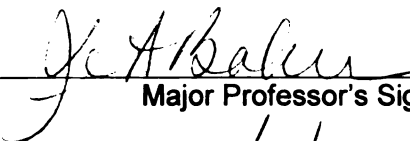This is to certify that the
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THE SOCIAL INFLUENCES OF SCHOOL AND THEIR EFFECT ON THE
CHANGES OF AGGRESSION OVER TIME: A MULTILEVEL MODEL

By

Michael David Nicholson

A DISSERTATION

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ABSTRACT

THE SOCIAL INFLUENCES OF SCHOOL AND THEIR EFFECT ON THE CHANGES OF AGGRESSION OVER TIME: A MULTILEVEL MODEL

By

Michael David Nicholson

Aggression, a complex phenomenon ranging from disruptiveness to physical and verbal abuse that relies on a social label from those involved or those who witnessed the event, resulted in nearly two million incidences of violence against students ages twelve to eighteen in the year 2000 alone. Due to the seeming stability of aggression, it is important to target these behaviors early. The school seems to be in a position to help counter behavioral problems. Through the social interactions of the school in which children participate five days a week for the better part of each year, the chance for positive models of behavior are ever present. The present study examined relationships with teachers and peers and the potential for those to influence changes in aggression over time. Specific interest in teacher efficacy and its relationship to these changes are explored. Results suggest that teacher efficacy is moderately related to changes in aggression along with the previous aggression of the child and the overall climate of the classroom. Examinations of current intervention and prevention programs and implications on practice are discussed.

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Chapter 1

Introduction

Nearly a decade ago, The National Education Goals Panel ambitiously set as a goal the following: "by the year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning" (Batsche & Knoff, 1994, p. 165). Now five years into the twenty-first century, schools still struggle with the problem of violence and aggression, the United States having fallen well short of its lofty goal. This is not to understate the progress that has been made. America has seen a steady decline in the levels of violent acts within our schools since the creation of that 1993 Goals Panel (Phillips & Greenfeld, 2002). However, school violence remains a serious problem and threat to the safety of our nation's children, a statement illuminated by a brief examination of current data.

Among juveniles, serious violent crimes, which include rape, sexual assault, robbery, and aggravated assault (Phillips & Greenfeld, 2002), are fairly rare occurrences, with approximately 90 percent of schools reporting no such incidences during the 1996-97 school year (Bear, Webster-Stratton, Furlong, & Rhee, 2000). In fact, since 1992, there has been a 46% decrease in the number of violent crimes reported at school (Phillips & Greenfeld, 2002). Still, according to the U.S. Departments of Education and Justice in their 2002 *Indicators of School Crime and Safety*, Phillips & Greenfeld report that this percentage translated into approximately 700,000 violent crime victims between the ages of twelve and eighteen in the year 2000 alone. Of those, 128,000 were classified as serious violent crimes and 47 resulted in deaths, 38 of which were homicides. The homicide rate at school has remained relatively constant since 1992, its lowest point

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being in 1997 when it was 21% *above* the average of the 1980's (Snyder & Sickmund, 1999). Those committing these crimes were almost entirely male and between the ages of fourteen and seventeen. In fact, between 35 and 45 percent of all violent and serious violent crimes are committed by juveniles. Also striking is the number of juveniles participating in deviant acts. Twenty-eight percent of juveniles (and 37% of males) have purposely destroyed property and 18 percent (23 for males) have committed assault (Snyder & Sickmund, 1999).

The data above show that a large number of children and adolescents are participating in violent acts. However, these numbers only tell part of the story. Violent and serious violent crimes aside, other acts of aggression, such as bullying, teasing, and rejecting peers are considerably more common among youth (Bear, Webster-Stratton, Furlong, & Rhee, 2000). Indeed, over half of all schools reported that physical fights escalated to the point of police involvement (Phillips & Greenfeld, 2002).

These data suggest that many school environments continue to be unsafe for the students that attend them. In fact, in 2001, about six percent of students ages twelve to eighteen carried a weapon to school, over twelve percent had been in a fight on school property, nearly eight percent had been bullied (up nearly three percent from 1999) and almost twenty percent reported that gangs were present at their school (Phillips & 2Greenfeld, 2002). The result of this data manifests in the fact that six percent of these students experience fear while at school. While these numbers may sound small, these percentages translate into nearly two million incidences of violence against students ages twelve to eighteen in the year 2000 alone (Phillips & Greenfeld, 2002).

Who are these juvenile offenders? Usually, there is no secret as to who they are.

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These children have been getting into trouble their entire lives, and a quarter of them will be officially referred to the juvenile justice system by the time they are fourteen years old (Snyder & Sickmund, 1999). Over half of the violent and serious violent crimes will be committed by these early-onset offenders. It is for this reason that we have seen an increase of zero tolerance policies, violence prevention programs, security measures, and onsite police officers in our nation's schools (Phillips & Greenfeld, 2002). Although these efforts have produced some positive change, the real threat and subsequent fear of violence continues to torment millions of children nationwide.

This major threat to public health (Herrenkohl, Maguin, Hill, Hawkins, Abbott, & Catalano, 2000) necessitates the need to understand aggression and to explore avenues within the school that may circumvent the problem before more serious forms of violence can ensue. For at least a couple reasons, this effort needs to start in the early years of schooling, if not before. First, minor forms of aggression such as tardiness, breaking rules, and fighting have been found to predict later, more serious acts of violence (Kellam, Rebok, Ialongo, & Mayer, 1994). Rarely does an adolescent one day decide to use violence. Instead, it seems more likely that acts of aggression result through both the repeated occurrences of such acts and an inability to understand and utilize more prosocial behavior. Second, it is important to target deviant behavior early because children who demonstrate such behavior are nearly three times more likely to commit serious violent crimes in the future during what is most likely a long, chronic career as a criminal (Loeber & Farrington, 2000). Discovering avenues of success for these children and tomorrow's children is becoming increasingly important. With an expected increase of over 20% in the number of people under the age of eighteen in the next thirty years

(Snyder & Sickmund, 1999), the problem of youth aggression can only increase.

The goal set by the National Education Goals Panel (Batsche & Knoff, 1994) is still the desire of this nation. While unable to reach it by the year 2000 as planned, it is still important to continue to strive for that plateau. Through an understanding of the mechanisms of aggression and the ways those mechanisms interact with the dynamic environment of school, we can begin to formulate solutions and continue to make strides toward creating schools that are both physically and psychologically safe places to be. Specifically, this study will examine the effects of the major social influences within the school (teachers, peers) on the changes of childhood aggression over time.

Chapter 2

Literature Review

The story of how the mechanisms of aggression can interact with the dynamic environment of school in either positive (prosocial) or negative (antisocial) ways can only begin with an exploration of aggression itself. An understanding of what does and does not constitute aggression, along with an examination of risk and protective factors, lays the foundation for understanding how antisocial trajectories may be altered toward more positive pathways. Thus the discussion would not be complete without looking at how aggression develops over time, and in this particular context, how the school may aid in such a development. The central premise of this chapter is that the school may be able to provide an environment that could stimulate more prosocial behaviors in children. Therefore, the remainder of this chapter will explore social theories as well as specific influences within the child and school environment that will support this postulate.

Aggression: Its Meaning and Origin

Definitions

When asked to describe an aggressive child, many may conjure an image of a foul-mouthed, child-hitting, dog-kicking, fire-starting boy who has no desire or perhaps even ability to do the right thing. Popular movies have exploited these ideas for terrifying effects in films such as *The Bad Seed, The Omen,* and *The Good Son*, the last of which of course implying that there is a bad son. These depictions of severe conduct disorders, from which between one and ten percent of children suffer (Conduct Problems Prevention Research Group,1992; Hinshaw & Anderson, 1996) certainly represent aggressive acts on the wrong end of a behavioral continuum. However, these depictions

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provide a narrow conceptualization of aggression, a term that has been defined and classified in many different ways.

Aggression has been defined as "any sequence of behavior, the goal response to which is the injury of the person toward whom it is directed" (Bandura, 1973, pg. 2; Parke & Slaby, 1983, pg, 549). This particular definition seems to depict an oversimplified explanation of the phenomenon of aggression. The implication therein is that there is only one purpose to an aggressive act, that being to cause injury. There would seemingly be other goals that are possible for a child to resort to aggression. For example, a child who wants a toy with which another child is playing may turn toward violent solutions to remedy the situation, not necessarily to hurt the other child, but rather to obtain the object.

Alternatively, aggression has been defined as "behavior that results in injury of another individual" (Parke & Slaby, 1983, pg. 549). While this definition addresses some of the shortcomings of the previous one, it does not seem to distinguish between purposeful acts of aggression and those "injuries" that may be caused by a routine trip to the dentist. While root canals may at times seem to be performed in malicious manners, few would actually describe the dentist's behavior as being aggressive.

Bandura (1973) suggests that for an act to be aggressive, it not only must result in injury to another person or thing ("destruction of property"), but it also must be judged to be aggressive by onlookers. Judges of aggression look at characteristics of the behavior, the intensity of the responses, expressions of pain and injury, and the intentions attributed to the performer. Characteristics of the labeler and of the aggressor further alter the labels of the judges of aggression. What this conceptualization offers is the fact that an

act of aggression is a social act. It involves at least two people, each a labeler and an actor, and in the schools often involves a host of other actors and labelers as well. Thus in the social context of schools, this definition of aggression is appealing. Aggression, then, is a "complex phenomenon ranging from disruptiveness to physical and verbal abuse" (Gorsk & Pilotto, 1993, p. 36) that relies on a social label from those involved or those who witnessed the event. In the specific example of this study, the social label comes from the teacher by way of rating forms and it is these ratings or perceptions of aggression levels that are being substituted for aggression itself. Research suggests that teachers do supply reliable and valid measures of externalizing problems (Merydith, 2001).

Hinshaw and Anderson (1996) outline a number of forms which aggression can take. Aggression can be verbal when a student threatens another or calls him/her a name or it can be physical when the ensuing fight occurs. Aggression can be instrumental (goal-directed) when a toddler uses a violent tantrum to play his favorite game or hostile when that toddler's favorite game is beating up his sister. Aggression can be direct as in any boxing match on the school playground or indirect when rumors are started to hurt another (Atlas & Pepler, 1998; Hinshaw & Anderson, 1996). Aggression can be proactive when a student picks a fight or reactive when the victim fights back (Hinshaw & Anderson, 1996). Aggression can be covert when someone steals when only turned heads are seen or overt when the act is on display for others to see. Finally, aggression can be destructive or nondestructive. For the current paper, only direct, overt aggressive acts are considered because of the difficulty of measuring more covert behaviors.

Symptoms and Risk Factors

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A risk factor is anything that increases a person's chance to "succumb to adversity" (Doll, & Lyon, 1998, p. 349). It seems unlikely that there is one cause or factor that determines a child's likelihood to become aggressive. Instead, there are probably multiple factors that make up the aggressive child (Loeber, 1991), and the more risk factors that a child possesses, the more likely there will be negative outcomes. In a related area, Loeber and Farrington (2000) found that children with three more risk factors than protective factors were eight times more likely to become seriously delinquent than those children with a better balance of risk and protection. An understanding then of the risk factors of aggression is important to comprehending the construct.

