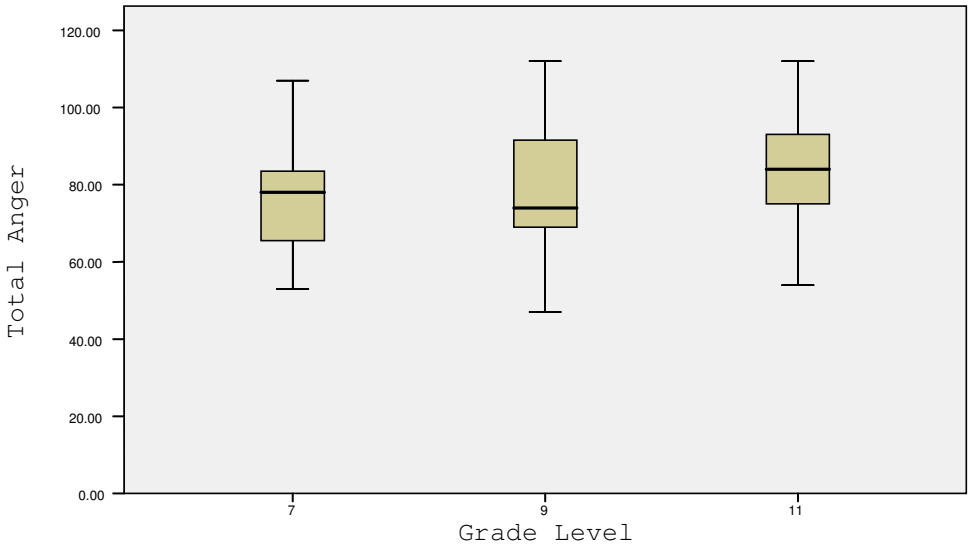

Figure 11. Total Anger frequencies for seventh, ninth, and eleventh grade participants.

A review of the data suggests normality and equal variance. ANOVA results revealed no significant differences in RA (p = 0.532, df = 73), IA (p = 0.812, df = 73), AC (p = 0.214, df = 73), and Total Anger (p = 0.345, df = 73) levels for seventh, ninth, and eleventh grade participants. Table 16 presents mean, sample size, standard deviation values and ANOVA results for anger and grade level.

Table 16

Analysis of Variance of Anger and Grade Level

Source	n	Mean	S.D.	Min-Max	Std. Error Mean
Reactive Anger					
Seventh Grade	15	17.7	5.4	10 to 27	1.4
Ninth Grade	28	18.8	6.6	9 to 32	1.3
Eleventh Grade	31	19.8	5.9	8 to 32	1.1
Instrumental Anger					
Seventh Grade	15	25.9	7.5	20 to 46	1.9
Ninth Grade	28	26.8	6.8	20 to 45	1.3
Eleventh Grade	31	27.2	6.2	20 to 45	1.1
Anger Control					
Seventh Grade	15	32.3	6.3	25 to 43	1.6
Ninth Grade	28	31.5	6.8	21 to 47	1.3
Eleventh Grade	31	29.0	7.0	15 to 47	1.3
Total Anger					
Seventh Grade	15	76.3	15.7	53 to 107	4.1
Ninth Grade	28	78.9	16.1	47 to 112	3.0
Eleventh Grade	31	83.0	14.9	54 to 112	2.7

Table 16 (continued).

Source	Sum of Squares	df	Mean Square	F	p
Instrumental Anger					
Between Groups	18.692	2	9.346	0.209	0.812
Within Groups	3176.403	71	44.738		
Total	3195.095	73			
Reactive Anger					
Between Groups	47.623	2	23.812	0.637	0.532
Within Groups	2652.377	71	37.357		
Total	2700.000	73			
Anger Control					
Between Groups	145.600	2	72.800	1.578	0.214
Within Groups	3275.265	71	46.130		
Total	3420.865	73			
Total Anger					
Between Groups	523.040	2	261.520	1.081	0.345
Within Groups	17178.865	71	241.956		
Total	17701.905	73			

Anger and Other Variables

To answer the third research question “Do variables such as number of friends reported, average grade earned reported, number of school suspensions reported, friends’ behavior reported, and number of household members reported influence levels of Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger?” a MANOVA

was run (see Table 17). To further investigate the between-subjects effects, a post-hoc ANOVA was run (see Tables 18, 19, 20, and 21). Table 22 provides frequencies and percentages of variables reported by sample participants including number of friends, average grade earned, number of school suspensions, friends' behavior, and number of household members.

Table 17

One-Way Multivariate Analysis of Variance of Reactive Anger, Instrumental Anger, and Anger Control and Number of Friends, Average Grade Earned, Number of School Suspensions, Friends' Behavior, and Number of Household Members

Source	Wilks' Lambda Value	F	Hyp df	Error df	Sig.
Number of Friends	0.936	1.570(a)	3.000	69.000	0.204
Average Grade Earned	0.872	3.192(a)	3.000	65.000	0.029
Number of School Suspensions	0.853	3.747(a)	3.000	65.000	0.015
Friends' Behavior	0.758	7.341(a)	3.000	69.000	<0.001
Number of Household Members	0.851	1.265	9.000	165.645	0.260

Table 18

One-Way Analysis of Variance of Reactive Anger and Number of Friends, Average Grade Earned, Number of School Suspensions, Friends' Behavior, and Number of Household Members

	Reactive Anger				
Source	Sum of Squares	df	Mean Square	F	Sig.
Number of Friends	85.283	1	85.283	2.330	0.131
Average Grade Earned	170.725	1	170.725	4.711	0.034
Number of School Suspensions	7.406	1	7.406	0.189	0.665
Friends' Behavior	438.288	1	438.288	13.858	<0.001
Number of Household Members	130.923	3	43.641	1.189	0.320

Table 19

One-Way Analysis of Variance of Instrumental Anger and Number of Friends, Average Grade Earned, Number of School Suspensions, Friends' Behavior, and Number of Household Members

	Instrumental Anger				
Source	Sum of Squares	df	Mean Square	F	Sig.
Number of Friends	1.679	1	1.679	0.042	0.838
Average Grade Earned	198.544	1	198.544	4.683	0.034
Number of School Suspensions	12.744	1	12.744	0.307	0.581
Friends' Behavior	531.981	1	531.981	16.506	<0.001
Number of Household Members	336.001	3	112.000	2.742	0.050

Table 20

One-Way Analysis of Variance of Anger Control and Number of Friends, Average Grade Earned, Number of School Suspensions, Friends' Behavior, and Number of Household Members

	Anger Control				
Source	Sum of Squares	df	Mean Square	F	Sig.
Number of Friends	12.186	1	12.186	0.255	0.615
Average Grade Earned	335.688	1	335.688	7.304	0.009
Number of School Suspensions	363.455	1	363.455	8.015	0.006
Friends' Behavior	395.934	1	395.934	9.335	0.003
Number of Household Members	27.139	3	9.046	0.187	0.905

Table 21

One-Way Analysis of Variance of Total Anger and Number of Friends, Average Grade Earned, Number of School Suspensions, Friends' Behavior, and Number of Household Members

	Total Anger				
Source	Sum of Squares	df	Mean Square	F	Sig.
Number of Friends	49.562	1	49.562	0.208	0.650
Average Grade Earned	2068.297	1	2068.297	9.146	0.004
Number of School Suspensions	163.155	1	163.155	0.655	0.421
Friends' Behavior	4082.971	1	4082.971	22.496	<0.001
Number of Household Members	797.238	3	265.746	1.100	0.355

Table 22

Frequencies and Percentages of Variables Reported by Sample Participants

Variable	Frequency	Percent
Number of Friends Reported		
1–4	6	8.1
5 or More	67	90.5
Missing	1	1.4
Total	74	100.0
Average Grade Earned Reported		
A–B	52	70.3
C–D	17	22.9
Missing	5	6.8
Total	74	100.0
Number of School Suspensions Reported		
0	58	78.3
1–5	11	14.9
Missing	5	6.8
Total	74	100.0
Friends' Behavior Reported		
Good	41	55.4
OK – Bad	32	43.2
Missing	1	1.4
Total	74	100.0

Table 22 (continued).

Number of Household Members Reported		
2	11	14.9
3	33	44.6
4	14	18.9
5 or more	16	21.6
Total	74	100.0

Number of Friends

The majority of subjects participating in this research reported having more than five friends (90.5%). A total of 8.1% of the sample reported having 1-4 friends. No respondent reported having 0 friends. One participant did not provide a response to this item.

To examine the effect of number of friends on anger expression and control, RA, IA, and AC subscale raw scores, along with Total Anger raw scores, were compared for those reporting having more or less friends. Figures 12, 13, 14, and 15 present RA, IA, AC, and Total Anger levels respectively for number of friends reported. A review of the data reveals normality and equal variance.

