School Variables as a Protective Factor for Violent Behavior

by

Jorge Javier Varela Torres

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Doctoral Committee:

Professor Marc A. Zimmerman, Chair
Research Assistant Professor Justin Heinze
Professor Allison M. Ryan
Assistant Professor Sarah A. Stoddard

DEDICATION

To my wife and children.

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CHAPTER 1

Introduction

Violent behavior and school violence

Violent behavior is usually defined by the intention to harm self or another highlighting

the motivation that is behind this action (Tolan, 2007). According to the first World Report on

Violence and Health, released by the World Health Organization (WHO), violence involves

intention to harm, by different means resulting or increasing the likelihood of injury or damage

for the victim(s) (Krug, Mercy, Dahlberg, & Zwi, 2002). According to the Center for Disease

Control and Prevention (CDC) in 2012 homicides are ranked three among of the leading causes

of death in the United States for the age group of 15 to 34 years old. For younger ages such as 1

to 14 years old, is ranked number four in the country. The Bureau of Justice Statistics in the U.S.

indicates that in 2013 the rate of violent victimization was 23.2 per 1,000 persons. Compared to

1993, where the rate was 79.8, this actual rate represents an important reduction, but still it is a

matter of concern (Bureau of Justice Statistics, 2013).

If we consider an international perspective, according to the Global Study on Homicide

(2013), on average the homicide rates stands at 6.2 per 100,000 (UNODC, 2014). The rate for the

United States in 2012 was 4.7, lower compared to the 5.5 rate for the year 2000. According to the

same report, younger age groups account for the majority of homicides globally which has a

negative impact in the economy and security among those countries, and also, jeopardize a

healthier and positive youth development.

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Violent behavior can take place in different contexts, such in the family, schools and communities. Violence within the school context is usually dubbed as school violence, which considers different types of aggression between the students, but also, other members of the school. Crime and school safety have showed a downward trend since 1993, which can be related to the reduction of the community and crime rates in the United States in general (Cook, Gottfredson, & Na, 2010). Based on the School Crime Supplement, which is a report prepared by the National Center for Education Statistics and the Bureau of Justice Statistics of the Department of Justice, the trends indicate that the percentage of youth (12-18 years old) who reported victimization in the school decreased between 1995 and 2011 (Robers, Kemp, Rathbun, & Morgan, 2014). This report collects data from students ages 12-18 considering the previous 6 months of criminal victimization at the school. Results from 2011 indicate that 4% of the students were victimized in the school. Although, school violence can consider different types of violent behavior, researchers usually focused in aggression, violence and bullying.

Aggression is a term used to define actions or behaviors –external- that intent to harm other(s) person(s), which imply at least two individuals –social behavior-. When that aggressive behavior has an extreme physical form, such as injury of even death, is defined as *violence* (Berkowitz, 1993; Bushman & Huesmann, 2010). Thus, according to these definitions, violent behavior can be considered a subtype of aggression. Although researchers agree on some common elements under the definition of violence, at the same time, it could take many forms (Tolan, 2007). For instance, *bullying* had been described in the literature as a subtype of aggression (Espelage & Swearer, 2003). The victims of bullying are not capable of defending or replying to the aggression to the perpetrator because of the imbalance of the forces (Roland &

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Idsøe, 2001). Thus, the term bullying should not be used when two persons with a similar strength are in conflict or fighting. Hence, in order to define a bullying behavior, an imbalance of power or an asymmetric relationship must be established (Olweus, 1994). Bullying behavior is a systematic and repetitive aggression against the same individual or groups (victim) (Olweus, 1993). When this type of aggression includes the use of different technologies and the intention to harm others behind the offensive act is usually defined as cyberbullying (Ybarra & Mitchel, 2004; Raskauskas & Stoltz, 2007; Smith et al., 2008).

Bullying is not the same as violent behavior, which is the use of extreme force that has some overlap with bullying by physical means, is a different subtype of aggression (Olweus, 1999; Rigby, 2007). Bullying is a unidirectional type of aggression from perpetrator to victim, but when the act of aggression changes into a bidirectional way of victimization it is referred to as school violence (Rigby, 2004).

School violence is a unique form of interpersonal violence that takes place in the school and can have multiple facets such as verbal, emotional, mild to severe, sexual, weapon related and initiated by the school staff (Benbenishty & Astor, 2005). Therefore, school violence is defined as a multifaceted concept which includes criminal acts and aggressive behavior in the school, with negative consequences for children's development and learning. Moreover, it is define as an educational problem rather than just violence that happens in schools (Furlong & Morrison, 2000).

School violence has negative consequences for different members of the school with immediate and long term effects, such as stress, anxiety and PTSD symptoms respectively (Daniels, Bradley, & Hays, 2007). Children's target by peers of aggressive behavior develop

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different psychosocial maladjustment symptoms. Hawker and Boulton (2000) conducted a meta-analysis to examine the results of cross sectional studies (between 1978 and 1997) of peer victimization and psychological maladjustment. The authors found a bigger effect size for depression and a lower one for anxiety. Yet, the analysis of each psychological maladjustment variable were calculated and reported independently, based on the studies they found. A more recent meta-analytic review, with a sample of 148 studies, found that direct aggression is strongly related with externalizing problems, poorer prosocial behavior, and lower peer relations. Conversely, indirect aggression was more related with internalizing problems (Card, Stucky, Sawalani & Little, 2008).