There are three broad areas of risk factors that have been widely studied. First, there are a number of factors within the child that can increase his/her chances to be aggressive in the future. The child's temperament may have a small effect on later aggression (Hinshaw, 2002; Loeber, & Farrington, 2000; Webster-Stratton, 1993). High activity levels, poor adaptability, and general crankiness have some relation to aggression, but unfavorable temperament does not in and of itself lead to psychopathology. Secondly, gender is related to aggression in that males are significantly more likely to partake in physically aggressive actions (Bear, Webster-Stratton, Furlong, & Rhee, 2000; Doll, & Lyon, 1998; Herrenkohl, Guo et al., 2001, Herrenkohl et al., 2000). Children with cognitive and academic deficits such as reading disabilities, language delays, and attention problems have all been related to more negative outcomes (Bear et al., 2000; Conduct Problems Prevention Research Group, 1999; , Herrenkohl, Guo et al., 2001; Herrenkohl et al., 2000; Hinshaw & Anderson,

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1996; Loeber, & Farrington, 2000; Loeber, Farrington, Stouthamer-Loeber, Moffitt, & Caspi, 1998; Loeber, Green, Lahey, Christ, & Frick, 1992; Webster-Stratton, 1993). Third, children with deficits in social skills such as distortions of social cues, poor social problem solving skills, and a tendency to define problems in hostile ways leads to more aggressive outcomes later in life (Bear et al., 2000; Webster-Stratton, 1993). Fourth, hyperactivity and impulsivity puts a child at risk of becoming aggressive (Bear et al., 2000; Conduct Problems Prevention Research Group, 1999; Herrenkohl, Guo et al., 2001; Herrenkohl et al., 2000; Loeber, & Farrington, 2000; Loeber et al., 1998). Fifth, involvement with antisocial peers as well as early antisocial behaviors are good predictors of future antisocial acts (Bear et al., 2000; Herrenkohl, Guo et al., 2001; Herrenkohl et al., 2000).

A sixth risk factor within the child may be the age of onset (Herrenkohl, Huang et al., 2001; Hinshaw & Anderson, 1996; Loeber, & Farrington, 2000). There appears to be a difference between early-onset and late-onset offenders, with the former having a longer, even chronic difficulty with aggression. While late-onset offenders typically have a prosocial orientation but succumb to peer pressures, early-onset offenders have a more negative orientation right from the beginning. These orientations become crystallized with subsequent exposures to harmful environmental stimuli (Herrenkohl, Huang et al., 2001).

The second broad area of risk lies within the home or family. Parent skills deficits such as being more violent and critical in their discipline (Batsche, & Knoff, 1994; Bear et al., 2000; Herrenkohl et al., 2000; Loeber, & Farrington, 2000; Loeber et al., 1998; Webster-Stratton, 1993; Sines, 1987); being more permissive, erratic, and

inconsistent (Herrenkohl, Guo et al., 2001; Herrenkohl et al., 2000; Hinshaw & Anderson, 1996; Parke & Slaby, 1983; Webster-Stratton, 1993); failing to monitor children's behaviors (Webster-Stratton, 1993); providing poor supervision (Hinshaw & Anderson, 1996; Kolvin, Miller, Fleeting, & Kolvin, 1988; Loeber, & Farrington, 2000; Loeber et al., 1998); having low involvement in children's activities (Hinshaw & Anderson, 1996); having poor problem-solving skills (Batsche, & Knoff, 1994); failing to monitor children's social interactions (Herrenkohl et al., 2000); and rewarding inappropriate behaviors while ignoring or punishing prosocial behaviors are related to more negative outcomes for the children (Webster-Stratton, 1993). Parental psychological factors such as depression in the mother (Bear et al., 2000; Loeber, & Farrington, 2000; Loeber et al., 1998, Webster-Stratton, 1993), alcoholism in the father (Webster-Stratton, 1993), and substance abuse or antisocial behavior in either parent influence the aggression of children (Hinshaw & Anderson, 1996; Loeber, & Farrington, 2000; Sines, 1987). Thirdly, parental attitudes in that they model violent or antisocial values lead to more aggressive acts in the children (Bear et al., 2000; Herrenkohl et al., 2000; Webster-Stratton, 1993). Low family income and crowded living conditions have also been shown to lead to aggression in children, as has parental conflict, more so than divorce (Bear et al., 2000; Conduct Problems Prevention Research Group, 1999; Doll, & Lyon, 1998; Gorsk & Pilotto, 1993; Herrenkohl, Guo et al., 2001; Kolvin et al., 1988; Loeber, & Farrington, 2000; Sines, 1987; Webster-Stratton, 1993). Furthermore, highly coercive families tend to produce more aggressive children (Doll, & Lyon, 1998; Patterson, Capaldi, & Bank, 1991).

There is some evidence that there is a genetic component involved in the

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development of aggression. Generally speaking, it is difficult to ascertain the extent to which aggression is inherited because children with aggressive parents are usually in a negative environment (Brennan, Mednick, & Kandel, 1991). Better estimates may come from studies of adoption and identical twins raised apart. That data suggest that about a quarter of sons whose biological parents are chronic offenders later become offenders themselves (Brennan, Mednick, & Kandel, 1991). Heritability estimates of approximately .40 have been obtained through twin studies (Brennan, Mednick, & Kandel, 1991; Jacobson, Prescott, & Kendler, 2002). While this provides evidence of a genetic component to aggression, it also reveals that the environment in which the child lives and grows is an important factor that could either increase or decrease the risk of future aggression (Aguilar, Sroufe, Egeland, & Carlson, 2000; Hinshaw & Anderson, 1996; Jacobson, Prescott, & Kendler, 2002).

The third broad area of risk lies within the school. Those factors that have been shown to lead to later aggression in children are an involvement with antisocial peers (Herrenkohl, Guo et al., 2001; Herrenkohl et al., 2000; Loeber, & Farrington, 2000; Parke & Slaby, 1983), weak bonding to school (Loeber, & Farrington, 2000), peer rejection (Conduct Problems Prevention Research Group, 1999; Webster-Stratton, 1993), poor or negative teacher-child interactions (Bear et al., 2000), too strict or too permissive classroom management style (Gorsk & Pilotto, 1993), a low frequency of praise (Webster-Stratton, 1993), a low emphasis on academic work (Webster-Stratton, 1993), noisy and disruptive classrooms (Conduct Problems Prevention Research Group, 1999), and a high teacher-student ratio (Webster-Stratton, 1993).

Other areas of risk such as the influences of the neighborhood and the community

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(Herrenkohl et al., 2000; Loeber et al., 1998) are seen to be important but are not the focus of the present study. Of most concern to this paper are the child and school domains, as well as the interaction between the two.

The Stability of Aggression

Aggression is generally seen to be a fairly stable construct throughout development, with stability correlations as high as .81 (Hinshaw & Anderson, 1996; Parke & Slaby, 1983). It would appear, however, that the stability of later-onset aggression is significantly lower (Loeber et al., 1998). In fact, in addition to age of onset, other factors that increase stability of aggression include the frequency of aggressive behaviors (the more aggressive acts early in life predict greater stability over time), acts occurring in more than one setting, a wider variety of aggressive acts displayed, and the presence of hyperactivity and attention problems (Loeber, 1991). Loeber (1991) also contends that these behaviors crystallize with age, making them more difficult to treat later in life.

Despite this apparent stability, not all children who display aggressive tendencies early in life continue to display them later. Two examples from clinical psychology can exemplify this point. First, there seems to be a link between the development of oppositional defiant disorder (ODD) and the later development of conduct disorder (CD; Hinshaw & Anderson, 1996). Over 90% of children diagnosed with CD have previously met the criterion for ODD, making the developmental progression from the earlier disorder to the later one seem readily apparent. However, only a portion (about a quarter) of the children with ODD later meets the criterion for CD. Half of these children maintain an ODD diagnosis but do not meet criterion for CD, and the remaining quarter

no longer meet the criterion for ODD later in life.

A similar pattern exists with the association between conduct disorder (CD) and antisocial personality disorder (APD; Hinshaw & Anderson, 1996). Nearly all of those suffering from APD met the criterion for CD in the past, but only about a quarter of those with CD will later develop APD. This is not to imply that most adolescents with CD will have positive outcomes, since CD is associated with other negative outcomes besides APD, such as substance abuse and internalizing disorders. Instead, this summary is only to show that not all children with these difficulties maintain their aggression later in life, or at least not to the extent from which they previously suffered. In fact, based upon the relation between ODD and CD and then CD and APD, only about ten percent of children with ODD will later meet the criterion of APD.

In short, aggression appears to be relatively stable when it begins early in life. The early starter model often begins with the onset of ODD and continues throughout life, eventually leading to the most serious of symptoms, interpersonal violence and property violations, by the end of adolescence (Webster-Stratton, 1993). This would lead one to believe then that early intervention is paramount to the successful futures of these children. Despite the enduring quality of aggression and associated problems, "it is also changeable, however, especially in the first 12 or so years of life. Many of the initial causes of the disorder operate during childhood when children's behavior tends to be most malleable" (Loeber, 1991, pg. 396). Therefore the context of the school and specifically the elementary school can be an important environment to attempt to circumvent some of the negative pathways of aggressive children before the problem becomes unmanageable. Through an understanding of the pathways of aggression and

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the mechanisms of change, one can begin to see how the school may be able to lead children toward more positive futures.

<center>Developmental Psychopathology</center>

The Pathways of Aggression

The development of aggression usually begins with more minor, less severe forms such as arguing and begins to take on more serious forms such as physical aggression and eventually violence (Loeber et al., 1998). In fact, less serious forms of aggression seem to be a necessary step on the way to more serious modes of aggression (Loeber, 1991), at least for boys (Kazdin & Kagan, 1994), making early intervention extremely important.

How do children begin down a path of violence? It seems unreasonable to assume that there is only one way for a child to become aggressive. In other words, the same risk factor is probably not going to lead to the same outcome for every child, due to the unique characteristics of the child and that child's environment. Therefore, it seems more likely that the destination of aggression has multiple pathways (Kazdin & Kagan, 1994). Loeber et al. (1998) suggests that there are three pathways to violent behavior: the overt, covert, and authority conflict pathways. The overt pathway sees children, mainly boys (Hinshaw & Anderson, 1996), begin by bullying and annoying others, which, if left unchecked, leads to physical fighting and eventually to violent outcomes such as rape or attack. The covert pathway, which sees a higher proportion of girls (Hinshaw & Anderson, 1996), begins with shoplifting, frequent lying, or other minor forms of covert behavior and leads to more serious forms such as property damage and fraud. Finally the authority conflict pathway begins with stubborn behavior at the mild end and defiance and truancy on the more serious end. Some children progress down two or even all three

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of the pathways, suggesting that over time, problems become varied and more complex. For the purpose of this study, only more overt acts are studied.

The idea of different pathways is fundamental to the study of developmental psychopathology. Not all aggressive adults have had similar pasts or similar risk factors. That children can come from vastly different backgrounds and be exposed to very different risk factors but have the same or similar outcomes is the concept of equifinality, a fundamental concept in this theoretical orientation. Conversely, and an equally important concept, children whose initial conditions are similar may have very different outcomes, which is known as multifinality (Cicchetti & Richters, 1993; Hinshaw, 2002). These two terms together pinpoint the complexity of psychopathological origin. Each child is unique in that he/she has different cognitions, perceptions, and environments, and all of these factors have positive and negative aspects, working congruently and at times oppositionally, leading the child down different paths. The balance of the risk factors against protective and other environmental influences comprises, in simplistic terms, the raw materials in the construction of the different possible roads a child may follow. The model of developmental psychopathology gives increased attention (in comparison to a more medical model) to social and psychological factors in its attempt to reframe the notion of how disorders arise (Sameroff, 2000).

The hundreds of competing influences in a child's life make discovering the origin for psychopathology difficult. To make it more complex however, as children grow older, their cognitive and social capacities become more advanced and so they interpret different social cues differently at different ages (Cicchetti & Richters, 1993). Thus it is possible that the same factors that were influential at one age may be less

significant at another. Only with a side-by-side study of normal and abnormal development can one begin to draw conclusions about the important factors in development in general and in the development of psychopathology specifically. This reciprocal relationship—knowledge of normal development can inform the study of psychopathology and vice versa—has as its focus the full understanding of development by studying the extremes because they diversify the range of possible outcomes. Deviations may signify the beginning of a disorder, and by following the progression of these disorders and their personal and environmental factors, it will broaden our understanding of developmental processes (Sameroff, 2000).

Indeed, while pathways involving significant change are rare, they are potentially more informative about the effects of contextual factors on development (Compas, Hinden, & Gerhardt, 1995). From a very general standpoint, there are only five developmental pathways down which a child/adolescent may travel. A child with many protective factors and few risk factors throughout development are likely to be well adjusted later in life (stable adaptive functioning). Conversely, the child who consistently is faced with many risk factors without the balancing protective factors are most likely to be poorly adjusted later in life (stable maladaptive functioning). The other three pathways exist between those two extremes. For example, a child could be on a maladaptive path and due to positive self and environmental impacts could change course and head toward a positive future (adolescent turnaround or recovery). Conversely, a child could be heading down an adaptive path, run into trouble, and change course toward less favorable outcomes (adolescent decline). Finally, a child could temporarily alter the current course, only to return to the original destination (temporary deviation or

maladaptation).