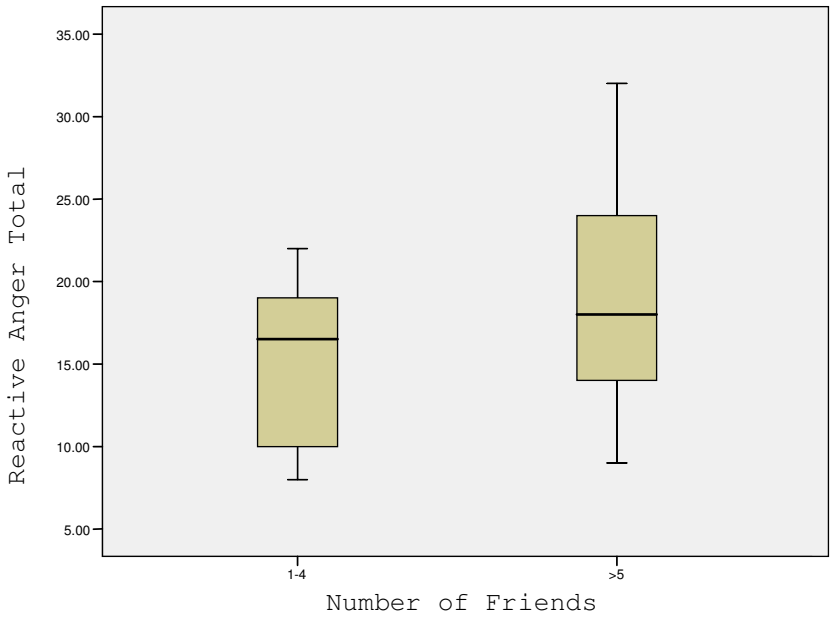

Figure 12. Reactive Anger levels and number of friends.

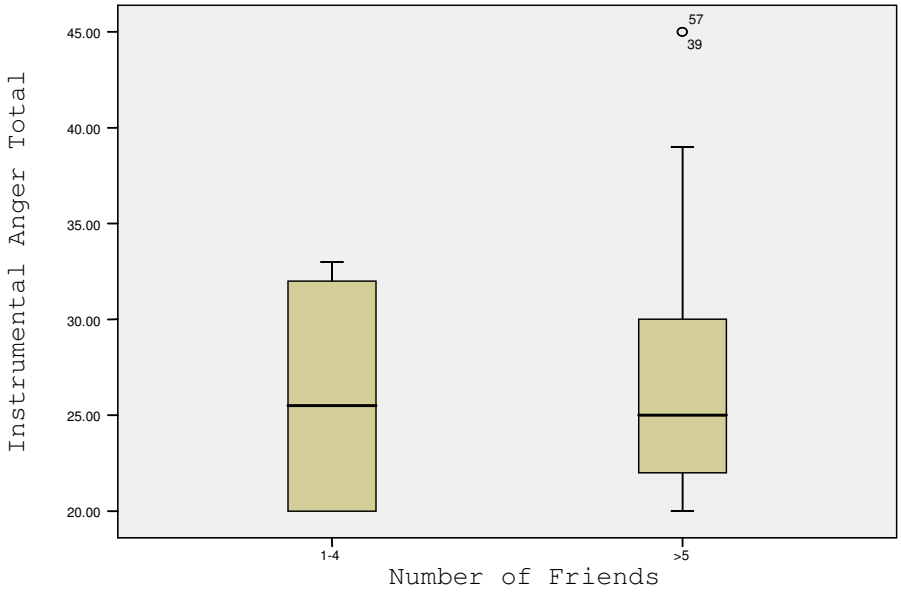

Figure 13. Instrumental Anger levels and number of friends.

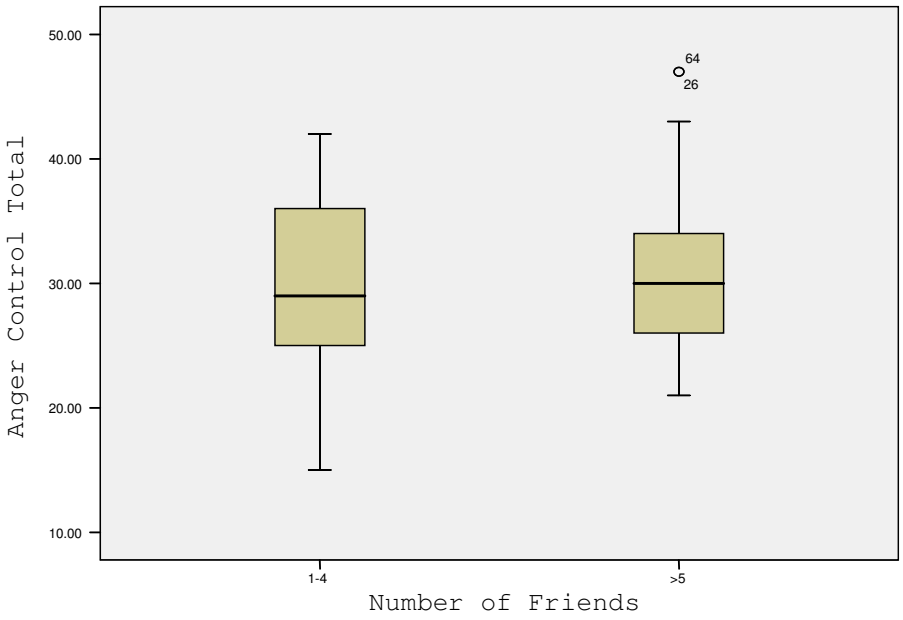

Figure 14. Anger Control levels and number of friends.

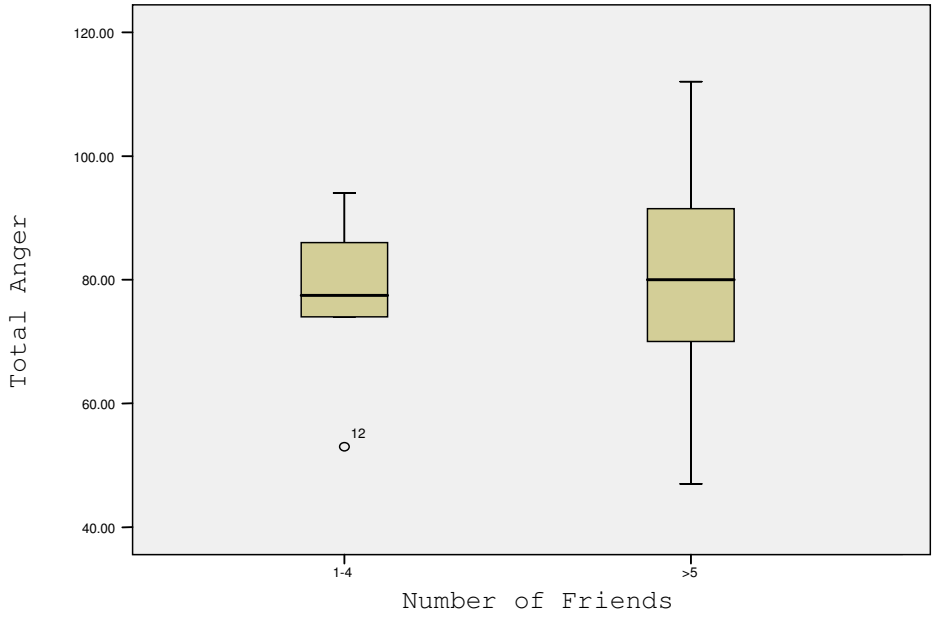

Figure 15. Total Anger levels and number of friends.

As shown in Table 18, Wilks' criterion revealed no significant main effects of number of friends reported on anger expression or control, $\lambda(3,69) = 0.936$, $p = 0.204$.

Average Grade Earned

Table 23 illustrates that the majority of respondents reported their average grade earned as A–B (70.3%). A total of 22.9% of the sample indicated their average grade earned fell within the C – D range. Five subjects did not respond to this item (6.8%).

In order to examine the effect of average grade earned reported on anger expression and control, RA, IA, and AC subscale raw scores, along with Total Anger raw scores, were compared for those reporting their average grade earned as higher versus lower. Figures 16, 17, 18, and 19 illustrate RA, IA, AC, and Total Anger levels respectively for average grade earned. A review of the data reveals normality and equal variance.