In addition, different longitudinal studies indicate that violent behavior is stable across time (Tremblay, Vitaro, Nagin, Pagani, & Seguin, 2003; Farrington, 2007; Bushman & Huesmann, 2010). To illustrate this point the Cambridge Study with a sample of 400 males from age 8 to 48 in London, found that 34% of the boys that were convicted at youth were convicted again as adult. Predictors at early age (8-10) were antisocial child behavior, hyperactivity, poor school attainment, levels of poverty and criminality from the family and poor parental supervision (Farrington, 1995).

School violence predictors

As a result of the negative consequences of violent behavior and the possible stable long term trajectory of this behavior, different predictors have been examined. For this purpose, school violence research had considered multidimensional influences, developmental patterns and behavioral contexts (Furlong & Morrison, 2000). For the most part, risk and protective factors have been examined as possible predictors. Risk factors are going to be variables that can explain or be related with a higher probability of violence, ideally measured before violence

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occurs. Conversely, protective factors are related with a decrease of the likelihood of violent behavior (Farrington, 2007). Other researchers also include the concept of promotive factor in the relationship between risk and protection (Fergus & Zimmerman, 2005). Furthermore, following an ecological approach, different studies had examined predictors at different levels, such as individual, peer, school, family and the community. At the individual level, as an example, hyperactivity, attention and impulsiveness have been related with aggression (Valois, MacDonald, Bretous, Fischer, & Drane, 2002). Ferguson, San Miguel and Hartley (2009), with a sample of 603 youth (10 to 14 years) found that depressed mood and delinquent peers associations were significant predictors for aggression and youth violence. Moreover, individuals affiliate with other individuals that bully and fight at the same frequency, dubbed homophily or within group similarity, which is an example of the influence of peer groups (Espelage, Holt, & Henkel, 2003). In addition, school variables, such as positive climate and school bonding, can also contribute to explain violent behavior (Wilsom, 2004; Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004). Birnbaum et al. (2003) collected data from 16 middle schools and 2941 students reviewing the relationship between positive school functioning and violent behavior for youth. They found that school functioning was negative related to violent behavior and also a cross level interaction between educational expectation and school functioning. In particular, students who reported higher expectation of college degree, the school effect was negative related with violent behavior. Yet, the age of the sample may question the meaning of the results among the participants. Astor, Benbenishty, Zeira, and Vinokur (2002) examine the subjective judgments of school violence with a national sample of high school students (3,518) in Israel. They found that violence in the school was associated with school climate, among other risk behavior. This assessment was mediated by their personal

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victimization from other students and teachers in the school setting. In other contexts, such as Chile, school climate was also negative related to school violence. Tijmes (2012) examined a sample of 4,015 youth (10 to 18 ages) in high risk school contexts in Santiago. The author found a negative association between witness, victim and perpetrator of school violence with a measure of school climate in the school. Although the effect was small, still it was a significant relationship. Finally, the community can also influence school violence, and to some extent, could be an extension of the levels of violence in the community that must be addressed (Baker, 1998). For example, Guerra, Huesmann, and Spindler (2003) found that exposure to violence has an effect on later aggressive behavior which is mediated by social cognitions.

Even though research about violence predictors have been useful to build a better understanding of this behavior, little research has examine protective factors to account for violent behavior, which demand more examination (Farrington, 2007). One of those aspects is the school context.

School as a protective environment
Schools are vital places to examine social influence among youth because is one of the most important proximal context for individual development across time. Individual subjects are embedded in the school and are susceptible to their influence (Bronfenbrenner, 1997). This significant relationship may influence in a positive or negative way the development of violent behavior (Birnbaum et al., 2003). Research about school violence could provide evidence about complex process of violence predictors, how to prevent it and how to reduce its impact when it takes place (Furlong & Morrison, 2000). Further, increasing a better academic performance of the schools is compatible with increasing their levels of safety (Cook, Gottfredson, & Na, 2010).

School violence is explained by individual attributes, but also by other wider contexts, such as neighborhoods, student family and socio economic status. Yet, that influence can be mediated by the within school context. Thus, it is important to explore how student – perceived school variables can impact different forms of victimization such as school climate, teacher support, school rules and policy and peer groups (Benbenishty & Astor, 2005).

The school influences can be conceptualized as a series of hierarchically ordered, interdependent levels of organization starting from the classroom to larger complex cultural systems (Eccles & Roeser, 2010). Peers, classrooms, teachers, family and the community can be examples of systems to examine, due to their influence and importance in human behavior, and their possible relationship with resilience processes. That influence can be trough different features of the school, such as school climate, attitudes of teacher, school attachment, which shape the general atmosphere or the school ethos (Kasen, Berenson, Cohen, & Johnson, 2004). In addition, children and adolescent spend a significant amount of time in the school, which can also inform different prevention efforts. Researchers interested to reduce violence among youth consider the school as a vital context for program implementation (Furlong & Morrison, 2000).

Theoretical backgrounds

Resilience

Resilience is not a personality trait or a static characteristic of an individual; instead, it is a dynamic process that occurs over time as a result of interactions between the individual and the environment (Fergus & Zimmerman, 2005). Thus, one person can show resilience at one point in

life and not in another, or an individual may be successful in one domain but fail in another (Masten & Tellegen, 2012). In other words, resilience is a dynamic attribute of a relationship between the individual and a multilevel integrated developmental system with a mutually influential relationship (Lerner et al., 2013). For Rutter (2013) resilience highlights the mechanism that underpins the variation between individuals' responses to the same experience. Other features of resilience highlight the positive adaptation by individuals despite experiences of high levels of adversity; thus the concept implies the exposure and the achievement of positive adaptation (Luthar, Cicchetti, & Becker, 2000).