More specifically, considerable time has been devoted to the development of conduct disorder (Conduct Problems Prevention Research Group,1992). Signs can be seen as early as preschool with irritability, discipline problems, and impulsivity. This has led to modeling different progressions of the disorder in an attempt to not only understand how conduct disorders develop but also the different ways that children in general can develop.

One such model of aggression is the early starter versus late starter (Aguilar, Sroufe, Egeland, & Carlson, 2000; Compas, Hinden, & Gerhardt, 1995; Miller, Brehm, & Whitehouse, 1998; Webster-Stratton, 1993). Early onset aggressive behavior (stable maladaptive functioning) is associated with much worse outcomes than later onset aggression. Adolescent onset (temporary deviation or maladaptation) is often limited to the adolescent years. Early starters begin with oppositional qualities as early as preschool and advance through more serious aggressive and nonaggressive delinquent behaviors. Early onset may also have the fastest progression from mild to severe forms of aggression (Loeber et al., 1992). Not surprisingly then, the prognosis for late starters is much more favorable than for those adolescents with a chronic history of aggressive behavior.

This discussion is not meant to imply that all children on the same pathway reach identical destinations. Not everyone makes it to Rome; there are many stops along the way. To return to Loeber's (1998) three pathways as an example, only a minority of boys advances to the most serious levels within a pathway. However, a good portion of these children (those who do not experience an adolescent turnaround or recovery) will be faced with a variety of negative consequences such as a stability of negative behaviors

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due to repeated practice during formative periods of life; few opportunities to learn

prosocial skills due to years of delinquency; poor relationships with peers, relatives, and

employers; low interest in educational matters leading to classroom disruptions,

remediation, and truancy; fatherhood, despite an inability or unwillingness to fulfill the

father role; a higher risk of depression and suicide; a higher likelihood of being victims of

crime; and a higher likelihood of using illegal substances early in life (Loeber, &

Farrington, 2000).

The question becomes, what starts a child on a maladaptive pathway? Patterson,

DeBarysge, and Ramsey (1989) might contend that parents are a big factor in

determining the starting pathway for their children. Parents who demonstrate poor

discipline and monitoring may produce children who exhibit some conduct problems.

The conduct problems in turn lead to later peer rejection and academic failure, leading

these children toward deviant peer groups (the only people who seem to accept them)

which almost inevitably leads to delinquency. While the impact of the home and family

are not denied, it is not the focus of the current study.

Others cannot ignore the personal characteristics the child may bring, such as

hyperactivity, impulsivity, poor social skills, poor academic skills, aggression, and

oppositional behavior (Loeber, 1990, Mesman, Bongers, & Koot, 2001). Other child

characteristics that may influence the development of aggression are the thought

processes of the child. Children who are hypervigilant to hostile cues or see positive

outcomes to aggression, making aggressive choices primary in their decision-making are

more likely to have conduct problems (Dodge, 1993).

All of these characteristics of the child and the environment represent, as

mentioned earlier, risk factors for future deviant behavior. Naturally, fewer problems or risk factors lead to better outcomes (Lahey, Loeber, Burke, & Rathouz, 2002). Of special interest, however, to developmental psychopathology are those children who diverge onto deviant pathways but then recover back to more adaptive pathways (adolescent turnaround or recovery), as well as those children who never succumb to the stressors that lead to negative outcomes in others (stable adaptive functioning). These resilient children may hold the key to helping alter maladaptive behaviors in deviant children (Cicchetti & Richters, 1993).

Resiliency as an Agent of Change

Although usually chronic stress leads to unhappy personal and societal outcomes, some individuals adapt and manifest competence (Cowen & Work, 1988). As can be inferred from the previous discussion, resiliency acts as a counterweight to risk, lessening the likelihood of negative outcomes, or, stated another way, resilience is successful functioning in the context of high risk (Fraser, Richman, & Galinsky, 1999). A child's resiliency is thought to be composed of the protective factors ("influences that modify, ameliorate, or alter a person's response to some environmental hazard that predisposes to a maladaptive outcome," Rutter, 1985, pg. 600) in his/her life. These factors appear to be most influential under conditions of high risk (Compas, Hinden, & Gerhardt, 1995), probably because their impact is tough to assess under conditions of low risk—is it the protective factors, the low risk, or some combination that attributes to positive gains? These factors lead to positive outcomes in high-risk situations at least in part because they decrease the likelihood of engaging in problem behavior (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). This decrease occurs through incompatible attitudes

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and activities that are manifested within the individual, that individual's family, or institutions/organizations (such as school) to which that individual belongs (Fraser, Richman, & Galinsky, 1999).

As with risk factors, there are three areas (discussed here) where protective factors may lie, within the individual, the family, and the school, with the emphasis of this study on the individual and the school. While protective sources may be found elsewhere, such as within the community, those factors are seen to be beyond the scope of the present paper.

There are several individual qualities that are thought to protect the child from the harmful effects of risk. These children tend to feel a greater sense of autonomy (Cowen & Work, 1988; Murphy, 1987), are more empathic (Cowen & Work, 1988), have good self-confidence and esteem (Doll, & Lyon, 1998), have a capacity to satisfy their own needs (Murphy, 1987), have a resilient belief system (Doll, & Lyon, 1998), and are filled with curiosity and problem-solving skills (Cowen & Work, 1988). These children also tend to have strong school skills such as a task-orientation (Cowen & Work, 1988), good intellectual ability (Doll, & Lyon, 1998), strong reading skills (Vance, Bowen, Fernandez, & Thompson, 2002), high expectations (Doll, & Lyon, 1998), and language competence (Doll, & Lyon, 1998). Finally, their strong interpersonal skills (Vance et al., 2002), easygoing disposition, positive social orientation, and a high rate of engagement in productive activities (Doll, & Lyon, 1998) allow these children to make positive friends, work well in school, and stay out of trouble.

Protective factors within the family include effective parenting characterized by warmth, structure, and high expectations (Doll, & Lyon, 1998; Cowen & Work, 1988),

parental competency (Cowen & Work, 1988; Vance et al., 2002), open communication

and exchange of feelings (Cowen & Work, 1988), emotional support (Cowen & Work,

1988; Vance et al., 2002), and parental agreement on values and moral issues (Cowen &

Work, 1988). While it is important for the child to have a close and affectionate

relationship with at least one parent, also important is that the child has access to warm

relationships and guidance from extended family members (Doll, & Lyon, 1998).

Because of this, interventions have targeted parent management training and functional

family therapy to try and help the child in the family environment, to build protective

factors in the home (Loeber, & Farrington, 2000), to help alter negative pathways.

Not surprisingly, protective factors in the school are normally conceived as

coming from peers and teachers. Positive relationships with peers (Cowen & Work,

1988) and teachers (Doll, & Lyon, 1998; O'Donnell, Hawkins, & Abbott, 1995) are

important in developing school bonding and achievement within the student, both of

which are protective factors as well and have been able to discriminate, along with family

bonding and norms against substance use, between those who did or did not avoid

involvement in serious delinquent behavior (O'Donnell, Hawkins, & Abbott, 1995).

Naturally, the relationship with the classroom teacher can either be a source of support or

of stress. Close teacher-student relationships, characterized by, much like important

parental relationships, warmth and open communication may increase a student's ability

to engage and participate in classroom activities (Ladd & Burgess, 2001), fostering

bonding to and enjoyment of school. Conversely, conflictual relationships with a teacher

may have an opposite effect, a desire to escape what is perceived as a negative

environment. Likewise, acceptance by positive peers can help decrease attention

problems and misconduct and help foster cooperative participation and school bonding (Ladd & Burgess, 2001). All of this takes place within a building, a school, and thus it makes sense that the quality of the school would have an impact on the child (Doll, & Lyon, 1998). Higher quality schools in terms of teaching, resources, safety, etc. can serve as protection from a variety of risks within a child's life by fostering that bond within the school, and between the school and the home, as well as increasing academic competence (Miller, Brehm, & Whitehouse, 1998). Therefore, before leaving developmental psychopathology, a closer look at how a school may help a child to adjust, to be successful is warranted.

The School as an Environment of Change

In any system, there are characteristics of the individual, such as gender, personality, and coping mechanisms and characteristics of the environment such as people and rules that constantly interact with each other (Ladd, 1996). A child entering a school system brings with him/her certain experiences and feelings that influence the reaction to the new environment, either positively or negatively. Children with poor relationships with previous teachers may treat new teachers with similarly negative expectations. Children rejected by peers may wish to avoid school altogether. Furthermore, children who are concerned about events transpiring at home may behave and adjust poorly to school. All of these characteristics and many others affect each individual child at every moment of the school day.

Any reasonable observer at this point can realize the difficulty of meeting the needs of every individual child. This is the obstacle that faces the school, however, and there are many factors involved in successful adjustment to school. First and most

evident is the fit between the person and the environment (Eccles et al., 1993). Children

react to different teachers differently. While one child may respond well to a strict, hard-

nosed teacher, another may drown in such an environment. Likewise, while one student

may respond well to the coddling of a softer teacher, others may quickly misbehave in

such an environment. Other important factors may be they styles of teaching versus the

styles of learning or the arrangement of the desks (Rosenfield, Lambert, & Black, 1985).

In short, many factors influence the adjustment of children to the school environment.

Perry and Weinstein (1998), for example, conceptualize these factors as falling

into three broad domains, academic, social, and behavioral functioning. Under each

domain there are indicators of successful adjustment. Academic success leads to

achievement in school, the creation of school values, competence-related beliefs, and

academic goals. Successful social functioning leads to a sense of belonging, acceptance

by peers and with that a quality of friendships. Finally, successful behavioral functioning

manifests itself in the following of rules, the delaying of gratification, the controlling of

impulsivity, and the directing of attention to the appropriate stimuli.

These behaviors of academic adjustment are brought forth from the child when

the different pieces of the school community act as a protective factor for that child. The

school therefore can be a dynamic environment for change because of the many resilient

factors that can be (but unfortunately not always are) present for children. The school

can address many of the deficits that children of risk face. It can provide positive role

models. The school can provide opportunities to socialize positively with both adults and

peers. It can lead to the strengthening of cognitive and social functioning. Finally, the

school can help alleviate some of the stressors at home by collaborating as well as

providing the escape that some children need to succeed. It is when schools fail to create positive communities that school violence erupts (Baker, 1998). The idea of community is important because it implies a dynamic social environment, which is one way to describe a school. Therefore, to help understand this social place and the power of the interactions therein, an exploration of social theories is predicated.

<div align="center">Social Development</div>

Because people do not develop in a vacuum, when one thinks about the developing individual, it is necessary to consider the social influences that help shape that person. For children, the majority of what they learn is done through some social agent, meaning that learning takes place in the context of other people and that these new ideas are taught to that child, either directly or indirectly. The aggressive child must learn at some point that aggression is a viable solution to a problem. How does the child learn this idea? Whether it is through an adult or child model (it works for *Rambo*, why not me) or by trial and error (hitting Tommy makes him give up the toy), aggression against another person necessarily, by definition, must occur in a social context. The assumption in this discussion, of course, is that people are not born with a selection of aggressive behaviors—the art of karate is not something a baby comes into this world knowing—but rather they are learned at some point in some way (Bandura, 1973). How these behaviors develop, what sets the behaviors into motion, and how these aggressive options are maintained within the response set as viable solutions is what a theory of aggression, according to Bandura (1973), must explain.