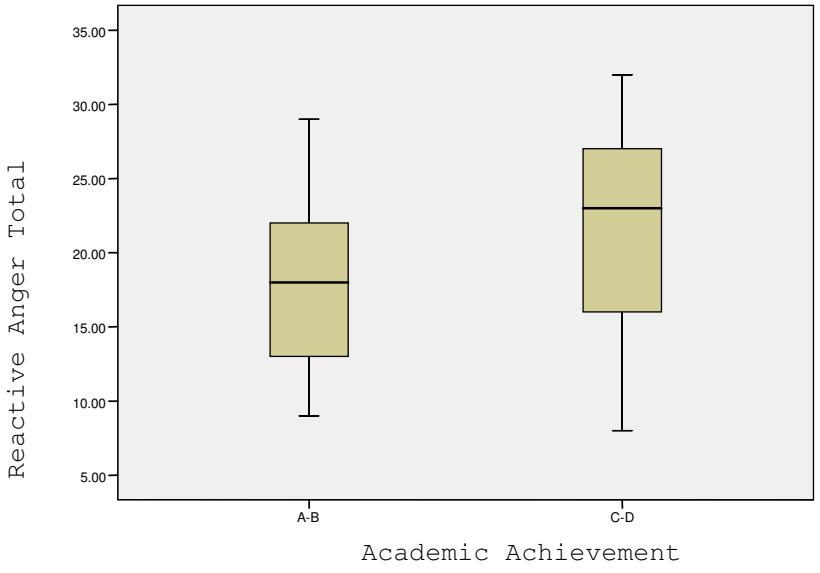

Figure 16. Reactive Anger levels and average grade earned.

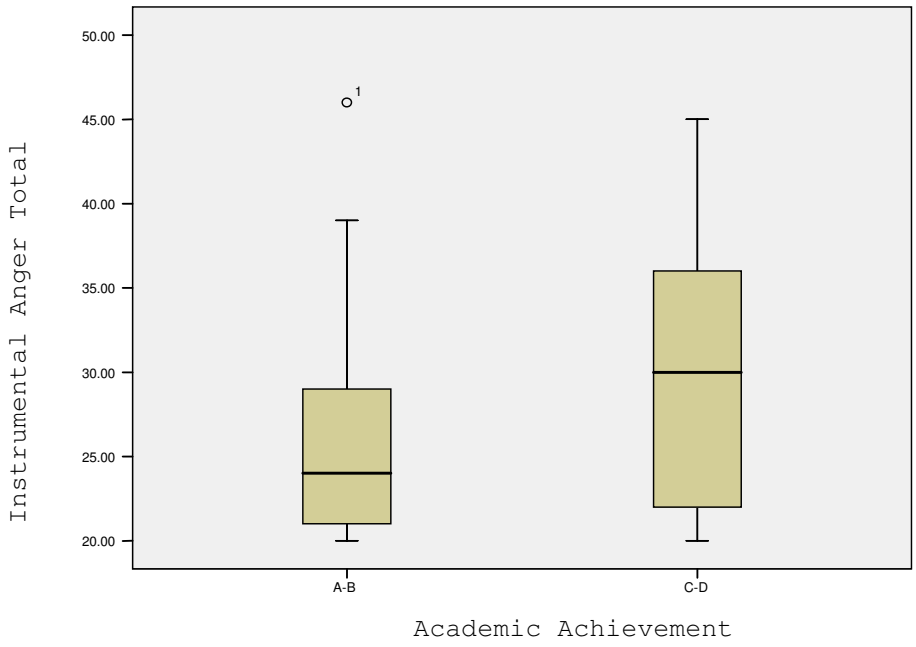

Figure 17. Instrumental Anger levels and average grade earned.

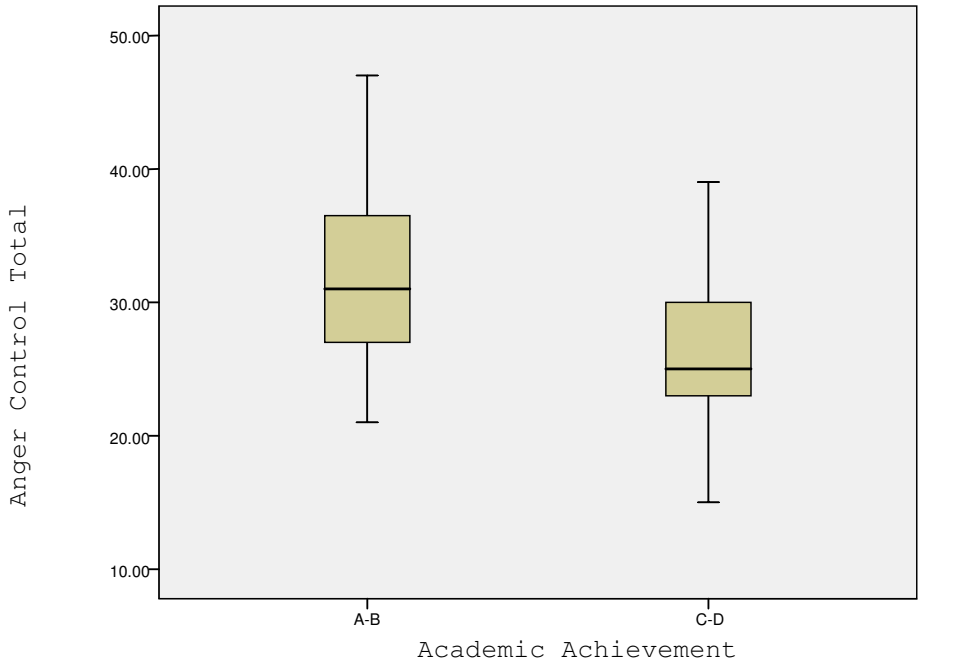

Figure 18. Anger Control levels and average grade earned.

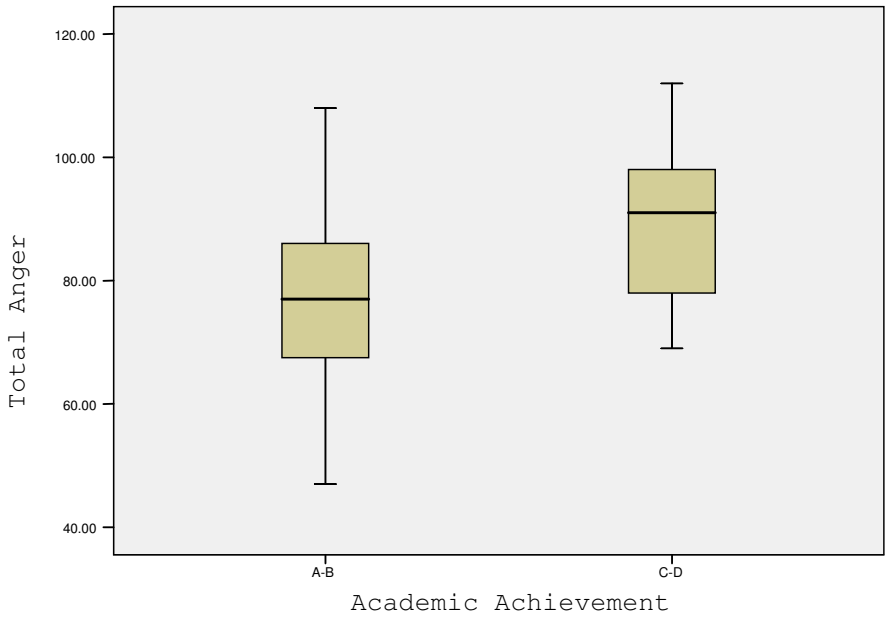

Figure 19. Total Anger levels and average grade earned.

As shown in Table 18, MANOVA results suggest that average grade earned was significant, $\lambda(3,65) = 0.872$, $p = 0.029$. ANOVA results reveal significance when examining Reactive Anger ($p = 0.034$, df = 1), Instrumental Anger ($p = 0.034$, df = 1), Anger Control ($p = 0.009$, df = 1), and Total Anger ($p = 0.004$, df = 1) levels. A review of the means indicates that those reporting lower average grades earned falling in the C–D range demonstrate higher levels of Reactive Anger, Instrumental Anger, and Total Anger, along with lower levels of Anger Control, than those reporting higher average grades earned falling in the A–B range.

Number of School Suspensions

The largest percentage (78.3%) of the sample reported having received 0 school suspensions in the last year. A total of 14.9% of the sample reported receiving school suspensions in the 1–5 range. Five respondents (6.8% of the sample) did not respond to this question.

To investigate the effect of number of school suspensions received on anger expression and control, RA, IA, and AC subscale raw

scores, along with Total Anger raw scores, were compared for those reporting receiving less versus more school suspensions. Figures 20, 21, 22, and 23 present RA, IA, AC, and Total Anger levels for number of school suspensions. Normality and equal variance of the data are assumed.

Figure 20. Reactive Anger levels and number of school suspensions.