Although resilience research applies in a broader mental health setting, youth violence research can use this construct and underline mechanism. For instance, the interplay of risk, protective and promotive factors are vital to examine violent behavior among children and youth (Lösel & Farrington, 2012). For the purpose of these studies, we are going to use the framework of resilience described by Fergus and Zimmerman (2005). According to them, resilience is defined by the context, the population or sample characteristics, the risk(s), the promotive factor, and the outcome. Resilience needs the presence of both, risk and promotive factors, and it is focused on the strengths rather the deficits for adolescents, that contribute to consider healthy development instead of risk exposure for children and adolescents.

Socioecological model

The theoretical contribution of Uri Bronfrenbrener (1994) was crucial to build the foundations for a more complex human development understanding in social science, especially in psychology. This permanent and everyday interaction with that near element is called *proximal processes*, which form, power, content and direction will vary for each persona as a

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function of his context. Human development will occur at multiple levels, which do not operate independently and, on the contrary, has a reciprocal influence (Lerner, 1996, 2006). In the socio ecological model, which considers the interplay between individuals and their social environment, research has examined protective factors that ameliorate the effects of victimization of children within the school context, or by considering individual, familiar and community contexts as well. The point is that some students rely on their abilities and resilience process to overcome the negative effects of bullying, as victims or as perpetrators. For instance, Donnon (2010) assessed 2,991 adolescents from 7 to 12 grades in Canada considering internal and external factors for resiliency defined as developmental strengths. Examples of external factors were parental support, peer relationships, and school culture, and examples of internal factors were self-control, self-concept, social sensitivity, and empowerment. They found that adolescents with lower levels of developmental strengths engaged as a bully 3 to 8 times more often compared to students with the highest levels of developmental assets and resources. They also found that more developmental strengths was associated with lower levels of victimization.

Yet, researchers have not considered the effects of school variables in the relationship between school violence and resilience processes with much depth. In addition, previous researchers have not considered the complexity of the school context as they have included few schools factors in their analysis of bullying behavior. While an ecological framework is important to understand bullying behavior (Espelage & Swearer, 2003), some specific aspects of the school need to be considered with more details such as academic achievement, school climate, peer group functioning (Swearer, Espelage, Vaillancourt, & Hymel, 2010).

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Stage Environmental Fit Model

Another important theoretical background is the stage environmental mode fit for youth development (Eccles et al., 1993). This theory establishes that for some negative change associated in adolescents can be explained by a mismatch between their personal need and the social environment they are embedded. According to the model if that social context, such as the school and family, do not match the needs of the adolescents –students in our case-, can predict lower levels of motivation, interest and performance. In other words, behavior, motivation and mental health are going to be influenced by the match between individual characteristics of the subject for that social environment, and the characteristics of that context itself (Eccles, Lord, & Roeser, 1996; Eccles, 2004). As an example, Lo and colleagues (2010) examine the effects on antisocial behavior based on the different school characteristics using a sample of 92,128 students from 6th to 12th grade from 577 public schools. As part of their results, they found that prosocial school climate contribute to explain the levels of delinquency. In other words, youth avoid engage in delinquency activities when the school climate fit their needs to participate in the school by decision making, following the model fit theory.

Research proposal

In order to examine the role the school context for the development and maintenance of violent behavior, I propose three different papers that will review different features of the school. In the first paper (A) the role of school attachment, violent attitudes and violent behavior are examined over time. I will use a longitudinal sample to review the effect at the end of high school and also five years later, assuming the end of another stage in life, such as young adult. We hypothesized that school attachment will have an effect on violent behavior, in the short and long term. In addition, violent attitude will mediate this effect. Therefore, the purpose of this

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paper is to examine the role of the school, via school attachment, in the development of violent attitude during across life.

Considering the relationship between violent attitude and the school context for later violence development is important because aggressive behavior can be learned and reinforced during development. Theories of cognitive social development provide evidence how violent behavior can be learned and reinforce through development.

In a second paper the role of teachers, classrooms and peers will be examined (B). We will use a sample of younger adolescents which are nested in different classroom and teachers. The idea is to examine the role of peers and teacher student relationship to explain becoming a victim of a perpetrator of bullying behavior. The classroom context will be captured by the Classroom Assessment Scoring System (CLASS), which captures the dimensions of emotional support, organization and instructional support. In addition, we will use the Illinois Bullying Scale that measures the roles of victim, perpetrator and fight for bullying behavior.

Finally, a last paper (C) tested the role of school support to ameliorate the negative consequences of school violence. We hypothesize that the school not also can prevent violent behavior, but also, can support students that play a role as victims. In other words, we examine the role of school support as a mediator o moderator of school violence.

Violent behavior represents a mental health problem for children and adolescents. The schools can contribute to understand this type of aggressive behavior, but most important, to mediate or moderate different predictors and their negative consequences. Thus, the schools can

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develop resilience processes and experiences for their students, which also can inform public

policy to guide prevention efforts by developing assets and resources for adolescents exposed to

risk and violence (Fergus & Zimmerman, 2005).

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CHAPTER 2

School Attachment and Violent Attitudes Preventing Future Violent Behavior Among Youth

Abstract

The present study examines the relationship between school attachment, violent attitudes, and violent behavior over time in a sample of urban adolescents from the Midwest. Social information theories evidence different underline cognitive mechanisms that guide violent behavior through life. Yet, few researchers have examined the influence of the school variables that contribute to those cognitive mechanisms to explain violent behavior later in life. Thus, I evaluate the influence of school attachment on violent attitudes and subsequent violent behavior. I used structural equation modeling to test my hypotheses. The final sample consisted of 579 participants and was 54.9% female and 81.3% African American. After controlling for gender and race, the results indicate that the relationship between school attachment and violent behavior over time is mediated through violent attitude. Using the school context as a learning environment to prevent future violent behavior is also discussed.