Social Learning Theory

Recognizing a de-emphasis on social factors within Behaviorism, Bandura sought

to expand current views to recognize the impact of other people on the behavior of the individual. Like Behaviorism, the primary mechanism in learning social behavior is operant conditioning, the shaping of behavior by stimuli that follow or are the consequence of that behavior (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979). Also consistent with the previous theory, behavior is strengthened through reward and avoidance of punishment or weakened by aversive stimuli or loss of reward. What is different and what will be further examined below is that behavior can be learned not only through direct conditioning, which is largely governed by the rewarding and punishing consequences that follow any given action (Bandura, 1973), but also through imitation (engaging in behavior after observation of similar behaviors, Akers, 1977, pg 48) and through the observation of the consequences of the behaviors of others. In other words, through the interactions with and observations of significant groups and people in life, behavior is evaluated as either good or bad, reinforcing or punishing (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979). Those groups that seem to control an individual's sources of reinforcement or punishment can, in theory, produce significant behavioral effects while exposing that individual to behavioral models, either positive or negative.

Children who repeatedly turn toward aggression must therefore have first learned it somewhere and somehow and must second find aggression to be reinforcing (Bandura, 1978). Why and how is aggression reinforced? First, aggression is often an effective way of acquiring tangible rewards. Why bother with the social construct of, "Please may I play with that toy you have there," which, when dealing with the younger crowd has limited effectiveness at best outside adult supervision, when forcing the toy away is so easy? Second, because you can learn almost anything by watching others, observed,

reinforced aggression is abundant in our culture (Bandura, 1978). Whether it is in our own home, at school, on television, or in video games, aggression is often seen as not only being *a* solution but *the* solution to problems, and the immediate result of the aggressive act is nearly always positive. Seeing this positive result, this success in others can function as a motivator by arousing in observers expectations that they can gain similar rewards for analogous performances. A third source of reinforcement for aggression can be found in aversive experiences which lead to emotional arousal and anticipated consequences, which may lead to a variety of outcomes, one of which is aggression (Bandura, 1978), depending on the types of responses the person has learned for coping with stress and their relative effectiveness (Bandura, 1973). The moment aggression resolves or is perceived to resolve aversive experiences, it becomes a very viable option next time.

What influences aggressive behavior? According to Bandura (1973) aggression is under stimulus, reinforcement, and cognitive control. Stimulus control suggests that in order to function effectively a person must be able to anticipate the probable consequences of different events and courses of action and regulate his behavior accordingly. In aggressive children, stimuli are more likely to produce emotional and aggressive responses. These emotional responses are frequently acquired on the basis of vicarious rather than direct experiences, meaning that emotional or aggressive responses exhibited by others toward certain people tend to arouse in observers strong emotional reactions that can become conditioned to the same target, setting up a bully-victim relationship with the victim being the stimulus for continued acts of aggression by the bully.

Reinforcement control suggests that responses that cause unrewarding or punishing effects tend to be discarded, whereas those that cause rewarding outcomes are retained and strengthened (Bandura, 1973). As mentioned earlier, modeling and vicarious reinforcement and punishment are fundamental in learning new behaviors and changing old ones. Human behavior is therefore largely socially transmitted, either deliberately or inadvertently, through the examples of the various models in our lives. Thus, modeling influences are key to the spread of aggression because they are an indispensable aspect of learning. Even in instances in which it is possible to establish new skills through other means, the process of acquisition can be considerably shortened by providing appropriate models, and therefore much human behavior is developed through modeling (Bandura, 1977). From observing others (primarily families early in life and increasingly peers later, Loeber, 1991), one forms a conception of how new behavior patterns are formed. When thinking of reinforcement control, then, vicarious reinforcement can help explain the rapid acquisition of behavior (Conger, 1976). Observed reinforcement influences behaviors in much the same way as outcomes that are directly experienced. Observed rewards increase and observed punishments decrease similar behaviors in observers. It can be easily imagined then, when both direct and vicarious reinforcement are experienced, as when situated within an entire group of deviant peers, that the reinforcement is powerful. Indeed, the average number of delinquent acts increases by 1.52 as the number of delinquent friends (reinforcers for deviance) increase while reinforcement of appropriate behavior from conventional sources remains low.

Finally, cognitive control suggests that people's cognitive capacities

tremendously increase the information they can derive from their experiences, and thus partly determine how those experiences will affect them. Thus, while approving responses, recognition, status, and acceptance from significant others are universal and powerful social reinforcers for humans (Akers, 1977), the cognitions of the individual greatly influence the effect and the subsequent actions that are taken. While Bandura acknowledged this factor within his Social Learning Theory, it is perhaps better developed within Social Information Processing Theory.

Social Information Processing Theory

Social Information Processing Theory emphasizes the active role of cognition in social adjustment (Bear et al., 2000). As opposed to emphasizing the external modeling and reinforcements of behavior as the primary cause of antisocial behavior, this theory instead focuses upon the student's self-directed social cognitions. Dodge (1993) conceptualizes the process of responding to stimuli as occurring in a sequence of cognitive steps. First, the information is taken in or encoded into the brain. A mental representation or the application of meaning to what was encoded is then formed. Third, in a step referred to as response accessing, possible responses that are associated with the mental representation such as verbalizations, motor activities, endocrine secretions, autonomic arousal, and experienced affect are drawn upon. Those possible options are evaluated in a decision-making step, and then finally the enactment, the behavior occurs.

Deficits and biases can occur at any and all of these stages (Bear et al., 2000; Dodge, 1993). During the encoding stage, aggressive children may respond to fewer cues in the environment and thus decisions are less accurate. Also, they tend to be overly sensitive to hostile cues. The mental representations that aggressive children form may

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be lacking affective or social perspective taking, making it difficult for these children to understand others' intent. They may therefore attribute hostile intent to ambiguous situations, which is known as the hostile attribution bias. The available responses to which aggressive children have access may be overloaded with deviant options and they may evaluate these choices more positively than other children might. Furthermore, they expect these deviant options to lead to more positive outcomes and judge it as being less morally bad (Dodge, 1993) and as more effective and appropriate (Deater-Deckard, 2001). They anticipate feeling better about themselves after aggressing (Dodge, 1993). Therefore, aggressive children are less competent at enacting positive peer group entry behaviors because the option or the behavior that they enact is often antisocial in nature. Conversely, preschoolers with a more advanced understanding of other children's emotions are more likely to have friendships that are more prosocial and less conflicted (Deater-Deckard, 2001). Crick and Dodge (1994) envision these steps as being not linear but cyclical in nature, indicating that the behavioral enactments and peer responses influence the encoding of future interactions.

Aggressive children and children with conduct disorder (who have fundamentally different early social experiences than do typically developing children, Baker, 1998) have deficits in social cognitive skills and thus are more likely to behave aggressively (DeRosier, Cilessen, Coie, & Dodge, 1994), underutilize pertinent social cues (Hinshaw & Anderson, 1996), misattribute hostile intent to ambiguous peer provocations, generate fewer assertive solutions to social problems, distort social cues during peer interactions, and expect that aggressive responses will lead to reward (Hinshaw & Anderson, 1996; Webster-Stratton, 1993). Although it is acknowledged that many aggressive children are

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popular and have high self-concepts, these cognitive and social deficits can in some children cause a failure to successfully associate with peers, which may (though not necessarily) lead to negative self-perceptions and social isolation that in turn are closely linked to the development of further internalizing problems in later childhood (Mesman, Bongers, & Koot, 2001).

Thus, while Social Learning Theory contends that behavior is almost a reflex to the environmental stimuli, Social Information Processing Theory focuses instead on cognitive processes as the primary mechanism of behavioral change. While the environment continues to be important in this later model, it is certainly de-emphasized. What is important to the present paper is that it is well established theoretically that *both* the environment and the individual, as well as the social interaction between these two entities, are important in the process of developing behavior and behavioral change. What seems to be missing or is at least underdeveloped in the above theories is the notion of group dynamics and the social bonding that occurs between individuals and other people, groups of people, or even an entire organization, in this case a school. It is therefore imperative to discuss the theoretical underpinnings of the role of social bonding.

Social Development Theory

Social learning theory does not specify the role of bonding in the etiology of behavior (Huang, Kosterman, Catalano, Hawkins, & Abbott, 2001). The concept of bonding can be broken into three components (O'Donnell, Hawkins, & Abbott, 1995). First, to be bonded to an individual, there is an implicit understanding of attachment. By definition, one cannot be bonded to an individual without feelings of attachment.

Second, it is a committed relationship, meaning that there is an investment and a desire to continue that relationship. Finally, there is a common belief about what is right and wrong. Without a common fundamental philosophy, bonding would seem unlikely at best. In the specific example of schools, teachers attempt to bond with students regardless of common philosophies, but this theory would posit that without some common ground between the two parties, a mutual bond will be difficult to form. The person or organization to whom the child is bonded then is referred to as the socializing agent. Examples of socializing agents from whom children learn patterns of behavior are family members, peers at school, teachers, or, at the organizational level, the family or the school itself (Huang, Kosterman, Catalano, Hawkins, & Abbott, 2001).

Children are socialized through processes involving four constructs. First, it is necessary that there be an opportunity for involvement in activities and interactions with others. Simply stated, you cannot form a bond with and therefore be socialized by an agent with whom you have no involvement. Second, the degree of involvement and interaction is important. Naturally, the more involvement, the more interaction a child has with an agent, the more likely a bond will form. Third, the child must bring the skills necessary to participate in these involvements and interactions. For example, the child who cannot catch, cannot throw, and cannot hit a baseball may find it difficult to form a bond with the team. Finally, following the performance within these activities and interactions, it is imperative that reinforcement is forthcoming (Huang, et al., 2001; O'Donnell, Hawkins, & Abbott, 1995). Putting it all together, when the child is given the opportunity to participate, demonstrates the skills necessary to belong, and is reinforced for the efforts, a bond is formed between that child and the agent (Huang, et al., 2001).

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This social bond, once it is strongly established, can affect behavior independently because of the informal control it commands on future behavior. Because of this attachment, this commitment to the social agent, the child will behave in a manner that is consistent with the standards and norms of the agent so as to not threaten the established bond. In the school, students often have the opportunity to participate and it is the goal of the teacher to improve the skills necessary for successful participation using a steady dose of reinforcement in an attempt to not only form a bond with the student but to develop the skills needed to be successful in future grades and in life after school.

How would the Social Development Model contend that aggressive behavior develops? The theory suggests that these behaviors develop due to weak bonds to prosocial institutions and to agents who promote the values those institutions represent (Herrenkohl, Guo et al., 2001). It is of primary importance that families and schools emphasize prosocial beliefs and good behavior. Beyond those institutions, peer influences, particularly in early adolescence, are particularly strong. Negative peer influences, as is often the case with aggressive and antisocial children, affect behavior most powerfully when bonds to prosocial institutions and individuals are weak and bonds to peers are strong. Likewise, adolescent problem behavior is inhibited by high levels of social bonding to prosocial others (O'Donnell, Hawkins, & Abbott, 1995), implying that the family and the school may be paramount to battling these negative peer influences.

Within the broader social context, there are factors at work that affect not only whether aggression between the members of the group will occur but also the quality of the other group members' reaction to that aggression (DeRosier, Cilessen, Coie, & Dodge, 1994). A group context marked by higher levels of physical activity, group

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aversive behavior, and competition appear to provide a setting more conducive to aggressive interactions. A highly active, aversive, and competitive context may promote aggression because misinterpretation of others' behavior is more likely

There are three other variables that seem to influence the power or the strength of the formed social bond (Catalano & Hawkins, 1996). First, the individual's position in the social structure, as defined by socioeconomic status, race, gender, and age has an indirect impact on behavior due to perceived opportunities for prosocial and antisocial involvements and interactions. Second, constitutional or physiological factors (such as cognitive ability) may impact opportunity or skills necessary to bond to a certain group. Finally, external constraints such as the explicit clarity of rules, laws, and norms, and the degree of consistency and immediacy of the sanctions imposed can impact the social bond.