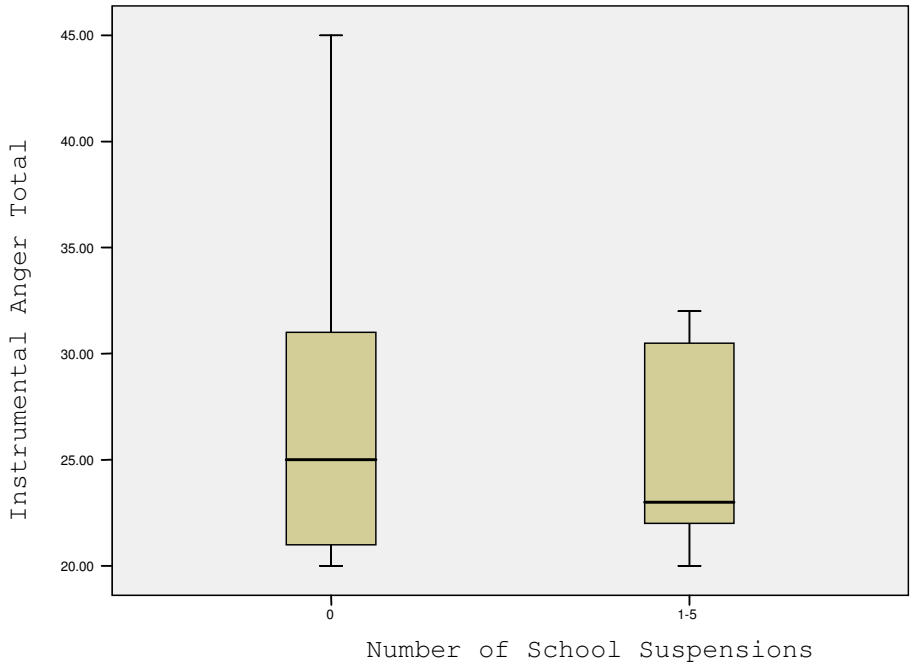

Figure 21. Instrumental Anger levels and number of school suspensions.

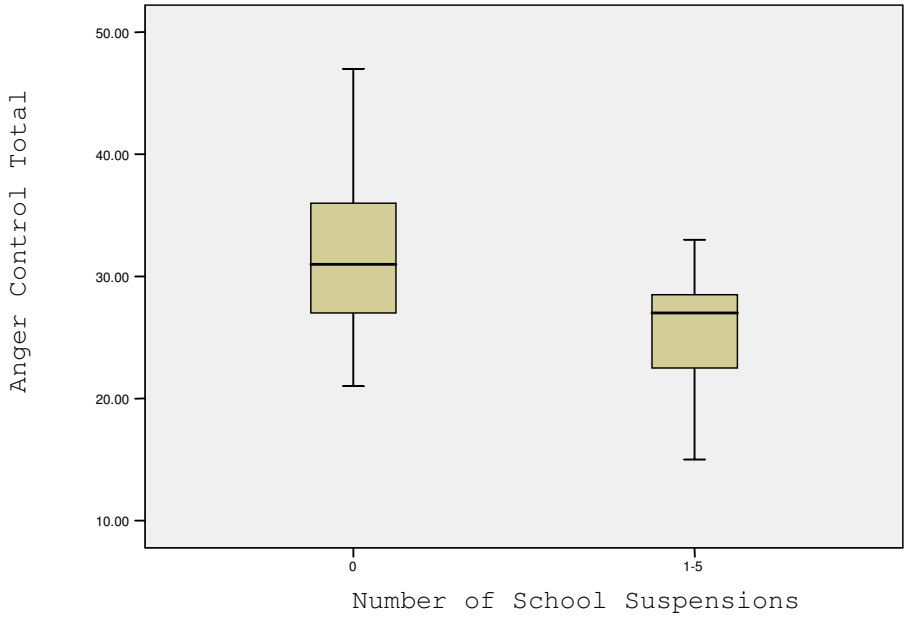

Figure 22. Anger Control levels and number of school suspensions.

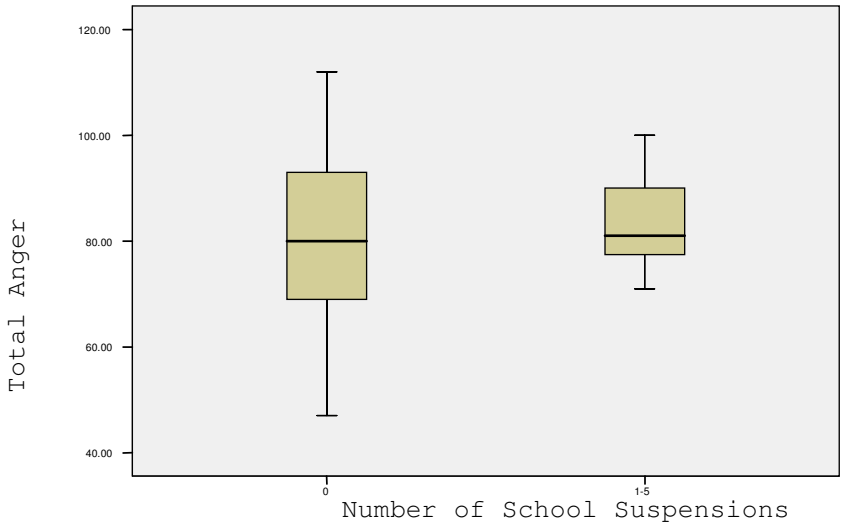

Figure 23. Total Anger levels and number of school suspensions.

As shown in Table 18, Wilks' criterion revealed that number of school suspensions reported was significant, $\lambda(3,65) = 0.853$, $p = 0.015$. ANOVA results reveal significance with Anger Control ($p = 0.006$, df = 1). In particular, significantly higher levels of Anger Control were reported by those indicating no school suspensions versus those that reported receiving more school suspensions (1–5). No significance was detected with Reactive Anger ($p = 0.665$), Instrumental Anger ($p = 0.581$), or Total Anger ($p = 0.421$).

Friends' Behavior

Respondents who described their friends' behavior as "Good" represented 55.4% of the sample, while those who described their friends' behavior as "OK" or "Bad" comprised 43.2%. One subject (1.4%) did not provide a response to this item.

To investigate the significance of friends' behavior reported on anger expression and control, RA, IA, and AC subscale raw scores, along

with Total Anger raw scores, were compared for those reporting their friends' behavior as "Good" or "OK-Bad." Figures 24, 25, 26, and 27 illustrate RA, IA, AC, and Total Anger levels for friends' behavior. A review of the data suggests normality and equal variance.

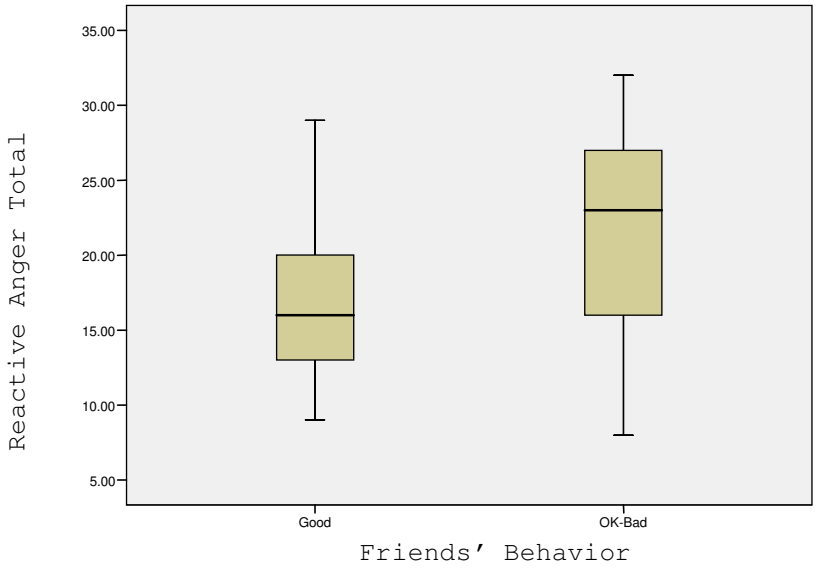

Figure 24. Reactive Anger levels and friends' behavior.

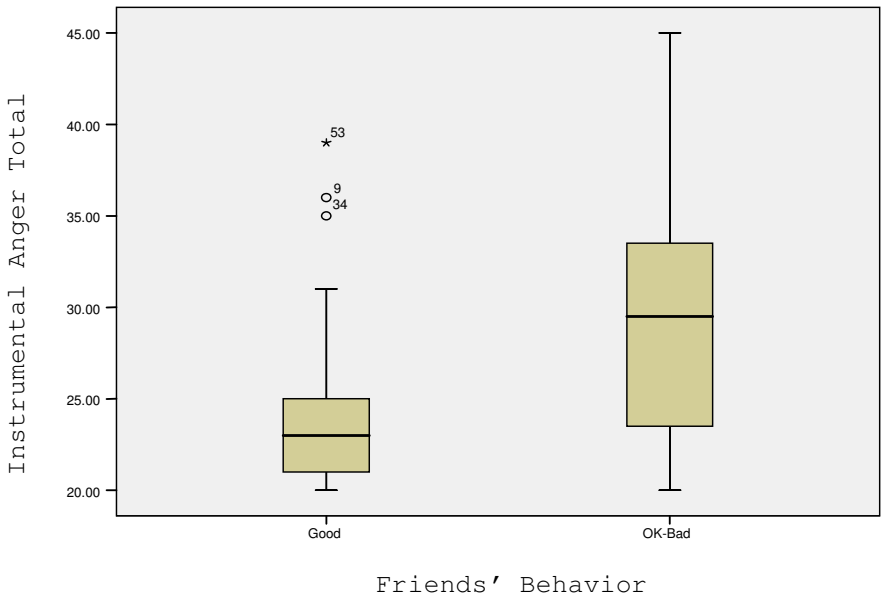

Figure 25. Instrumental Anger levels and friends' behavior.