I study the associations among school attachment, violent attitudes and violent behavior over time examine the underlying mechanisms that explain violent behavior during young adulthood. In particular, I test the hypothesis that school attachment can influence violent behavior trough the development of violent attitudes in the school context over time. I examined the long term effect of one positive relationship or attachment to the school on this mediating mechanism. But, most important, I explore one individual mechanism such as violent attitude that could explain the effect of the school on children and youth life's.

Violent behavior

Violent behavior is a critical public health concern because of the negative consequences for both the injured youth and their social networks of friends and family (Krug, Mercy, Dahlberg, & Zwi, 2002). One of the expressions of violent behavior that requires attention is interpersonal violence among peers (Haegerich & Dahlberg, 2011). Youth violence occurs in higher rates among 15- to 24-year-olds than any other age group. According to data from the U.S. Centers for Disease Control and Prevention (CDC), homicide is a leading cause of death in the United States for adolescents. Homicides represent almost 16% of all deaths among this age group. Therefore, research on violent behavior among youth is a critical area of study.

Researchers have defined violent behavior in many different ways (Suris et al., 2004). Some scholars describe violent behavior as the expression of aggression by extreme physical harm resulting in injury or death (Anderson & Bushman, 2002; Bushman & Huesmann, 2010). This may include self-inflicted, interpersonal, collective, direct or indirect, hostile or instrumental, reactive, physical, psychological, or sexual aggression. No matter the specific definition, researchers suggest that aggressive behavior requires an underlying intent to harm another person or property (Berkowitz, 1993; Tolan, 2007). The present study uses the definition

of violence reported by the World Health Organization (WHO), in which violence is defined as an intended behavior to cause harm that results in a high likelihood of death or injury (Krug, Mercy, Dahlberg, & Zwi, 2002).

The negative consequences of violent behavior have been shown to result in various cognitive deficits, such as harm to cognitive processes and mechanisms, social information processing (Huesmann, 1988), and low levels of achievement in the short and long term. Huesmann, Eron, and Yarmel (1987) found that individuals exposed to violence exhibit lower performance on standardized tests of intellectual ability than youth with less exposure. They conducted a 22-year follow-up study, collecting data from 632 youth, measuring aggressiveness and intellectual functioning. They found that aggression during childhood predicted lower intellectual achievement as an adult. Other researchers have found an association between different forms of violence, such as bullying and sexual abuse, and lower grades. Strøm, Thoresen, Wentzel-Larsen, and Dyb (2013) conducted a cross-sectional study with 7,343 15- and 16-year-old students from 56 schools in Norway. They found a direct relationship between different forms of aggression and achievement. A multilevel analysis demonstrated that schools with higher levels of bullying on average have a decrease in student grades of 0.98 points.

Furthermore, violence in the school context can be a predictor for violent behavior in later life. Ttofi, Farrington, and Lösel (2012) conducted a systematic review of 28 longitudinal studies of school bullying's effects on students, as either victim or perpetrator, and later prediction of violence. They found that having been a victim or perpetrator of bullying contributed to later violent behavior, even when controlling for other childhood risk factors.

Experiences of violence in schools are also associated with internalizing and externalizing problem behaviors (Kim, Leventhal, Koh, Hubbard, & Boyce, 2006; Kim,

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Catalano, Haggerty, & Abbott, 2011). Arseneault and colleagues (2006) examined a national

sample of 2,232 children from the Environmental Risk Longitudinal Twin Study. They found

that bullying victims experience more internalizing problems compared to control children.

Farmer et al. (2013) studied 533 students during transition to middle school and found that

internalizing and externalizing behaviors were associated with bullying.

Several other researchers examining school context and forms of violent behavior in

various samples have consistently found that schools are a significant context in which youth

experience or perpetrate violent behavior (Furlong & Morrison, 2000; Benbenishty & Astor,

2005; Hong & Espelage, 2012). Moreover, violent behavior can be stable and continue during

young adulthood, affecting other social contexts, such as work environment, family, and intimate

partner relationships (O'Donnell et al., 2006). Bender and Lösel (2011) conducted a longitudinal

study with a sample of 63 males aged 15 to 25. They found that bullying was an early predictor

for later antisocial and violent behavior, after controlling for other contextual variables, such as

family risk. Although previous studies highlight the long term negatives effects of school

violence (Farrington & Ttofi, 2011; Renda, Vassallo, & Edwards, 2011), few researchers have

examined these long term negative consequences in more detail by considering protective

variables for the school, such as school attachment and cognitive mechanisms such as violent

attitudes.

Different theories have been developed to explain youth violence. For instance,

Huesmann and colleagues focused on scripts, beliefs, and observational learning processes

(Huesmann, 1988); Dodge and colleagues described their model by focusing mostly on the

function of perceptions and attributions (Crick & Dodge, 1994); Anderson and colleagues define

a model called the General Aggression Model, which posits cognition, affect, and arousal as

mediators of the effects of situational and personality factors related to aggression (Anderson & Bushman, 2002). A social learning theory perspective put forward by Bandura (1978) described how people acquire this behavior by observational learning and reinforcement. Underlying all these models are basic principles of human behavior that establish representations of cognition. In particular, behavior is explained by the configuration of cognitive structures and environmental input (Huessmann, 1998), which highlights the importance of individual processes such as attitudes or beliefs in the later development of violent behavior. Therefore, attitudes become an important individual mechanism for the study of violent behavior. Yet, few researchers have examined this variable by considering factors related to school experiences, such as school attachment, and examining the effects these relationships have on violent behavior over time and into young adulthood.