It has been suggested in this discussion that these social bonds influence future behaviors. For example, involvement with antisocial peers will likely lead to delinquent behavior, especially in the absence of prosocial agents to balance the effects. An antisocial path may therefore be conceived as the following (Huang, et al., 2001). A child may perceive an opportunity for problem behavior and antisocial interaction. This may lead to an involvement in the problem behavior and an interaction with antisocial others. The child then perceives rewards for the problem behavior and the interaction with antisocial others. This perceived gain may lead to an attachment and a commitment to antisocial others and activities to continue gaining from these behaviors. This brings about a belief in antisocial values, which will promote future antisocial behavior. Patterson, DeBaryshe, and Ramsey (1989) give a related example from a family

perspective. In their model, poor parental discipline and monitoring can be seen as a failure to provide prosocial modeling. This in itself can lead to child conduct problems. The child therefore, due to poor parenting, does not develop the skills necessary to relate to positive peers or to school as a whole. This can lead to peer rejection and academic failure. These children find that they can relate better to antisocial peers and form a commitment to that deviant peer group. This then leads to delinquency. Opposite pathways exist for positive behavior outcomes with the socializing agents being prosocial instead of antisocial (Huang, et al., 2001).

The Social Development Model involves four phases of social development: preschool, elementary, middle, and high (Catalano & Hawkins, 1996). Prosocial and antisocial influences from one developmental period affect variables at the beginning of the causal chain of the next (Huang, et al., 2001). Conceptually then, violent behavior in the preschool phase can have a significant and direct effect on violence in the subsequent phases. However, these social developmental processes continue to be important aside from the violent behavior. Violence does not simply beget violence. In the middle appears be an increase in antisocial socialization experiences.

The implications of this model are two-fold (Herrenkohl, Huang et al., 2001). First, the model hypothesizes that similar developmental processes lead to prosocial and antisocial behavior, which is supported by research. Second, it therefore implies that the same interventions in childhood may be effective in adolescence. Interventions should seek to enhance youth's skills for prosocial interactions, increase opportunities for involvement in prosocial activities, and reward involvement in those activities to strengthen prosocial bonds. In the context of the school, there are two main groups of

people who could potentially serve as prosocial agents and can therefore be the targets of intervention, the teachers and the peers.

<div align="center">The Socializing Agents in the School</div>

The Teacher Effect

There is some evidence that would suggest that a student's emotional and academic adjustment to school is related to the bonding that occurs between that student and the school (Catalano & Hawkins, 1996). The primary factors involved in that school bonding would be the relationships between the child and his peers and between the child and his teachers. Murray and Greenberg (2000) report four subtypes of students in relation to school bonding: Dysfunctional, Functional/Average, Positively Involved, and School Anxious. Not surprisingly, the Dysfunctional group reported the least involvement in school and the lowest emotional support from their teachers. These characteristics blossomed into anger and reciprocal negative feelings between the two parties. Conversely, early positive teacher-child bonds have been shown to be good predictors of later behavioral adjustment in school and better future relationships with teachers (Birch, & Ladd, 1998; Hamre & Pianta, 2001). It is unclear from this literature how much of the impact is due to a more pleasing temperament on the part of the students and how much is due to the efforts of the teachers. What seems to have good face validity, however, is that a bond to the teacher can help strengthen the bond to the school and may lead to better behavioral outcomes in children. Therefore, it is important to examine the characteristics of effective teachers.

One factor heavily implicated in student academic achievement is teacher efficacy, which is often divided into two dimensions: personal, the belief that you as a

teacher can have a positive impact on the learning of a child, and general, the belief that teaching in general can have such an impact (Woolfolk, Rosoff, & Hoy, 1990). Differing levels of efficacy may lead to different behaviors and levels of effectiveness among teachers (Anderson, Greene, & Loewen, 1988; Gibson & Dembo, 1984). It is commonly believed that teachers with a high sense of efficacy will have higher achieving students than those teachers with low efficacy (Anderson et al., 1988; Gibson & Dembo, 1984; Guskey, 1982; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998; Woolfolk & Hoy, 1990; Woolfolk et al., 1990). This statement is intuitive theoretically. If a teacher has an efficacy expectation (Bandura, 1977), or in other words is convinced that he/she can successfully teach a child how to do some activity, arithmetic for example, then it stands to reason that that teacher will be more successful at teaching addition than a teacher with less confidence. According to Bandura (1977), these expectations are derived from performance accomplishments, vicarious experience, verbal persuasion, and physiological states with performance accomplishments producing the strongest expectations, followed by vicarious experience. Receiving the immediate feedback of a well-run, high achieving classroom will often lead to a higher sense of efficacy (Woolfolk et al., 1990), which in turn leads to higher goal challenges and a strong commitment to reach them (Bandura, 1993). Intuitively, this leads to higher student achievement.

Knowing that efficacy has a positive effect on student achievement leads one to examine the qualities of teachers with a high sense of efficacy. They tend to be female (Evans & Tribble, 1986; Anderson et al., 1988) and work in elementary schools (Evans & Tribble, 1986), though why this might be is only speculative. It seems plausible that once

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students reach middle school, there is a feeling among teachers that less can be done for them, which would naturally lower their sense of efficacy. Other qualities of teachers with high efficacy compared to those with low efficacy are higher levels of effort to the many tasks of teaching, better goal-setting, higher levels of aspiration, and better organization (Tschannen-Moran et al., 1998). They are also more determined in that they keep trying to succeed, spend more time with academics, provide the extra help that some students need to be successful, and praise the accomplishments of their students (Bandura, 1993). There is also some evidence that there are differences in classroom management strategies in that higher efficacy teachers place more trust in their students and share in the responsibility of solving classroom problems (Woolfolk et al., 1990). Finally, teachers with high efficacy are less likely to refer children to special education (Meijer & Foster, 1988; Podell & Soodak, 1993; Soodak & Podell, 1993).

All of the above characteristics are qualities of teachers with a high sense of efficacy, which leads to better student achievement, academically, a notion that has been well supported in the literature. However, little evidence exists to evaluate the role that teacher efficacy plays on children's behavioral outcomes. What seems to be the case is that teachers experience significantly less confidence when dealing with behavioral problems than when they are teaching academically (Martin et al., 1999). This lack of confidence probably stems from a lack of training in behavior management and thus leaving teachers trying to learn techniques as they go (Martin et al, 1999; Wheldall, 1991). Teachers therefore become frustrated and begin treating "problem children" differently than the "well-behaved" children. They give the difficult students less encouragement and punish them more often for negative behavior (Webster-Stratton,

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1993), which generally creates less cooperative students (Winett & Vachon, 1974). Furthermore, the greater the concern that the teachers have about a particular student, the less confident they feel to deal with that student, and the more likely they are to refer that child to other school personnel (Martin et al., 1999).

It stands to reason, however, that not all teachers behave the same way and that there is variation in the efficacy of teachers when dealing with behavior problems. If teachers with high efficacy, for example, feel that they have better control over their classrooms (Woolfolk & Hoy, 1990) and if that efficacy directly affects the teachers' behaviors, classroom management techniques, and instructional strategies employed (Brownell & Pajares, 1999), then the effect of these variations of teacher efficacy are important to study. In other words, the link between the efficacy the teacher feels and the social relationship that that may impact is important to the understanding of problem behaviors within the classroom and to the informing of potential interventions to the problem. This of course is only one half of the story. As mentioned earlier, there are two main social forces in the school, the other being the student's peers.

The Peer Effect

Few would argue that the social interactions between students in a school are an important aspect of that student's life. Each interaction has the potential to lead to acceptance, which ultimately manifests itself in the form of friendship, or to rejection, which may resemble, among other things, a bully-victim relationship. In theory, there are six types of rejecting behavior (Deater-Deckard, 2001): the exclusion from social interactions, the prevention of access to friends or information, aggression in its various forms toward the child, the domination or controlling of a child, the expression of moral

disapproval of behavior, and the utilization of a third-party for tale-telling or saying hurtful things within earshot of victim. Overall, children who are aggressive-withdrawn are perhaps most at risk for being rejected (Hymel, Bowker, & Woody, 1993), which may lead to behavioral and academic problems.

Peer rejection is consistently linked with current behavioral problems and future acts of violence (Deater-Deckard, 2001), as well as, more generally, to various acts of aggression (Hinshaw & Anderson, 1996; Kazdin & Kagan, 1994; Parker & Asher, 1987; Parkhurst & Asher, 1992). The relationship appears to be cyclical in nature in that the rejection leads to externalizing behavioral problems which can in turn lead to the maintenance and growth of that peer rejection. The problem itself may begin with a generally poor social competence with peers (Farver, 1996). Indeed, the problem may self-perpetuate given the idea that rejected peers may have less of an opportunity to develop and master social skills (Skinner, Neddenriep, Robinson, Ervin, & Jones, 2002). Regardless of the origin, this rejection can be a source of stress for the child, which may lead that child to seek out other rejected children as a possible way of alleviating some of that stress (Coie, Lochman, Terry, & Hyman, 1992). The problem is that, as mentioned above, rejected children often exhibit behavioral difficulties and thus behaviorally challenged children often flock toward other behaviorally challenged children, forming in a sense antisocial friendships. These friendships form a base for deviancy training (Deater-Deckard, 2001). They produce the atmosphere and the opportunity to perform antisocial behaviors that include, among others, aggression and substance abuse.

The assumption of the preceding paragraph is that aggressive youth always have a rejected status, which is simply not true. Something else, then, must be contributing to

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the status of aggressive students. One reasonable theory is that rejection is based upon the norms and contexts of the environment in which the behaviors take place (Farmer, 2000). A classroom of aggressive children may reject the prosocial, relatively well-behaved child. That child, then, may feel stress and pressure to conform. Along these lines, the social characteristics of the group setting play an influential role in the expression of aggression within the group (DeRosier, Cilessen, Coie, & Dodge, 1994). Aggressive behavior is more likely to occur when children are engaged in active rough and tumble play than when they are engaged in parallel or cooperative play.

From an opposite perspective, the development of prosocial friendships (which is easiest for children who have empathy and therefore understand the emotions of others, Deater-Deckard, 2001) have numerous benefits. Research suggests that social support is a potent protective factor (O'Grady & Metz, 1987). Friendships provide children with a context for skill learning and development, emotional and cognitive resources, and models for later friendships (Ladd, Kochenderfer, & Coleman, 1996). They can prompt and reinforce desirable behaviors (Carden Smith & Fowler, 1984). These friendships are associated with changes in several forms of maladjustment, including relative declines in attention problems and misconduct, and relative gains in cooperative participation and school liking (Ladd & Burgess, 2001).

The implications of this research are fairly clear. Because the perceptions children develop about friendship processes are associated with friendship outcomes such as friendship satisfaction and stability (Ladd, Kochenderfer, & Coleman, 1996), interventions such as peer monitoring with corrective feedback may be as effective as teacher monitoring in reducing disruptive behavior (Carden Smith & Fowler, 1984). In

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addition, cooperative learning may foster self-esteem and altruistic behavior (Furman, &

Gavin, 1989).

<div align="center">Other Factors of School Failure and School Success</div>

There are a number of child and environmental factors worth mentioning or

emphasizing within the discussion of school success and failure. As hinted at earlier,

physical aggression is the best predictor of later deviant behavior (Tremblay, Masse,

Pagani, & Vitaro, 1996). This is most often seen among boys during the preschool years.

(It should be noted, however, that while often downplayed, conduct disorder is one of the

most common psychiatric disorders among adolescent girls; Cote, Zoccolillo, Tremblay,

Nagin, & Vitaro, 2001). What all of this means within the school is that aggressive

children are often rated as being more hyperactive, more inattentive, more oppositional,

and less prosocial (Tremblay, Masse, Pagani, & Vitaro, 1996). These behaviors often

lead to retentions, poor health, excessive drinking, drug use, and sexual intercourse all by

the age of 14. Other child characteristics that are associated with school success are:

strong cognitive ability, strong reading skills, adequate social skills (Vance et al., 2002),

the ability to self-regulate, and the possession of a positive temperament (Miller, Brehm,

& Whitehouse, 1998). Conversely, school failure is often associated with being male,

early delinquency, prematurity, low birth weight, anoxia, other medical stresses, low

school achievement (Yoshikawa, 1994), ADHD, deviant peers, substance abuse,

communication problems, negative cognitions, disobedience (which may include

tardiness, breaking rules, and fighting; Webster-Stratton, 1993), and negative mood

(Loeber, 1990).