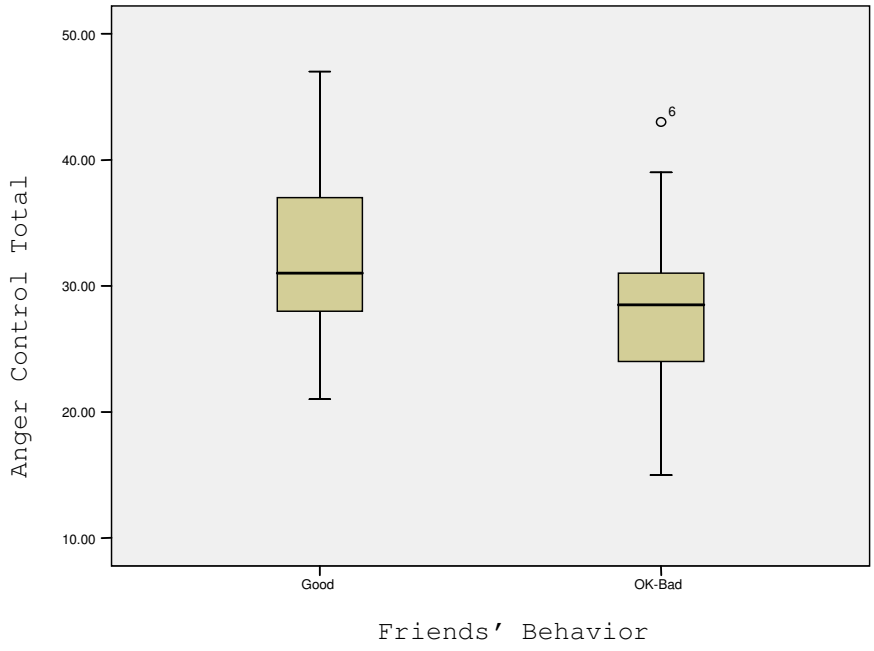

Figure 26. Anger Control levels and friends' behavior.

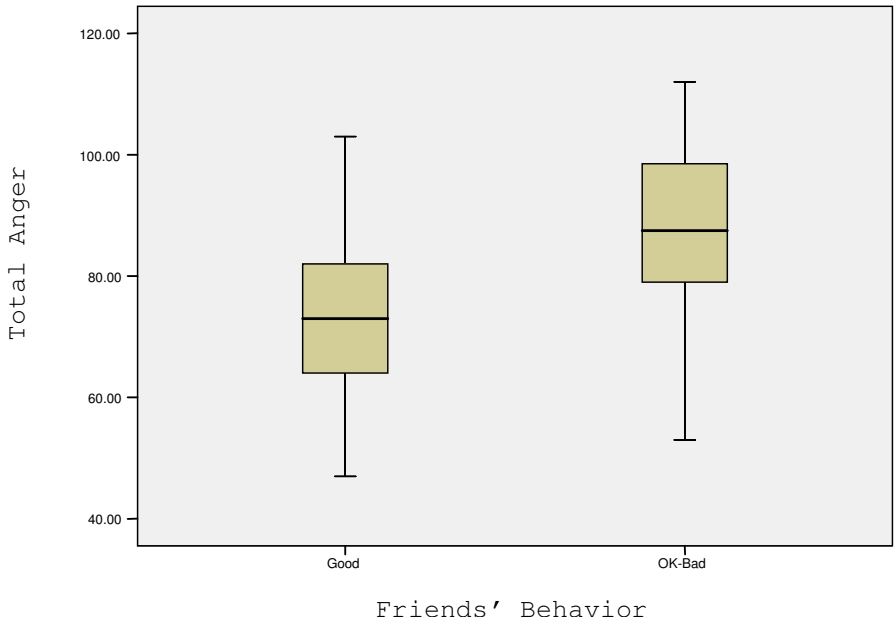

Figure 27. Total Anger levels and friends' behavior.

MANOVA results reveal that friends' behavior was significant, $\lambda(3,69) = 0.758$, $p < 0.001$(see Table 18), with ANOVA results suggest that friends' behavior reported is associated with Reactive Anger ($p < 0.001$, df = 1), Instrumental Anger ($p < 0.001$, df = 1), Anger Control ($p = 0.003$, df = 1), and Total Anger ($p < 0.001$, df = 1) levels. Specifically, results suggest that those rating their friends' behavior as "Good" report significantly less Reactive Anger, Instrumental Anger, and Total Anger, along with significantly more Anger Control, than those rating their friends' behavior as more negative ("OK-Bad").

Number of Household Members

In total, 14.9% of the sample reported having two household members, 44.6% reported three, 18.9% reported four, and 21.6% reported five or more household occupants.

To investigate the effects of number of household members on anger expression and control, RA, IA, and AC subscale raw scores, along

with Total Anger raw scores, were compared when considering more versus less numbers of household members reported. Figures 28, 29, 30, and 31 present RA, IA, AC, and Total Anger levels for numbers of household members reported by study participants. A review of the data suggests normality and equal variance.

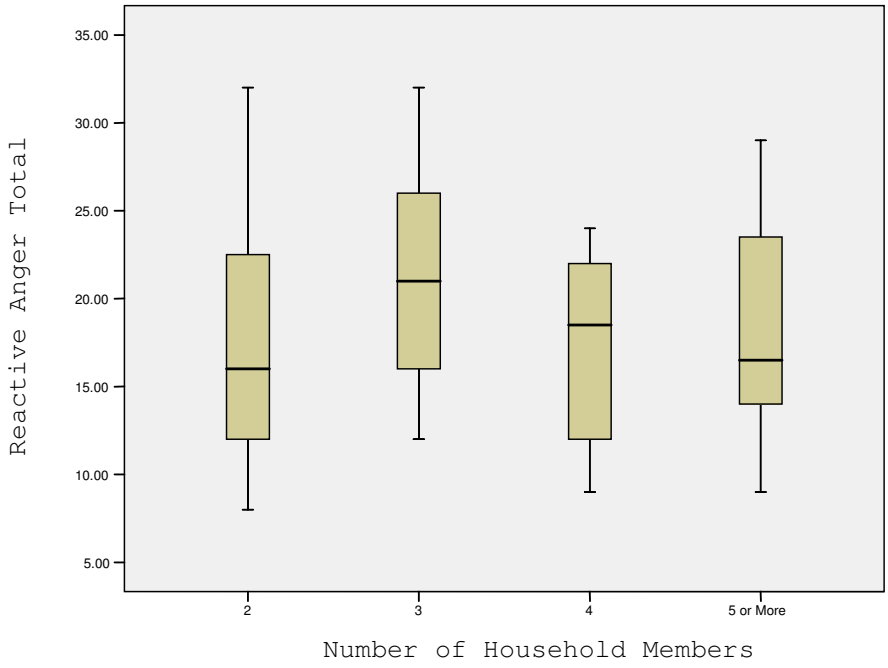

Figure 28. Reactive Anger levels and number of household members.

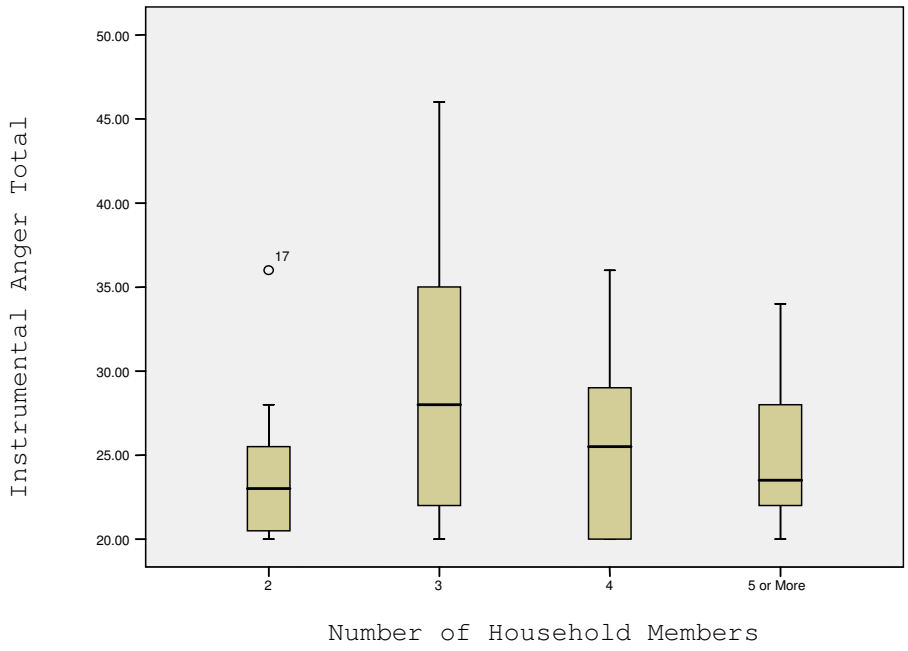

Figure 29. Instrumental Anger levels and number of household members.