Violent attitude

Cognitive factors implicated in the development and maintenance of aggression are important risk predictors for violent behavior and aggression (Lösel & Farrington, 2012). A relevant cognitive schema for these models involves normative beliefs, or violent attitude, which are internalized cognitions about what is appropriate behavior for a person regarding aggressive behavior in the real word. Moreover, once these cognitions are crystallized, they produce stable aggressive tendencies over an individual's life span (Huesmann & Guerra, 1997; Anderson & Bushman, 2002; Bushman & Huesmann, 2010). Gellman and Delucia-Waack (2006) used a sample of 45 males (from 14 to 20 years old) defined as violent adolescents together with 45 other non-violent participants (from 12 to 19 years old) to examine different possible predictors for violence. Among the factors considered were exposure to violence, violent attitude, and Post-Traumatic Stress Disorder (PTSD) symptomatology. Although non-significant differences were

found for violent attitudes for both groups, violent attitude was a stronger predictor for the sample of violent males.

Other studies show similar patterns. McConville and Cornell (2003), using a sample of 403 middle school students, found that students with positive aggressive attitudes were more likely to report different violent behavior, such as hitting, pushing, bullying, and fighting. But, most importantly, these results stabilized seven months later. Gendron, Williams, and Guerra (2011) analyzed a sample of 7,299 5th to 11th grade students and found that normative beliefs, among other variables, predict violent behavior in the following year, after controlling for previous levels of violence. Moreover, victims of school violence can also develop positive attitudes toward the use of violence, which can increase risk and exposure to even more violent behavior (Brockenbrough, Cornell, & Loper, 2002). Therefore, violent attitudes are an important predictor of violent behavior, which highlights the importance of identifying variables that influence the negative effects that attitudes may have on adolescent violent behavior.

Other researchers have found attitudes to be a mediator of different predictors. For instance, Spaccarelli, Coatsworth, and Bowden (1995) describe how violent attitudes mediate the negative effect of violence in the family for predicting aggressive behavior. Guerra, Huesmann, and Spindler (2003) establish a mediated model between exposure to violence and later aggressive behavior and normative beliefs supporting aggression. In other words, normative beliefs mediated the relationship between exposure to violence in 4th and 5th grades and later aggressive behavior in 6th grade.

Variables related to a student's experience at school are useful because children spend a significant amount of time in school that can contribute to the development of aggression thereby increasing the likelihood of more violent behavior (Meyer-Adams & Conner, 2008). Violent

attitudes are a crucial lens for youth to process social cues and information to understand

appropriate behavior (Huesmann & Guerra, 1997). Students who are expose to a more violent

context, for example in the school, may be more likely to develop violent scripts and attitudes

that will guide their own choices to engage in violent behavior that can threaten positive social

interactions (Huesmann, 1988). Conversely, when the school context provides opportunities for

positive interactions among students they are more likely to develop a sense of belonging and

attachment to the school is increased (Smith & Sandhu, 2004). Positive school context

contributes also helps youth interpret their environmental social cues in a less violent way.

Moreover, positive climate in the school can prevent the development of negative attitudes,

especially violent related ones, among students (Dessel, 2010). Researchers have examined

different predictors for violent behavior, but few scholars have also considered how school

experiences relate to these variables to understand how violent attitudes may contribute to later

violent behavior. In particular, few researchers have considered how the effects of school

attachment on violent behavior may be mediated by violent attitudes.

School Attachment

Researchers have studied the influence of school attachment on violent behavior (Lösel &

Farrington, 2012). A negative attitude that an individual holds of his or her school, among other

variables, is associated with violent behavior (Henry, Knight, & Thornberry, 2012). Conversely,

a positive relationship with the school and school satisfaction are negatively associated with

violent behavior (Logan-Greene et al., 2011). The authors examined a sample of 849 youth at

risk of dropping out of school from 9th to 12th grades to explore the unique contributions of

different predictors on violent behavior. They found that a high level of prosocial engagement,

considering school satisfaction and belonging among other variables, was negative associated

with violent behavior. Although, these results provide evidence of the importance of those protective factors, mediation models that could be used to highlight other underlying mechanisms, especially over time, were not included.

The degree of school bonding, which can be considered a proxy of school attachment, reported by students is also related to violent behavior (Catalano & Hawkins, 1996; Catalano et al., 2004; Fleming et al., 2010). Using a sample of 6,397 adolescents from 125 schools, Brookmeyer, Fanti, and Henrich (2006) found that a better connection with the school and overall school climate can influence the development of violent behavior. Moreover, adolescents who perceive having a close relationship with their schools, and particularly with their teachers, are less likely to initiate different types of risk behaviors, including violent behavior (McNeely & Falci, 2004). In addition, the amount of school connectedness reported by students is associated with the incidence of violent behavior over time. Brookmeyer, Fanti, and Henrich examined a sample of 6,397 students from the National Longitudinal Study of Adolescent Health (Add Health) and found that youth that self-reported higher levels of school connectedness reported lower levels of violent behavior across time. Although they used multilevel methods to control for the nested effect of the school, other individual variables that might help explain this effect in the school context, such as violent attitudes, were not included. Moreover, researchers have found that school disengagement is related to higher levels of violent behavior during adolescence and early adulthood (Henry, Knight, & Thornberry, 2012). Based on a sample of 911 participants from the Rochester Youth Development Study, the researchers measured school disengagement based on standardized test scores, attendance, failing core courses, suspensions, and grade retention. Henry et al. (2012) found that early school disengagement was related to later violent behavior occurring after dropping out of high school. Though the results highlight

the importance of the school context and the ways in which youth engage with the institution, other underlying processes, such as violent attitudes among the participants, that could help explain the effect over time are not mentioned.