Although it is recognized then that characteristics of the child in fact impact the

<div align="center">41</div>

outcomes, the central thesis of this paper is that the environment matters. It is clear from the moment the child enters preschool that there will be demands imposed upon the student by that environment. These demands are representative of key developmental tasks such as making friends and learning required social skills (Mesman, Bongers, & Koot, 2001). The better the child is able to bond to the school through the acceptance of and adherence to the imposed rules, the better the outcome for that child will be (O'Donnell, Hawkins, & Abbott, 1995). Schools then that focus upon the achievement, both academic and social, of the individual student may have a positive impact (Miller, Brehm, & Whitehouse, 1998).

Specifically within the classroom, it is important to remember that, as mentioned above, aggressive behavior is influenced by peer group norms (Stormshak et al., 1999), meaning that as classroom aggression increases, the negative effects of aggression on peer preference decreases.

The focus of the current paper is upon the specific role of the teacher and the peer as the major players in the maintenance or reduction of aggressive behavior over time. Specifically, there are several questions being explored. First, what characteristics within the child are related to changes in aggression over time? Research suggests that aggression is a relatively stable construct but yet is changeable. It is predicted that there will be significant variability in aggression scores from year to year in both directions, meaning many children will either be more or less aggressive at the end of a time period than at the beginning. Indeed research suggests that as many as 25% will see significant improvement in scores. Obviously, these numbers leave a large majority of children who do not improve. This is partly because childhood aggression is one of the best predictors

of future aggression. In fact, it is believed that previous aggression strongly impacts future aggression and that the more aggressive a child is, the more likely that child will turn to aggression in the future. However, the amount of variation that is present will allow a study of other factors that may influence these changes. Among these other variables is the child's reading ability, which has been consistently linked to aggression in the literature. It is therefore predicted that a slight relationship may exist between the child's reading ability and changes in aggression.

Second, what are the social factors or variables (if any) related to the maintenance or reduction of aggressive behavior? As mentioned earlier, the teacher and the peer are the influences on the child being explored in this study. It is predicted that the quality of the teacher-child relationship will be moderately related to the level of change of aggression. In other words, the more positive personal and academic support that the teacher gives, the less aggressive the child will become throughout the school year. A related question being explored is what role does teacher efficacy with behavioral problems play in the maintenance or reduction of aggressive behavior? Research suggests that efficacy beliefs influence behaviors so that the better teachers feel equipped to handle situations, the better they handle them. Therefore, it is predicted that teacher efficacy will have a small to moderate relationship with child aggression.

Third, how does peer support influence changes in aggression? The research clearly shows that peer support has a positive impact on children, and likewise peer rejection has a negative impact. It is believed that a lack of peer support will likely have a moderate and negative impact on the aggression of children. Additionally, children who receive low support one year are likely to receive low support the next year and so

the effect will be consistently applied over time.

Finally, how do the behavioral norms of the classroom impact aggressive behavior? Research suggests that if aggression is a normal occurrence within the classroom, meaning that many children partake in aggressive acts regularly, then this will increase the aggression of the whole classroom. It is believed that there will be a moderate to strong relationship with aggression during the school year but would not necessarily be carried over to the following year to a different classroom.

Chapter 3

Methods

Participants

Participants included 417 elementary school students and 68 elementary school teachers from Southern elementary schools sampled over a two-year period. Among the students there was a fairly even gender split with 50.6% being male. Over half of the students were African American and approximately a third were White Caucasian. Students ranged in age from six years, eight months to eleven years, eleven months. The vast majority of the teachers were White/Caucasian females with three of them being men and ten of them being African American. There was a wide range of experience levels amongst the teachers with seven being in their first year of experience and twenty-one having at least seventeen years of experience.

Measures

Aggression scale. The Behavior Assessment System for Children – Teacher Rating Scale (BASC-TRS; Reynolds & Kamphaus, 1992) was completed for each child near the beginning and end of each of the two school years of the study. This measure asks teachers to rate children on a variety of behaviors that are coded on one of fourteen scales, ten clinical (anxiety, aggression, attention problems, atypicality, conduct problems, depression, hyperactivity, learning problems, somatization, and withdrawal) and four adaptive (adaptability, leadership, social skills, and study skills). For the purposes of this study, only the Aggression Scale was used. According to the manual, this scale measures "the tendency to act in a hostile manner (either verbal or physical) that is threatening to others" (Reynolds & Kamphaus, 1992, p. 48). Behaviors such as

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name calling, arguing, and hitting are among those being assessed by this scale. The scale uses T-scores with a mean of 50 and a standard deviation of 10. Aggression is conceptualized not as a dichotomous variable (either you are or you are not aggressive), but rather as a continuous variable of which all students display more or less aggression than others. For the age range sampled in the present study, the TRS has internal consistency alphas of greater than .90, test-retest reliabilities of .91, and interrater reliability of .74.

Reading Grades. At four different points during the school year, students were graded by their teachers in reading ability using their school's grading policy. This data was used as a general observation of student's reading ability. More objective, standardized scores were collected on some students but was not used during this study due to the vast number of students who did not have this data available.

Teacher efficacy scale. The efficacy subscale of the <u>Efficacy and Expectation Measure</u> (E^2M) is a 5-item scale measuring teacher's efficacy beliefs for each child. Sample questions include: "I feel capable of helping this student behave appropriately in my class," and "I am certain I can manage this student's behavior." The five items were significantly and moderately highly correlated with each other (Pearson product moment correlations ranging from .44 to .84). The validity of the scale was explored using a principal component factor analysis procedure. The results confirmed a strong unitary factor with only one eigenvalue over one (3.63), which accounted for 73% of the variance. All items loaded onto a single factor (all factor loadings above .82). The internal consistency reliability (Cronbach's alpha) for the subscale was .90. The scale was used at the child level and aggregated at the classroom level to get a sense of the

overall efficacy of the teacher.

Teacher and peer support. Portions of the <u>Student Information Questionnaire</u> are used to examine the quality of the teacher-child relationship. Teachers completed the <u>SIQ</u> for each child, answering questions about how open, affectionate, and positive the teacher-child relationship is seen to be. The validity of the scale was explored using a principal component factor analysis procedure. The results confirmed a strong unitary factor with only one eigenvalue over one (4.42), which accounted for 64% of the variance. All items loaded onto a single factor (all factor loadings above .65). The internal consistency reliability of this scale was .85.

Students completed portions of the <u>Classroom Life Inventory</u> to assess the strength of teacher and peer academic and personal support. The scale explores the child's perceptions of how teachers and peers care about the child as both a friend and a learner. The validity of the four scales extrapolated from this inventory (Teacher Academic Support, Teacher personal Support, Student Academic Support, and Student Personal Support) were explored using a principal component factor analysis procedure. The results confirmed a strong unitary factor for each scale with only one eigenvalue over one. The <u>Classroom Life Inventory</u> has an internal consistency reliability of .87.

To further explore another aspect of the child-teacher relationship, each student completed the <u>Child Report of Teacher Behavior</u>. This is a five-item scale that identifies the child's perceptions of how well the teacher identifies expectations and meets the educational needs of children. Two sample questions include "I know what my teacher expects of me in class" and "My teacher makes sure I understand before she/he goes on." The validity of the scale was explored using a principal component factor analysis

procedure. The results confirmed a strong unitary factor with only one eigenvalue over one (2.43). All items loaded onto a single factor (all factor loadings above .65). The internal consistency reliability of this scale was .73. All of the above scales were used at the child level and aggregated at the classroom level to get a picture of the overall support in the classroom.

Classroom climate. The ways in which classroom climate may affect aggressive tendencies in children were explored in two separate ways. First, the number of aggressive students in each classroom is one way to measure classroom norms. For the purposes of this study, all students with a BASC Aggression score of at least 60, one standard deviation above the mean, are counted toward the total number of aggressive students within a classroom. Second, the Vessels Classroom Climate Scale was completed by each student and then aggregated at the classroom level. The scale measures the overall atmosphere of the classroom with questions such as "The kids in my class help each other" and "My teacher cares how I feel." The internal consistency reliability of the aggregated scale was .86.

Data Analyses and Rationale. Hierarchical linear modeling (HLM) is used in this study for several reasons. First, the assumption that all the students in the sample are independent (which is important in other forms of analyses such as multiple regression) is not met because they all share with at least one other student a common teacher and thus are commonly influenced by that teacher. HLM accounts for this problem and thereby fixes other problems such as aggregation bias and misestimated standard errors.

The present study uses three two-level models, students within classrooms. These models extend three different time periods, the fall to the spring of year 1, the spring of

year 1 to the fall of year 2, and the fall to the spring of year2. This was done to account for the fact that students change teachers between years. Level one of each model examines the child variables for each time period that are related to changes in aggression, beginning with the unconditional model:

$$Y_{ij} = \beta_{0j} + r_{ij}$$

where

Y$_{ij}$ is the change in aggression score for child i in school j;

Potential Level one variables that will be added to the model one at a time to assess for significance include previous aggression, reading ability, behavior grades teacher efficacy, teacher-child relationship, teacher academic and personal support, and peer academic and personal support, along with demographic information such as age, race, and gender.

Level two models examine the classroom variables related to changes in aggression during each of the three time periods. Potential Level two variables that will be added to the model one at a time to assess for significance include classroom climate, the percentage of aggressive students in the classroom with a score of at least 60 on the Aggression Scale of the BASC, the overall efficacy of the teacher when dealing with behavior problems, the overall teacher and peer support in the classroom, the teacher-child relationships (how positive or negative the teacher's overall relationship with the children) and the reading and behavior grades of the class as a whole.

Chapter 4

Results

Because students in the classroom are inherently not independent of each other (each student is being acted upon by common variables such as the same teacher), hierarchical linear modeling is used to tease out student level relationships from classroom level ones with the outcome variable, in this case changes in aggression. Because children change teachers from one year to the next, three separate analyses were completed: from the fall to the spring of year one, from the spring of year one to the fall of year two, and from the fall to the spring of year two. To assess the changes in aggression, difference scores were taken for each of these time periods. Students with missing data (N = 47) were generally deleted from the analysis. Since change in aggression was the outcome of interest, students who demonstrated a change score of zero, meaning they did not change during the time span, were deleted from analyses. Some variables (Teacher Academic and Personal Support, Peer Academic and Personal Support, and Teacher-Child Relationship) contained missing values less than five percent of the time and were replaced with the mean for that variable.

Table 1 shows means and standard deviations of the variables studied, separated by the level of analysis: student and classroom. As can be seen, years 1 and 2 generally have similar averages and deviations with the summer in many cases being dramatically different. This was especially true with the Support measures examined. These results are not especially surprising given that these reports were given near the beginning of the school year and much of that time period spanned the summer months when school was not in session. Therefore, one would expect support to be less developed than at the ends

of the school year.