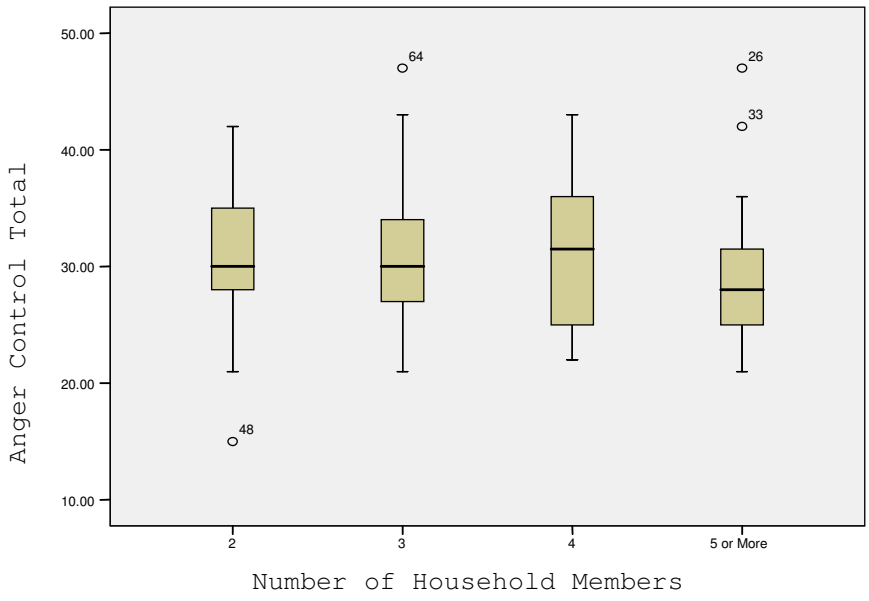

Figure 30. Anger Control levels and number of household members.

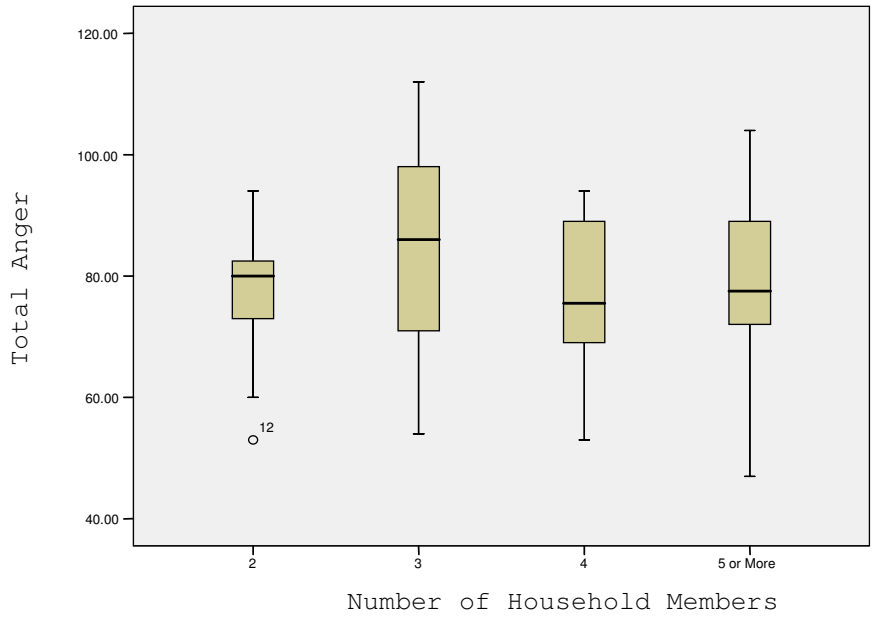

Figure 31. Total Anger levels and number of household members.

MANOVA results presented in Table 18, referencing the Wilks' criterion, suggest that number of household members was not significant, $\lambda(9,165) = 0.851$, $p = 0.260$).

Summary

Results of the data analyses reveal that no significant differences are detected in RA, IA, AC, and Total Anger levels for males versus females or younger versus older students. Additionally, no significant differences of anger expression or anger control were detected when examining variables individually including number of friends reported or number of household members reported. MANOVA results reveal that average grade earned reported, number of school suspensions reported, and friends' behavior reported were significant.

ANOVA results reveal that average grade earned reported was associated with significant Reactive Anger, Instrumental Anger, Anger

Control, and Total Anger levels. Those indicating lower average grades earned were observed to report higher levels of Reactive Anger, Instrumental Anger, and Total Anger, along with lower levels of Anger Control, than those indicating higher average grades earned. Number of school suspensions reported was found to relate to Anger Control levels, with higher levels of Anger Control being associated with no school suspensions reported. Finally, ANOVA results reveal that friends' behavior reported was related to Reactive Anger, Instrumental Anger, Anger Control, and Total Anger levels. Specifically, results suggest that those rating their friends' behavior as Good report significantly less Reactive Anger, Instrumental Anger, and Total Anger, along with significantly more Anger Control, than those rating their friends' behavior as more negative.

CHAPTER V

A DISCUSSION OF THE STUDY

This chapter discusses the relevant findings of the study. The proposed research questions and their associated findings are examined, with similarities and differences of this research and past studies noted. Implications and limitations of this study are then presented. Finally, recommendations for future research are offered.

Because anger is one critical factor associated with aggression and violent behavior in our children (Averill, 1983), and given the continued problems of violence and angry behaviors committed on our middle and high school campuses, the examination of adolescent anger is a critical research gap that needs to be filled. Exploring adolescent anger expression and control is imperative in order to gain information to address specific angry behaviors and violent acts displayed in our schools (Burney, 2001) and prevent the negative emotional and academic impact that anger has on students (Soriano & Soriano, 1994).

Specifically, this study investigated differences in the expression of adolescent Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger and explored variables such as sex, grade level, number of friends reported, average grade earned reported, school suspensions reported, friends' behavior reported, and number of household occupants reported.

Anger and Sex

To investigate the relationship between adolescent anger and sex, the following research question was asked: Do adolescent males and females express anger differently, with regard to Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger? Results of this study revealed no significant differences between male and female RA, IA, AC, and Total Anger. This finding is not consistent with

the majority of the literature that suggests that males demonstrate greater levels of anger than females (Biaggio, 1989; Bjorkqvist, Osterman, & Kaukiainen, 1992; Brody & Hall, 1993; Burney, 2001; Cox, Stabb, & Hulgus, 2000; Crick, Bighee, & Howes, 1996; Eagly & Steffen, 1986; Headley, 2000; Hubbard, 2001; Maccoby & Jacklin, 1980; Lemkau & Landau, 1986; Lerner, 1988; Sharkin, 1993; Zeman & Garber, 1996).

Anger and Grade Level

To explore the relationship between anger and grade level, the following research question was addressed: Are there significant differences in the frequency of Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger demonstrated by students in seventh, ninth, and eleventh grades? Results of this study revealed no significant differences in RA, IA, AC, or Total Anger levels of seventh, ninth, and eleventh grade students. This finding is not consistent with the majority of school-aged studies that have concluded that anger decreases as students mature (Burney, 2001; Burney, 2006; Gottman & Mettetal, 1986; Jenkins & Ball, 2000; Saarni & von Salisch, 1993; Underwood, 1997; Underwood, et al., 1993; Underwood, et al., 1999; Zeman & Garber, 1996; Zeman & Shipman, 1996).

Anger and Other Variables

To investigate the effects of number of friends, average grade earned, number of school suspensions, friends' behavior, and number of household members on adolescent anger, the following research question was answered: Do variables such as number of friends reported, average grade earned reported, number of school suspensions reported, friends' behavior reported, and number of household members reported influence levels of Reactive Anger (RA), Instrumental Anger (IA), Anger Control (AC), and Total Anger? While research on specific variables that may influence anger is sparse, those studies that have been conducted

suggest that increased anger levels are demonstrated by those who are more rejected by peers and have less friends (Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994), earn lower grades (Fryxell & Smith, 2000), demonstrate poorer school behavior (Averill, 1983), affiliate with peers who demonstrate more deviant behavior (Burney, 2001; Coie & Lennox, 1994; Fryxell & Smith, 2000), and live with more household occupants (Huston, 1991). Results of this study are consistent with the literature when considering average grade earned reported, number of school suspensions reported, and friends' behavior reported.