Positive relationships and attachment to school are also associated with lower levels of aggressive beliefs (Frey et al., 2009). Yet, longitudinal research that includes school attachment along with violent attitudes and behavior to understand direct and indirect effects is limited. Therefore, the aim of the present study is to evaluate the pathways that can predict violent behavior associated with previous violent attitudes and school attachment. Little research has considered these early-measured attitudinal variables together in order to explain later violent behavior, yet such an approach will be useful in that it will capture that effect over time, from adolescence to young adulthood. In addition, through the identification of early important factors that can contribute to interrupting maladaptive developmental pathways, our hypothesis highlights the importance of school attachment for future behavior and prevention initiatives at younger ages.

Thus, a longitudinal model of the effects of school attachment and violent attitude on violent behavior into young adulthood was tested. I hypothesized that school attachment in high school will have long term effects on violent behavior into early adulthood and that these effects will be mediated by violent attitudes formed during high school. In particular, I hypothesize that school attachment will have a direct effect on violent behavior at Waves 4 and 8 (paths d and e), but that effect will be mediated by violent attitude (paths a and b) as an indirect effect, after controlling for race and gender (Figure 1).

Methods

Sample

The present study is based on a longitudinal study of youth from high school age to adulthood, with 12 waves of data. Participants were recruited from four public high schools in a medium-sized urban city in the Midwest. Adolescents with a grade point average of 3.0 or lower in eighth grade, and without emotional or developmental impairments (as defined by the school), were recruited into the study. The data were collected from 850 adolescents. For the present study we only considered data from Waves 2, 3, 4, and 8. These waves represent the participants' sophomore, junior, and senior years in high school, as well as when they were 23.1 years old. The final sample included 579 participants, and it was made up of mostly African American participants (81.34%), 54.92% of whom were female. We obtained a 71.3% response rate from the original Wave 2 sample to Wave 8. Missing data were handled using the full information maximum likelihood (FIML) estimator in Mplus 6.0 (Byrne, 2012).

Data Collection

Participants were given structured face-to-face interviews annually from the ninth through the twelfth grades (Waves 1 to 4). Waves 5 to 8 were collected annually beginning two years after Wave 4 was completed. The interviews took place in the each participant's school or in a community setting, and each lasted 60 minutes on average.

Measures

Table 1 contains mean and standard deviations of the study variables.

Violent Behavior.

Violent behavior was measured using six items in Wave 4 and Wave 8. The scale captured the level of engagement of the participants in different types of aggressive behavior,

such as carrying guns or knives, getting involved in fights, and hurting someone badly. The responses from the participants ranged from 1 (0 times) to 5 (4 or more times). Higher scores indicated more violent behavior. The Cronbach α was .76 for Wave 4 and α =.73 for Wave 8.

Violent Attitudes.

Violent attitudes were measured with four items that captured different beliefs that justify the use of violence, such as "Fighting is the best way to solve problems" and "It is ok to fight to so others students don't think you are weak." The scale was measured with a four-point Likert scale from Strongly Disagree (1) to Strongly Agree (4). Higher scores indicated more agreement that violent behavior was justified. The Cronbach α was .75 (Wave 3).

School Attachment.

The school attachment contained seven items that measured how much the student likes school and his or her teachers and the level of commitment to the academic activities in the school, such as extra work and assignments. Example items include: "I do extra work on my own in class", "I like school", "I like my English teacher", and "Most mornings, I look forward to going to school"). The scale was measured with a four-point Likert scale from Strongly Disagree (1) to Strongly Agree (4). Higher scores indicated stronger school attachment. The Cronbach α was .76 (Wave 2).

Data Analytic Strategy

Structural equation modeling (SEM) analysis was conducted to test the plausibility of the hypothesized conceptual model in Figure 1 using Mplus 6.0. Mplus allows all regression equations in a mediation model to be estimated simultaneously. Figure 1 presents a completely saturated model (i.e., all possible structural paths included) that represents the relationship between school attachment and violent behavior over time. This model suggests that the relationship between school attachment and violent behavior is mediated by violent attitudes.

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The classic approach of Baron and Kenny (1986) point out that mediation requires the following conditions: (a) the predictor (school attachment) must have an effect in the hypothesized mediator (violent attitude – path a), (b) an effect of the mediator on the dependent variable (violent behavior – path b), (c) controlling for path a and b, the effect of the predictor (school attachment) on the dependent variable (violent behavior – paths d and e) is no longer significant, which account for a full mediation process. I calculate the mediated effect as an indirect effect as the product of two coefficients (a*b) evaluating it significant on the basis of 95% confidence interval bias-corrected using bootstrapping. Based on this method if the unstandardized direct and indirect effect does not include 0, it is considered a statistically significant effect (Hayes, 2009). In addition, the plausible models were assessed based on chi-square (χ^2), the relative fit measures of normed fit index (NFI) and comparative fit index (CFI), and the estimated root mean square error of approximation (RMSEA), and its 90% confidence interval. As a reference, RMSEA values close to .05 indicate good fit. CFI and NFI values larger than .95 reflect a good fit, as well (Kline, 2011).