Table 1: Means and Standard Deviations by Year

Variable	Range	Year 1	Summer	Year 2
Student				
Aggression Difference	-38-40	-2.36 (6.84)	.93 (11.92)	-1.69 (7.68)
Previous Aggression	40-98	52.17 (11.00)	54.34 (11.92)	49.87 (11.19)
Age	6:8-11:11	7:6 (.88)	8:7 (1.41)	8:8 (1.78)
Reading Grades	1-5	4.00 (.94)	3.58 (1.04)	3.93 (.97)
Behavior Grades	1-5	3.98 (1.07)	3.65 (1.01)	4.17 (.90)
Behavioral Efficacy	3-15	13.42 (2.45)	13.74 (2.16)	14.43 (1.18)
Teacher Academic Support	0-8	7.49 (1.07)	.67 (1.21)	7.51 (.97)
Teacher Personal Support	0-8	6.86 (1.64)	1.27 (1.96)	6.89 (1.58)
Teacher-Child Relationship	3-38	24.76 (3.58)	24.70 (3.43)	23.67 (2.78)
Child Report of Teacher Behavior	0-10	8.43 (1.89)	1.52 (2.10)	8.55 (1.71)
Classroom Climate	6-30	21.90 (4.81)	22.85 (4.78)	22.70 (4.62)
Student Personal Support	0-8	5.55 (2.23)	2.27 (2.31)	6.13 (1.90)
Student Academic Support	0-8	5.82 (2.08)	2.34 (2.51)	5.83 (2.19)
Classroom				
Percentage of Aggressive Children	0-75	21.88 (12.56)	29.26 (13.52)	13.96 (16.11)
Reading	2-5	3.97 (.43)	3.54 (.34)	3.92 (.31)
Behavior Grades	2-5	3.91 (.52)	3.52 (.55)	4.09 (.37)
Behavioral Efficacy	6-15	13.69 (.96)	13.53 (1.79)	13.94 (.86)
Teacher Academic Support	0-8	7.49 (.32)	.73 (.32)	7.14 (.51)
Teacher Personal Support	0-8	6.89 (.43)	1.24 (.45)	6.44 (.52)
Teacher-Child Relationship	20-30	24.07 (1.38)	24.86 (2.01)	23.57 (1.71)
Teacher Behavior	0-10	7.83 (.51)	1.50 (.63)	8.39 (.45)
Classroom climate	15-27	22.01 (2.32)	22.79 (1.32)	20.90 (2.34)
Student Academic Support	0-8	5.17 (.61)	2.28 (.57)	5.40 (.80)
Student Personal Support	0-8	5.23 (.53)	2.22 (.52)	5.72 (.71)

In addition, while the unconditional models of the intercept for years one and two were significant, this was not the case for the summer months. Due to this fact, classroom level variables were not modeled for the time span from the Spring of year 1 to

the Fall of year 2 and thus only student level variables were examined using regression. Furthermore, hierarchical linear modeling assumes that the distribution of the outcome variable is normal. Figure 1 shows that changes in aggression did follow a fairly normal distribution during all three time spans and thus this was not seen as a limitation in the present study.
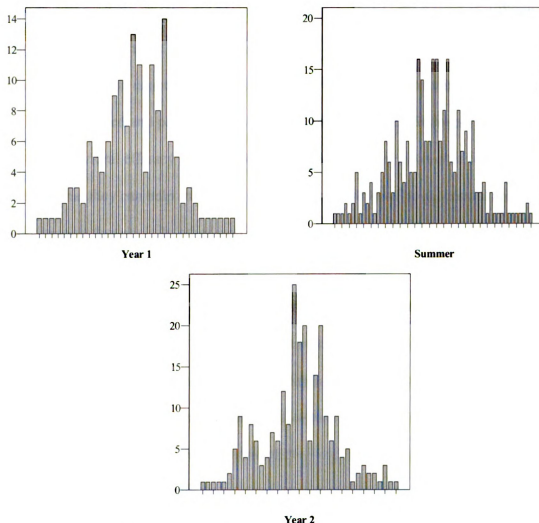

Figure 1: Distributions of the outcome variable, Changes in Aggression

Level 1 Variables: The Student Level

Student level variables were centered around the group mean and Table 2 lists

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estimates and standard errors for both student and classroom variables. Results were somewhat inconsistent across time periods in that no variable was significant at all three time points. This is not all together surprising given that significant changes occur during the summer months and into the fall, such as summer vacation and then likely new teachers when the students return to school. Two variables were significant at two time periods: previous aggression and behavioral efficacy. Due to the nature of difference scores and to the fact that aggression is the object of change, interpreting the impact of previous aggression is not advised. Modeling previous aggression simply assures that it has been controlled and perhaps lends more weight to the other findings (Willett, 1998).

Behavioral efficacy seems to positively relate to aggression over time. Teachers who feel that they can help students with behavioral problems be successful are more likely to meet that goal. In other words, the stronger the efficacy belief, the greater the decline in aggression over time.

Behavioral grades were significant during one of the three time points. As behavioral grades decline, i.e. behavior gets worse, aggression increases over time. There would seemingly be considerable overlap between this variable and aggression, a prime reason why it was not significant at other time points. During the first year, however, these grades help explain more of the variance than aggression does alone. While the grades would surely be impacted by aggression, they do cover a broader range of behaviors than purely aggression, which explains the result and the inconsistency to some degree. Perhaps during year one there was a higher rate of students with non-aggression difficulties, such as hyperactivity, that impacted grades and yielded the result.

Table 2: Estimates and Standard Errors by Time

Variable	Year 1	Summer	Year 2

Student	Est	SE	Est	SE	Est	SE
Previous Aggression	.116	.06	.471**	.08	.782**	.08
Age	.622	.61	.088	.98	.215	.78
Sex	.110	.92	-1.37	1.69	-.038	.95
Reading Grades	.858	.55	-2.44**	.87	.791	.70
Behavior Grades	2.65**	.71	1.82	.99	1.11	.69
Behavioral Efficacy	.561**	.19	.248	.37	.603**	.21
Teacher Academic Support	.809*	.33	.165	.66	.140	.61
Teacher Personal Support	-.025	.36	-.006	.61	.319	.42
Teacher-Child Relationship	-.038	.10	-.382**	.14	-.053	.08
Child Report of Teacher Behavior	-.022	.27	.185	.50	-.089	.37
Classroom Climate	-.137	.12	.198	.22	.047	.18
Student Personal Support	.05	.25	.014	.48	.163	.38
Student Academic Support	-.008	.23	-.252	.42	.137	.38

Classroom

	Est	SE	Est	SE	Est	SE
Percentage of Aggressive Children	.104*	.04			-.062*	.03
Reading	-.559	1.47			-.587	1.63
Behavior Grades	.154	1.10			1.14	1.13
Behavioral Efficacy	-.802	.48			-.31	.50
Teacher Academic Support	1.04	.76			.527	.65
Teacher Personal Support	.684	1.16			.31	1.10
Teacher-Child Relationship	-.053	.17			-.013	.19
Teacher Behavior	1.05	.63			1.78	1.56
Classroom climate	.080	.21			1.82*	.88
Student Academic Support	.076	.63			-1.28	1.45
Student Personal Support	.26	.65			1.25	1.41

* significant at .05 level
** significant at .01 level

The teacher-child relationship was significant during the summer time period only. Students who had a better relationship with their teacher at the end of year one evidenced lower aggression at the start of year 2. This result may be due to the possibility that students who ended the year more positively had an easier time transitioning into the next year.

One additional variable was significant at only one time point: Reading Grades.

From the spring of year one to the fall of year two, reading ability was a significant predictor of changes in aggression. Children with better reading scores had positive changes in aggression, i.e., aggression decreased. This may be due to the possibility that lower ability readers had a higher loss of information over the summer months than higher reading students, causing more frustration early in the school year. The fact that reading was a less important factor during the school year despite stability in reading grades throughout the year (average change in reading throughout the school year was approximately .285) would seemingly support this suggestion. Lower level readers do not get more aggressive as the school year progresses because they already started at a higher level of aggression and the frustration is constant.

Also of interest were those variables that proved to not be significant. First, the age of the child did not seem to matter in terms of his/her change in aggression. Older children are just as likely to change (or not) as younger children and behavioral efficacy continues to be a moderate predictor when age is controlled.

Two other insignificant variables in this study were the race and sex of the child. While one might expect race and sex to impact aggression, it does not appear to have any bearing upon the change of aggression over time. This finding, along with age discussed above, may lend some credence to the idea that aggression is relatively stable over time.

The support variables measured also proved to be insignificant in changing aggression. Both teacher and peer academic and personal support were not related to changes in aggression in this study. This is counterintuitive to thought and theory and may be a result of the scales used. All of the scales had limited ranges and questions and thus may not have measured support completely.

Level 2 Variables: The Classroom Level

Because the unconditional models of the intercepts were only significant for years one and two (not summer), only during these time spans were teacher variables modeled. Only one of the classroom-level variables modeled in year one were significant at the .05 level. It is not surprising that variables failing to reach a level of significance at the student level failed to reach significance when aggregated at the classroom level. Somewhat more surprising is the fact that behavioral efficacy at the classroom level was insignificant. The overall behavioral efficacy of the teacher when dealing with problems did not relate to changes in aggression while the efficacy with the individual child did. This is probably due to the fact that teachers feel more comfortable with some students than others and thus the overall efficacy does not matter when faced with a student with whom the teacher feels less efficacious.

Most surprising in year one was that classroom climate was not related to changes in aggression, despite the fact that the percentage of aggressive students in the classroom was significant. It would make sense that the worse the classroom climate, the more aggression will rise in all students and vise versa. This held to be somewhat truer in year two when both of these variables were significant at the .05 level. The results of year 2 are more consistent with theory and have greater face validity than those of year 1. This may simply be due to the fact that year 2 had more students per teacher, was therefore better distributed per classroom, and thus provided a better picture of the relationship between classroom climate and changes in aggression over time.

Chapter 5

Discussion

This study evaluated the extent to which social agents (teachers and peers) within the school setting related to changes in aggression over time. Several hypotheses were examined including that the amount of variability in aggression scores over time would be significant, that reading ability would be related to changes in aggression, that teacher efficacy, teacher-child relationship, and personal and academic support from peers and teachers would all be correlated with aggression change.

First, it was predicted that there would be significant variability in the changes of aggression so that it would be appropriate to model level 2 (classroom) variables. This hypothesis was supported by the data for two of the three time points. During the middle term, which took place primarily in the summer, this variability was not found. Since the majority of students are not in school during the summer and since they tend to switch teachers the following term, this is not surprising. It takes time to build relationships with teachers and peers and thus any relationship between classroom level variables and changes in aggression will develop during the course of the school year. Other hypotheses examining within-child, between teacher, and whole classroom characteristics will be examined in turn, as well as implications for intervention.

Factors Within the Child Associated with Changes in Aggression

While previous aggression cannot be interpreted in the present model due to the measurements of difference score, it can be noted that aggression changed enough to find some predictors of that change. This idea speaks to the stability of aggression. As in the example from clinical psychology where about 25% of children with Oppositional

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Defiant Disorder no longer exhibit these symptoms in the future (Hinshaw & Anderson, 1996), the data may be showing similar fluctuations and improvements. On the other hand, because the distribution of change scores followed a fairly normal curve, children witnessing declines in behavior may be evidence for the progression of pathology such as that suggested by Loeber and his colleagues (1998). They contended that aggression would become more severe over time, which would produce higher scores on standardized measures of aggression, like the BASC. The purpose of the present study and future studies should be to attempt to determine those factors that help children move into the 25% of those who improve and to avoid those factors that cause a behavioral decline. Overall, this study seems to suggest that many teachers in many instances are finding little success when dealing with aggressive students.

In addition, two other variables were significant during at least one time period. Students' behavioral grades were related to changes in aggression as expected, in that better-behaved students evidence lowering aggression scores. The fact that behavioral grades at one time point helped explain more variance than previous aggression alone may be attributable to the grades themselves. Because these grades do not only measure aggression, they may be identifying related problems. For example, Attention Deficit / Hyperactivity Disorder and Anxiety Disorders are related to Conduct Disorder specifically and Aggression more broadly (Hinshaw & Anderson, 1996). Students with attention or impulsivity problems may receive lower behavioral grades. These difficulties with attention and impulsivity may then correlate with future aggression somewhat independently of previous aggression scores.

Reading ability was associated with changes in aggression during the summer

period only. While reading appears to be related to aggression levels (Tomblin, Zhang, Buckwalter, & Catts, 2000), it is generally not related to changes in aggression. It is hypothesized that children with lower reading ability may lose more information over the summer, making school a more frustrating environment, which impacts behavior at the beginning of the school year. Previous attempts to study reading and aggression did not examine changes in ability or in aggression. Interventions for aggression have targeted reading as one area to help students based upon this literature. This study offers little support for this hypothesis in that reading appears resistant to change, at least under normal instruction, and reading ability showed little relationship to aggression changes. Further research is needed, however, to continue to assess this relationship.

<div align="center">The Teacher's Influence on Changes in Aggression</div>

While teacher academic and personal support was not related to changes in aggression in this study, the hypothesis that the teacher-child relationship would be related to changes in aggression received minimal support. The child's relationship with the teacher at the end of year one could predict aggression at the beginning of year 2. It is hypothesized that children who end the year on a positive note with a good relationship are more prepared to start the following school year. Why this relationship was not present during the school year itself is unknown, but it should be noted that cumulative effect of this variable may be more significant. Since at all three time points a similar relationship exists, it may be that cumulatively over time, positive teacher relationships can help mold prosocial students.