Regarding academic achievement, results reveal that average grade earned was associated with significant RA, IA, AC, and Total Anger levels. Specifically, lower average grades earned falling in the C-D range were observed to be associated with higher levels of RA, IA, and Total Anger, along with lower levels of AC. And, while the majority of students participating in this study reported earning higher grades falling in the A-B Range, those few students who reported lower grades were found to report anger levels considered to be significant compared to those anger levels reported for students earning higher grades.

In terms of school behavior, Anger Control was found to be associated with number of school suspensions reported. Higher levels of anger control was found to be related to no school suspensions, while lower levels of anger control were found to be reported when more school suspensions were indicated. RA, IA, and Total Anger levels were not found to be associated with number of schools suspensions reported.

Concerning friends' behavior, results suggest that those rating their friends' behavior as "Good" report significantly less RA, IA, and Total Anger, than those rating their friends' behavior as more negative (OK-Bad). In addition, individuals rating their friends' behavior as

"Good" report higher levels of AC than those reporting their friends' behavior as "OK-Bad."

Implications of Research Findings

This study supports previous research that suggests that a lack of academic achievement (Fryxell & Smith, 2000), poor school behavior (Averill, 1983), and deviant peer behavior (Burney, 2001; Coie & Lennox, 1994; Fryxell & Smith, 2000) may influence anger levels. With regard to academic achievement, previous studies have concluded that academic failure may increase feelings of rejection (Fryxell & Smith, 2000). Therefore, those that feel rejected due to academic deficiencies may exhibit angry behaviors due to feeling unaccepted or different than their peers. Considering results of this study, it is possible that reactive-type angry behaviors may serve as immediate emotional reactions in times when one experiences academic failure and accompanying feelings of incompetence or isolation from classmates. Instrumental-type angry behaviors may be demonstrated when students experience chronic academic difficulties and, as a result, exhibit delayed emotional reactions in the form of revenge or retaliation. Essentially, students that struggle academically may demonstrate lower levels of anger control due to expressing their frustration through anger.

It is also possible that anger levels were found to be significantly higher when lower levels of academic achievement were reported due to the geographical characteristics and the academic programming of the targeted school district. Given that the sample for this study only consisted of subjects from a rural population, and considering that rural school districts may have less remedial academic supports available than more urban settings, it may be possible that underachieving rural students experience more anger and less anger

control due to a lack of exposure to programming that supports academic remediation. Rural students may have less access to academic interventions, experience more academic frustration and, in turn, demonstrate more angry behaviors and less anger control.

Regarding school behavior, students reporting no school suspensions were found to report significantly higher levels of anger control than those students receiving more school suspensions. Reactive Anger, Instrumental Anger, and Total Anger were not found to be significant. Due to anger being a sensitive issue that elicits concern and warrants attention, it may be possible that students were less willing to admit exhibiting increased anger levels, or specific types of angry behavior displayed, and only willing to report difficulties with anger control. It may also be possible that those who are assigned more school suspensions due to negative behavior may not recognize exhibiting problematic angry behaviors such as reactive anger or instrumental anger, but rather only a lack of anger control.

Finally, concerning friends' behavior, more positive peer ratings were found to result in less RA, IA, and Total Anger reports and more Anger Control by participants. This finding may suggest that adolescents that affiliate with better-behaved friends may refrain from demonstrating angry behaviors considered to be unacceptable by their peer group (Underwood, 1997). Previous research suggests that emotion is governed by social norms (Averill, 1979; Hochschild, 1979; Levy & Rosaldo, 1983; Sabini & Silver, 1982; Shott, 1979). Furthermore, children's developing expression of emotions is influenced by culturally-patterned peer assumptions about emotional life (Underwood, 1997). Results of this study support this theory and conclude that adolescents who rate their friends' behavior more positively report demonstrating less RA, IA, and Total Anger, and more Anger Control.

As research has implied that adolescents who are part of deviant peer groups that accept and demonstrate negative behaviors may display more anger and negative behaviors (Coie & Lennox, 1994), adolescents who affiliate with better-behaved peer groups may refrain from demonstrating significant levels of reactive and instrumental-type angry behavior because these behaviors are not considered "acceptable" by their peer group. Furthermore, adolescents who are part of peer groups that exhibit good behavior may not feel that the demonstration of RA and IA behaviors is appropriate, given reactive anger behavior is characterized by "an immediate angry response to a perceived negative, threatening, or fearful event", and instrumental anger behavior is fueled by "negative emotions that trigger a delayed response resulting in a desired and planned goal of revenge and/or retaliation" (Burney, 2001, p.2). Previous research suggests that adolescents are socialized to react emotionally in ways that will not be met with negative responses from peers (Underwood, 1997). Therefore, adolescents who associate with better-behaved friends may recognize the social expectation of refraining from retaliating and revengeful behavior and, in turn, demonstrate increased levels of anger control.

Results of this study concluded that no significant differences were found between male and female, younger versus older, students. It is possible that no significant differences were observed due to the study's limited sample size and composition. To begin, the sample for this study was composed of only 74 students; 15 seventh graders, 28 ninth graders, and 31 eleventh graders. Due to seventh graders and ninth graders not meeting the recommended cell size requirement of 30 needed to conduct data analyses procedures, it is possible that significance in anger levels and anger control of male and female, younger versus older, participants could not be detected.

Second, the sample for this study was mainly composed of male and female participants who reported having friends, earning good grades, demonstrating more positive behavior in school, and residing in homes that do not house excessive numbers of occupants. The sample was limited in representation of subjects reporting having no or few friends, poor grades, poor school behavior, friends with poor behavior, or excessive numbers of household occupants; all variables that are correlated with higher levels of anger (Burney 2006, Coie & Lennox, 1994; Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994; Flannery, Wester, & Singer, 2004; Fryxell & Smith, 2000, Huston, 1991). It may be possible that students who struggle with these challenges and accompanying anger may have been hesitant to participate in a study that examines an area in need of improvement. Additionally, students experiencing challenges such as having less friends, poorer grades, poorer school behavior, friends' with more negative behavior, and excessive household members may be less motivated to participate in a study such as this, as evidenced by their lack of academic achievement and increased behavioral difficulties.

Third, a review of previous research reveals that those studies that found significant anger differences had samples that consisted of participants from various ethnic backgrounds and communities including urban, suburban and rural settings. This sample was composed of only Caucasian students from a rural school district. Therefore, it may be possible that anger differences were not detected in male and female, younger versus older, participants due to the environment in which they reside. As previous research has suggested that more urban settings expose young children and adolescents to increased violence and environmental stressors (U.S. Department of Justice, 2005), students residing in more rural settings may not experience such negative

situations and, in turn, refrain from demonstrating higher levels of emotional reactions such as anger.

Finally, no significant differences may have been detected between male and female anger due to the focus of this study. Given that anger and violence in schools today is considered to be a very sensitive issue that demands public attention and concern, students participating in this study may have been placed under social demands to provide answers to questions in a socially acceptable manner (Eagly, 1978). Students may have felt pressure to report little or no anger and, in turn, no significant differences would have resulted.

Limitations of the Study

One threat to validity that may have affected study results involves the study's sample. First, given that only 74 students participated in this research, including 15 seventh graders, 28 ninth graders, and 31 eleventh graders, the recommended cell sizes were not met for grades seven and nine. Second, a review of demographic data reveals that the sample lacked representation of all predictor variables including having no or few friends, below average grades, friends' with poor behavior, school suspensions received, and excessive household occupants. Third, the overall composition of the study's sample does not represent the general population. As the targeted district's population is composed of 100% Caucasian students, it was not possible to include adolescents of other ethnic backgrounds in this research. Considering these limitations, generalizability of study results to the general population is limited and results should be interpreted with caution.

A second threat to validity that may have affected the study's results is social desirability. Specifically, social desirability may have played a role in responses provided by subjects on the self-report

measure. Averill (1983) states, "What a person says (on self-report measures) is under conscious, voluntary control, and hence is subject to dissimulation and conformity to social expectations" (p. 1154). As subjects may have responded to items in a socially acceptable manner, ratings provided may not reflect true reactions in real-life situations. Additionally, it is assumed that students in this study rating personal reactions to specified circumstances may have felt placed under social demands to provide socially acceptable responses (Eagly, 1978). Individuals rating personal reactions to specified circumstances may feel pressured to provide responses considered to be "right." Moreover, as the instrument administered focused solely on anger, an emotional reaction that has facilitated a sense of alarm and implementation of prevention efforts in schools, study participants may have been hesitant to answer items in ways that may reveal the presence of anger.