Results

Descriptive and correlation analysis

The Little's MCAR test resulted in a chi-square = 311.83 (df=294; p<.227), providing evidence that missing data is at random. Moreover, the percentage of missing values in the study variables represents less than 5%. Table 1 describes the means and standard deviations for each measure of the study variables. Although full information maximum likelihood (FIML) estimator was used to handle missing data, multiple imputation was also conducted using Markov Chain Monte Carlo (MCMC) Method with SPSS 22. Similar results were found regardless the method, therefore FIML estimator results are reported below.

Attrition analysis

From the original sample of the study (850), 38 adolescents (4.5%) did not participate at wave 2 (24 male and 14 female) and leaving the study was not associated with gender (χ^2 (1) = 2.8, ns). In the following year, 67 youth did not participate (7.9%) and more males than females (45 males, 22 females) left the study (χ^2 (1) = 8.6, p = .003). By the end of High School (wave 4), a total of 80 students did not participate (9.4%) and males (n=54) were more likely than females (n=26) to leave the study (χ^2 (1) = 10.8, p = .001). In the final wave of the study (wave 8), 271 young adults did not participate (31.9%), and males (n=164) were again more likely than females (n=107) to be in the attrition group ($\chi2$ (1) = 16.6, p = .000). In addition, no differences were found between who did not participate between wave 2 and wave 8 in the main study variables.

Measurement model

The measurement model describes the factor loading coefficients for the latent constructs in the model. Table 2 contains the standardized regression coefficient for the measurement model. All factor loadings are significant and in the expected direction.

Structural model

Results of the final structural model analysis with sex, race and violent behavior at wave 2 controlled for, and violent attitude (wave 2) and violent behavior (wave 2) on school attachment, provided acceptable fit to the data [χ^2 (303, N =562) =652.21, $p < 0.01$, and with TLI = 0.895, CFI = 0.908, RMSEA = 0.045, within 90% confidence interval] and are depicted in Figure 2 and Table 3. Violent attitudes fully mediated the relationship between school attachment and violent behavior at wave 4 (β = -.13, p = .002; 95% biased-corrected CI for indirect effects: -.45, -.12), and at wave 8 (β = -0.2, p =.038, 95% biased-corrected CI for indirect effects: -.15, -.02).

Discussion

My findings provide evidence that school attachment and violent attitudes during high school are associated with subsequent violent behavior as young adults. Moreover, violent attitudes mediate the effect of school attachment on violent behavior, which reinforces the importance of school variables for preventing violent behavior in the future. This study adds to the literature by providing more specific links among school variables for adolescent well-being that go beyond academic performance in school. The unique influence of the school setting on violent behavior (McEvoy & Welker, 2000; Birnbaum et al., 2003; Agnew, 2009) highlights the role that school attachment may play for preventing violent behavior.

The results of my study support a social cognitive process as evidenced by the direct effect of violent attitudes on violent behavior. This finding is consistent with previous studies (Ali, Swahn, & Sterling, 2011; Gudjonsson, Sigurdsson, Skaptadottir, & Helgadottir, 2011). A social cognitive approach defines violent attitudes as self-regulating beliefs, assimilated by observation, that guide various types of behavior, and these beliefs are highly correlated with aggressive behavior (Huesmann & Guerra, 1997). The results of the study confirm the long-term effect between attitudes and later violent behavior that has been supported by previous studies (McConville & Cornell, 2003; Gendron, Williams, & Guerra, 2011). Yet, this work also builds on our current knowledge by including the role of school attachment as a previous step in the development of violent attitudes and violent behavior. Moreover, we did not examine possible gender differences. Although researchers have documented gender differences for aggressive behavior (Crick & Dodge, 1994), the mechanisms for the development of aggressive beliefs are similar for males and females (Werner & Nixon, 2005). In addition, we have no reason to think that a more positive relationship with the school would have differential effects for males versus

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females. For instance, students that report higher levels of school attachment are associated with lower aggressive beliefs for both males and females (Frey et al., 2009).

School attachment is defined by the level of involvement and general positive attitudes of students toward their school (O'Farrell & Morrison, 2003; Libbey, 2004; Hill & Werner, 2006). Measuring school attachment captures students' levels of engagement and participation in academic and social activities, which can lead to better school adjustment and achievement by providing children the opportunity to establish significant relationships (Atwool, 1999; Marcus & Sanders-Reio, 2001; Somers & Gizzi, 2001). Researchers have found a positive relationship between school attachment and achievement (Bergin & Bergin, 2009; Bryan et al., 2012), but my results suggest that low levels of school attachment can also play a role in adolescent problem behavior including violence. Based on social control theory that describes how attachment increases when students are rewarded for positive involvement in school (Hirsi, 1969), my findings highlight the importance of school attachment for risk behaviors over time (Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001).

The positive relationship that researchers have reported and I also found between students and their schools (Catalano & Hawkins, 1996; Catalano et al., 2004; Fleming et al., 2010; Logan-Greene et al., 2011; Lösel & Farrington, 2012; Henry et al., 2012) highlights the importance of school personnel for improving student connections with the school and their peers. Prevention and intervention programs, therefore, could focus on these variables in order to prevent violent behavior and improve healthy development. This study adds to our understanding of the role schools may play for preventing violent behavior by confirming the importance of school attachment and highlighting the link between school attachment and violent attitude as an important mediating mechanism. Our findings support the hypothesis that the effect of school

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attachment is meditated by violent attitudes, showing that the ways in which students feel connected to their schools can contribute to explaining subsequent violent behavior through the development of violent attitudes.