The hypothesis that teacher efficacy would be related to changes in aggression scores was supported by the data at two of the three time points. It does not follow that

teacher efficacy on one student at the end of year one would lead to lower aggression in the fall of year 2 because there is a change of teacher at that point and so it was not an unexpected result to fail to find significance during the summer time period. Because previous efficacy was used to predict future change, it would appear that the more efficacious a teacher feels when dealing with behavior problems, the lower aggression will become over time. This finding warrants a closer look at the construct of teacher efficacy.

Teacher efficacy is the "belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran, Hoy, & Hoy, 1998, pg. 233). When thinking about efficacy with behavior problems, then, behavioral efficacy is the belief about one's capability to successfully correct the negative behavior of a student, with the negative behavior in this specific case being aggression. Because most of the research on teacher efficacy has been done on academic efficacy, one must extrapolate from the literature to discover what factors are important in the creation of efficacy beliefs.

Efficacy is largely derived from experience, either positive or negative (Tschannen-Moran, Hoy, & Hoy, 1998). Efficacy develops during teacher education programs and especially during the fieldwork associated with them. It is during these times that the student teacher draws from the coursework and the observations done in the field to develop initial sets of skills and attitudes about teaching. These early experiences likely impact the efficacy beliefs of that teacher throughout his or her career since once the efficacy beliefs are established; it appears they are difficult to change (Tschannen-Moran, Hoy, & Hoy, 1998). Therefore, attending to early or pre-service

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teachers' beliefs about their efficacy when working with children with aggressive behaviors may be an important application of these findings.

The Classroom as a Whole

The classroom is a fairly social dynamic environment. Initially somewhat surprisingly then, the level of peer support was not related to changes in aggression. Upon further reflection, the finding makes considerable sense. If it can be assumed as research suggests that peer rejection is related to aggression (Hinshaw & Anderson, 1996; Kazdin & Kagan, 1994; Parker & Asher, 1987; Parkhurst & Asher, 1992) and thus conversely peer support is oppositely related, then it seems likely that a couple different things are occurring. First, many of the students studied here had already been in school for some time. Based upon the results of this paper, it can be inferred that students who showed aggression during the time frames studied most likely showed aggression earlier as well. Therefore, aggressive students may have already been rejected (or accepted depending upon the norms discussed below) and friends and enemies had already been more or less established. While the results showed that children on either end of the aggression scale did change somewhat in that aggressive students became more aggressive and vise versa, due to their position on the aggression scale (closer to the basement or to the ceiling than other children), their change scores would by necessity be closer to zero than those children who fell closer to the middle of the scale and thereby showed greater fluctuation. Therefore, it seems reasonable that even if theory is correct in that aggressive students are more likely to be rejected, then it follows that rejected students would show little change over time. It is also assumed that these students, unless they are exposed to some intervention, rarely have the opportunity to become

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friends with prosocial peers. It seems unlikely that this happens naturally but rather aggressive peers have more antisocial friends. Furthermore, in some instances it seems reasonable that the aggressive student may even be *preferred* by other students than less aggressive students and that aggression may even be socially appealing (Stormshak et al., 1999). In other words, not all aggressive students are rejected. The convergence of these factors could muddle the data enough to eliminate significant results.

The hypothesis that the percentage of aggressive students in the classroom, as well as the overall climate of the classroom will impact the aggression of individual students was fully supported in year 2 but not in year 1. As mentioned above, theory and the makeup of the data suggest that perhaps year 2 was a better indicator than year 1. Further study will be needed to fully appreciate the relationship between these variables and changes in aggression. As of now, only conjectures are possible.

It seems reasonable that when a classroom reaches a certain level of aggression or a certain number of aggressive students that aggression itself changes from being dysfunctional to being functional for the child. No longer does following prosocial values lead to being accepted and "surviving" in that classroom. Instead, just the opposite becomes a reality. In order to fit in, to be become "one of the boys," it becomes necessary to act like the majority. In this case, aggression becomes the norm and the way for assimilating in that environment.

This is an important idea to research further for several reasons. First, what are the long-term effects of this deviation? If the deviation occurs early in schooling, it seems possible that it could lead to a steadier maladaptive pathway, as compared to it occurring later (such as early adolescence or beyond) in which case it may only be a

temporary deviation. Deviations left unchecked in early elementary school may carry over to the following year as school becomes associated with negative attitudes and may begin a cycle of negativity. Second, functional aggression within the schools seems understudied in the literature. Often, aggression is approached as being antisocial, negative, and dysfunctional. One could argue that aggression is all of these things, but perhaps in some instances aggressive acts are started out of the necessity of surviving in hostile environments. Few people want to be a victim and thus the response may be a choice between being one or joining the majority.

<div align="center">Implications and Future Directions</div>

There are several implications on current practice that can be derived from this study. First, interventions targeting aggressive students have often focused upon the cognitions of the aggressive child. Using a Social Information Processing approach, some programs have found mild to moderate results in the changing of aggressive acts over time. Two examples of violence prevention curriculums that focus on aggression and related behaviors are Second Step and Promoting Alternative Thinking Strategies (PATHS; Bear, Webster-Stratton, Furlong, & Rhee, 2000). While both programs have shown to be effective in reducing aggression in the classroom during the program and at six-month follow-ups, effect sizes have been generally small, probably due to the complex nature of a child, an environment, and the interaction between the two. Future research continues to be important within this area.

Second, in the area of reading ability, the Fast Track program is one example of a comprehensive prevention program that targets reading as one of its components. Students within the program receive reading remediation during the school year. While

these programs may maintain or even slightly improve a child's reading ability, the absence of the program during the summer months, an idea that seems critical from the present data, may ensure the child falling behind. Keeping children learning all year round is a difficult task that necessitates that parents help reinforce the behavior at home.

Third, believing that teacher efficacy has a strong impact on the aggression of students leads one to desire strengthening the efficacy of teachers. If Martin, Linfoot, and Stephenson (1999) are correct in that teachers may not be equipped to handle the vast array of problems that arise, then better teacher education programs in classroom management may be warranted, as well as more focused in-service programs. Giving teachers the tools to manage their classroom may lead to higher efficacy, which in turn may lead to better adjusted, higher achieving classrooms. Unfortunately, previous research has not suggested that routine in-service programs influence teacher efficacy (Ross, 1994). The mere exposure to knowledge does little without the active use of the knowledge gained. Targeting teachers at the beginning of their careers before ideologies become crystallized may have more influence over their overall efficacy than short, routine programs near the end of their careers.

Because efficacy is related to experiences, it makes sense that exposure to behavior management, especially early in a teaching career is vital to the teacher's preparation for dealing with behavior problems. However, of the top 10 ranked teacher education programs in the United States, according to U.S. News & World Report (Morse and Flanigan, 2005), none require students in their teacher education program to take a course on behavior management and only one appears to cover such topics within the context of a broader course, such as Educational Psychology. This statement is not

intended to reflect the author's assessment of the top education programs in America, only that this list may be perceived by some to be just that and that it is justifiable therefore to scrutinize. In addition, it is believed, though not verified, that these ten schools are in fact fairly representative of teacher education programs and that it is the general rule of these programs to not require specific courses in behavior management. Since behavioral efficacy is related to changes in aggression and since efficacy is related to early experiences, it may be important for future research to examine these teacher education practices.

In addition to this lack of a requirement in teacher education programs and in addition to the problem of stability of efficacy, another problem lies in the prevention programs that do exist. Most of these programs utilize some form of curriculum (a few of which, as mentioned, have shown minimal results), but they offer little aid to teachers dealing with specific behavioral problems. Since many of the problems teachers face on a daily basis fall outside the realm of these programs, the program itself does little more than a cough suppressant on lung cancer—it alleviates the symptoms for a time but in the end it may not have helped the bigger problem. Project ACHIEVE, however, appears to be one program that focuses on the teaching of behavior management techniques that can be applied to many different problems (Bear, Webster-Stratton, Furlong, & Rhee, 2000). It has been shown to be effective in reducing aggressive acts, at least on a short-term basis. Again, more research is needed on longer-term outcomes and similar programs to better understand the *program's* efficacy on increasing teacher efficacy and decreasing aggression.

All of the programs discussed (Fast Track, Second Step, Project ACHIEVE)

contain components of whole classroom (or school wide) interventions. While effect sizes have been relatively small and generally the programs have been under researched, especially longitudinally, these programs represent the first step toward the reduction of aggression in the schools.

Attempts to correct aggression through peer mediation or peer-led interventions have been shown to be largely ineffective (Bear, Webster-Stratton, Furlong, & Rhee, 2000). Generally, these interventions are based upon the idea that positive interactions with prosocial peers will be beneficial. These ideas may be based upon the peer-rejection literature that supports the idea that aggressive students tend to be rejected and thus providing positive peer role models could be an effective intervention. As mentioned throughout this paper, however, the basis of this line of thought may not be all together true. Certainly some aggressive students are rejected, but just as certainly, some are very much accepted. Either way, there are several factors that may impede the interventions such as but not limited to apprehension of the peer mediator, dominance by the aggressive student, or poor training of the mediator.

In addition to those areas specifically addressed above, future research should explore teacher level variables that help further explain the variation among teachers on measures of changes in aggression. If more of the variation can be explained than in this study, more efforts can be made to help teachers deal with the many challenges that they face, which in turn will help students become more successful in school.

<center>Limitations</center>

There are a few limitations to the current study. Some of the scales used may not have been ideal at examining the construct they purported to measure. For example,

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teacher academic support showed a general ceiling effect with the average score being half a point below the maximum. Students in elementary school may have the belief that all teachers want them to learn and do well (which may be true) and may hold onto that belief even when there is a poor relationship with that teacher or even when they report poor personal support from that teacher. In the child's mind, the phrases "My teacher really cares about me" and "My teacher likes to help me learn" are mutually exclusive from each other. In other words, it may be difficult for children in elementary school to not feel supported academically simply by way of what the idea of teacher stands for even when they feel a disconnect personally with that teacher.

Second, the use of grades in elementary school is a difficult variable because of the subjective nature of the grade itself. In other words, grades given in the elementary years are not necessarily based upon percentages on assignments and tests (which can be subjective as well) but rather on one teacher's perceptions of the differences between a grade of Excellent and Good and Satisfactory etcetera. The distances between Excellent and Good and between Good and Satisfactory may not be the same within the same teacher let alone between teachers. Thus it is a difficult prospect to interpret findings based on letter grades. While access was granted to standardized test scores, the number of missing data for those scores was high enough to make utilizing those scores unjustifiable.

Third, especially in level two there was little power in the current study. In some cases, as few as eighteen teachers were used to examine a multitude of variables that may impact the changes in aggression. Because of this small power, some variables that may in reality have a small relationship with the changes in aggression over time will fail to

reach significance. Further research may be necessary to truly determine these small effects.

Finally, the same person rating her efficacy with a particular student is also the one rating the adjustment of that student. This creates a potential for bias, even unintentional bias, on the part of the rater. Thinking how well a student is doing may lead to inflated efficacy scores and vice versa. It is not believed that this factor discounts the findings, but it is acknowledged that the strength of the relationship may be somewhat inflated.

Conclusions

In order to continue to strive for the goal set by the National Education Goals Panel (Batsche & Knoff, 1994), it would be beneficial give teachers the help that many are lacking. While it is important to continue researching prevention programs that have the potential to significantly reduce aggressive acts, at least within the confines of the school, it is ultimately the teacher who must interact with these children on a day-to-day basis. While focusing on academic teaching may lead to controlled classrooms, the reality appears to be that many teachers are simply not equipped to deal with the myriad of behavior problems faced. Because teacher efficacy may stabilize somewhat over time, waiting for Masters and In-service programs to address behavior management techniques may simply be too late. Understanding different techniques to deal with behavioral issues in teacher education programs and early in the teacher's career should increase the likelihood of successful interactions with students with behavior problems during the critical early years of teaching. These successful interactions will be positive reinforcement for the teacher and will lead to higher efficacy. It is no longer enough to

state that teachers can make a difference in the lives of children both academically and behaviorally. Now, we need to *believe* it.

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