Recommendations for Future Research

In examining participation rates of the study's sample, it is observed that the majority of study participants reported having friends, average to above average grades, little or no school suspensions, friends with positive behavior, and household occupancy rates not considered to be "excessive." Students who reported having less friends, below average grades, more school suspensions, friends with more negative behavior, and large numbers of household members were observed to avoid participation in this research. As previous studies have suggested that such challenges are associated with anger difficulties (Burney 2006, Coie & Lennox, 1994; Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994; Flannery, Wester, & Singer, 2004; Fryxell & Smith, 2000, Huston, 1991), students who struggle with anger

issues and such characteristics may have been hesitant or unmotivated to participate in a study that examines an area of weakness.

Therefore, in an attempt to continue efforts to establish physical and social environments that prevent violence and promote safety in schools (The Center for Disease Control and Prevention, 2005), conducting future research on anger expression and control with students with poor academic achievement, few or no friends, negative school behavior, friends' with poor behaviors, and households with excessive occupants may be the key to prevent the demonstration of angry behaviors in our schools. In addition, identifying and intervening with those students who struggle academically, socially, or behaviorally, and providing incentives to participate in research appears to be an essential research need of the future. Investigating the interactional effects of motivation, anger, and variables such as having little or no friends, below average grades, more school suspensions, friends with poor behavior, and more household members may provide insight into how to recognize those students who are unmotivated to participate in research and how to encourage them to do so.

A second area in need of further research is the examination of the influence of different community settings on anger levels. As results of this study revealed no significant differences in rural male and female, younger versus older participants, it may be beneficial to provide future investigation into the effects that residential climates of urban, suburban, and rural environments have on anger expression and control of adolescents.

Finally, it is recommended that future research focus on specific anger management programming techniques and the effectiveness of these strategies on Reactive Anger, Instrumental Anger, and Anger Control.

Given that prior research suggests that most anger management programs present with a "one size fits all" approach to controlling and managing anger (Burney, 2001), it may be beneficial for future studies to investigate how specific individuals who demonstrate specific types of anger respond to certain anger management programs.

Summary

This research supports previous reports that suggest that academic achievement (Fryxell & Smith, 2000), poor school behavior (Averill, 1983), and deviant peer behavior (Burney, 2001; Coie & Lennox, 1994; Fryxell & Smith, 2000) may influence anger levels. This research concludes that those reporting lower average grades earned and friends' with more negative behavior indicate higher levels of Reactive Anger, Instrumental Anger, and Total Anger, along with lower levels of Anger Control, than those reporting higher average grades earned and friends' with more positive behavior. In addition, this study concludes that those reporting more school suspensions report significantly lower levels of anger control than those reporting no school suspensions. No significant differences were detected when examining Reactive Anger, Instrumental Anger, Anger Control, and Total Anger levels and sex, grade level, number of friends reported, or number of household members reported. It is assumed that significant differences were possibly not detected due to a lack of sample size and variable representation and the sample consisting of strictly students from a rural setting. Gathering of local norms could not be facilitated due to limited sample size of grade levels of the targeted district.

In an effort to continue to explore specific ways in which adolescents express and control their anger, along with variables that may influence anger expression and control, it is imperative that future adolescent anger research be supported. It is through future

studies that information on adolescent anger can be gathered and the development of effective anger management programs can be supported. In turn, implementation of effective strategies that address specific anger needs of students can be offered in order to facilitate learning environments in which our students can grow and thrive.

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APPENDICES

Appendix A

Informed Consent Letter

Dear Parent: May 15, 2007

I am the School Psychologist at Blacklick Valley School District. In addition, I am a doctoral student, at Indiana University of Pennsylvania, working on my dissertation. I am currently investigating anger demonstrated by the adolescent population. Specifically, I am interested in gathering data to assist in developing and implementing anger management programming at Blacklick Valley Junior-Senior High School. I believe that gathering information about teen anger is critical to promote safer schools in which our children can learn and thrive.

For this reason, I am writing to request your permission for your adolescent to participate in this study. Involvement would require your adolescent to complete a brief rating scale that assesses how students react when they are angry and also the extent to which they control their anger. Completion time of the rating scale is approximately 15-20 minutes and each student will be granted time to complete the rating scale during one of their special course periods such as Gym, Art, Music, Consumer Science, or Industrial Arts class. Students will receive bonus points in the class that the rating scale is completed. However, if a student does not complete the rating scale, he/she will also be given the opportunity to earn the same amount of bonus points by completing a short assignment that is given by the classroom teacher.

Please note that participation in this study is strictly voluntary. To protect your adolescent's confidentiality, he/she WILL NOT be required to identify his/her name on the rating scale completed. Their name is only required on the Permission to Participate in Research Form. To further protect confidentiality, research materials used for this study will be assembled and collected by a district secretary, thereby, preventing release of student names and rating scale responses to the researcher and district teachers.

This study has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730) to assure ethical treatment, privacy, and safety of human subjects. There are no known significant risks associated with this research, however, participating students will be informed of qualified staff members that are available to talk to, should a student experience feelings of anger or other upsetting emotions during or following completion of the rating scale. Finally, findings of this study may be shared at the National Association of School Psychologist Annual Convention, at state or regional conferences, or submitted for publication.

If you give consent for your adolescent to participate in this study, please complete the second page of this consent form and give it to your child to return to school by Monday, May 21, 2007. Please know

that by your adolescent completing the rating scale, he/she is indicating that he/she agrees to participate in this study. Your cooperation in this matter is greatly appreciated. Hopefully, research like this, along with future studies, will promote healthy environments in which our students will be supported in learning and achieving.

Sincerely,

Kirsten L. Stiffler, Ed.S, NCSP
School Psychologist
Blacklick Valley School District
555 Birch Street
Nanty Glo, PA 15943
(814) 749-9213 ext. 247

Mary Ann Rafoth, Ph.D.
Interim Dean of the College of Education of Education and Educational Technology
Indiana University of Pennsylvania
104 Stouffer Hall
Indiana, PA 15705
(724) 357-2480

Appendix B

Permission to Participate in Research Form

I have read and understand the information on the form and I consent to my adolescent participating in this study. I understand that my adolescent's responses are completely confidential and that I have the right to withdraw at any time. I also understand that I may keep the Informed Consent Letter and also request a copy of the Permission to Participate in Research Form, once it is signed to keep in my possession.

Student Name (Please print): _____

Parent Signature: _____ **Date:** _____

Appendix C

Information Form to Students

I am inviting you to participate in a research study. The purpose of this study is to find out more about how adolescents express and control anger. The study is not painful in any way.

If you participate in this study, you will be asked to complete a rating scale that involves answering questions on how you might handle certain situations. The rating scale takes approximately fifteen minutes to complete. After you complete the rating scale, nobody at home or school will use your name or talk about your answers on the rating scale. Your teachers and I will not know who provided what responses, as all materials for this study will be assembled and collected by a school secretary. Your answers will also have no effect on your grades. Remember, to keep your answers private, you SHOULD NOT write your name on the rating scale.

If you complete the rating scale, you be awarded bonus points in the class that the scale is completed. However, if you do not want to participate in the study, you will also be given the chance to receive bonus points by completing a short assignment that is given by your teacher. Your teacher will tell you how many points you may earn for completing the rating scale or doing a short assignment.

You can ask any questions now or later that you have about this study. Even if you say that you want to participate now, and then decide later not to be in the study, that is okay. You can stop at any time if you want to and you will not be in trouble if you decide you do not want to participate. Please know that by completing the rating scale, you are indicating that you agree to participate in this research study.

If you experience any negative feelings after you complete the rating scale, you may ask your teacher to speak with one of the following staff members about how you are feeling:

Mr. Gibson, Junior-Senior High School Guidance Counselor – High School Office
Ms. Jessica Clifford, Counselor – High School Office
Mrs. Anderson, School Social Worker – Special Education Office

Thank you for your time,

Kirsten L. Stiffler, School Psychologist
Blacklick Valley School District

Appendix D

Rating Scale Cover Letter

Thank you for participating in this study. Remember, DO NOT write your name anywhere on the rating scale. Please open your rating scale booklet and complete the following:

1. Fill in your grade beside where it says "grade."

2. Circle "M" if you are a male and "F" if you are a female.

3. Write in your age.

4. Circle which describes your average letter grade "A-B, C, D, or F."

5. Circle the times you have been suspended this school year "0, 1-2, 3-4, or 5 or more times."

6. Circle the approximate number of friends you have "0, 1-2, 3-4, 5 or more friends."

7. Circle how you would rate your friends behavior "Good, OK, or Bad."

8. List who you live with but DO NOT list names. (ex. list mother, father, brother, sister, grandmother, aunt).

Next, please read each item and circle the number that best tells about you when you become angry. To make sure that others will not know your answers, you SHOULD NOT write your name on the rating scale. Please know that if you experience negative feelings after completing the rating scale, you may ask your teacher to speak to someone about your feelings. Please put your rating scale back in the envelope when finished. Thank you for participating.