This study also adds to the literature by including school variables to explain violent behavior into early adulthood after school is completed. This is particularly important considering that aggressive beliefs increase over time, which highlights the importance of prevention at earlier ages (Guerra, Huesmann, & Spindler, 2003). Researchers have found that violent attitudes mediate the effects of other variables, such as community violence, family violence, and violent media and video games, on violent behavior (Guerra, Huesmann, & Spindler, 2003; Spaccarelli, Coatsworth, & Bowden, 1995; Anderson, Bushman, & Anderson, 2001; Anderson et al., 2003). Variables from the school context, however, have not previously been considered when analyzing the effects of violent attitudes on behavior.

We found that the effects of violent attitudes on violent behavior are manifested by the end of high school, but are also found to be stable four years later during early adulthood. These results suggest that the consequences of what happens during adolescence in school can persist over time. As an example, reviews of prospective longitudinal studies identify academic success as protecting youth from the negative effects of being a perpetrator of bullying behavior on later externalization of problem behaviors (Ttofi, Bowes, Farrington, & Lösel, 2014). My study contributes to this literature by providing evidence that school context can be a vital setting that helps to set the stage for behavioral outcomes well past the school-aged years (Ttofi & Farrington, 2012).

Some limitations of the present study must be considered to better contextualize the results. First, although this is a longitudinal study that measures violent behavior through

adolescence and into young adulthood, childhood data were not collected. This is important because the roots of violent behavior could be formed very early in life (Tremblay et al., 1992; Tremblay et al., 2004). Yet, the present study does include a developmental framework and adds to our understanding of the development of violent behavior over time and into young adulthood. Future research that explores how factors in childhood may affect both school attachment and violent attitudes may provide useful insights for the primary prevention of violent behavior in adolescence and beyond. Another limitation is that I did not study different forms of violent behaviors. Although I focused on common elements of violence such as hitting someone and hurting people physically, future research that examines pathways for different types of violent behavior may help to determine if school attachment has similar effects for various forms of violent behavior. A third limitation is that the study focused on a relatively narrow urban sample. Thus, the result may not generalize to all youth. Nevertheless, the results may be particularly relevant for youth living in a high violent context such as Flint. Finally, our measure of school factors was limited to school attachment. Although researchers have not examined this factor in relation to violent attitudes and behavior, other variables from the school context could be included in future research. My results suggest that a useful direction for future research would be to include measures of school climate and school satisfaction.

These limitations notwithstanding, this study contributes to our understanding of violent behavior and builds on our knowledge of adolescent violence in several ways. First, it highlights the importance of school attachment for preventing violence behavior over time. Second, the effect of school attachment on violent behavior can be explained by the development of violent behavior during high school. Third, the finding that the effect of school attachment and violent attitudes appears to remain stable during early adulthood. Finally, the school setting can become

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an important context for the prevention of violent behavior, in that school personnel can develop positive ways to solve problems and prevent the development of attitudes that lead to violent behavior. Thus, the study supports the notion that interventions designed to promote school importance and enhance school experiences may help reduce both adolescent and young adult violent behavior by eliminating attitudes that support violence as a problem-solving strategy.

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Table 1 Descriptive and Correlations Among Latent Factors

Correlation Matrix	Violent Behavior (w8)	Violent Behavior (w4)	Violent Attitude (w3)	School Attachment (w2)
Violent Behavior (w8)	1.00			
Violent Behavior (w4)	0.31**	1.00		
Violent Attitude (w3)	0.24**	0.31**	1.00	
School Attachment (w2)	-0.05	-0.16**	-0.25**	1.00
Mean	1.23	1.33	1.47	2.84
(SD)	.51	.60	.62	.62
N	579	555	555	559
A	.73	.76	.78	.78

Note. **p < .01

Table 2 Standardized regression coefficients for measurement model

	Predictor	Estimate*
Agree work until finished	<---	0.42
Agree extra work on my own	<---	0.40
Agree like English teacher	<---	0.34
Agree like other teachers	<--- School Attachment (w2)	0.52
Agree like school	<---	0.69
Agree look forward to school	<---	0.55
Agree like my classes this year	<---	0.67
Agree fight best way to solve prob	<---	0.76
Agree hit someone who makes fun	<---	0.72
Agree fight so others don't think weak	<--- Violent Attitude (w3)	0.61
Agree okay to fight	<---	0.80
Fight in group vs group	<---	0.74
Hurt someone badly	<---	0.68
Used a knife or gun	<---	0.49
Carried knife or razor	<--- Violent Behavior (w4)	0.39
Carried a gun	<---	0.65
Fight outside of school	<---	0.77
Fight in group vs group	<---	0.58
Hurt someone badly	<---	0.65
Used a knife or gun	<---	0.62
Carried knife or razor	<--- Violent Behavior (w8)	0.35
Carried a gun	<---	0.66
Fight outside of school	<---	0.70

Note. *p < .01

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Table 3 Results from Mediation Model examining School Attachment, Violent Attitude, and Violent Behavior

Outcome	R^2	Predictor	Unstandardized [95% CI]	Direct Effect	Indirect Effect [95% CI]	Total Effect
Violent Attitude	.14	School Attachment	-.54 [-1.00, -.37]	-.38		
Violent Behavior (wave 4)	.17	School Attachment	-.11 [-.56, .04]	-.12	-.13 [-.45, -.12]	-.25
		Violent Attitude	.42 [.21, .59]	.35		
Violent Behavior (wave 8)	.18	School Attachment	.05 [-.07, .20]	.05		
		Violent Attitude	.11 [.04, .20]	.18	-.02 [-.15, -.02]	.03
		Violent Behavior (wave 4)	.01 [.00, .24]	.18		

Note. If the 95% confidence interval of the standardized specific direct and indirect effect did not include 0, we can conclude a significant indirect effect (Hayes, 2009).

Figure 1 Theoretical model
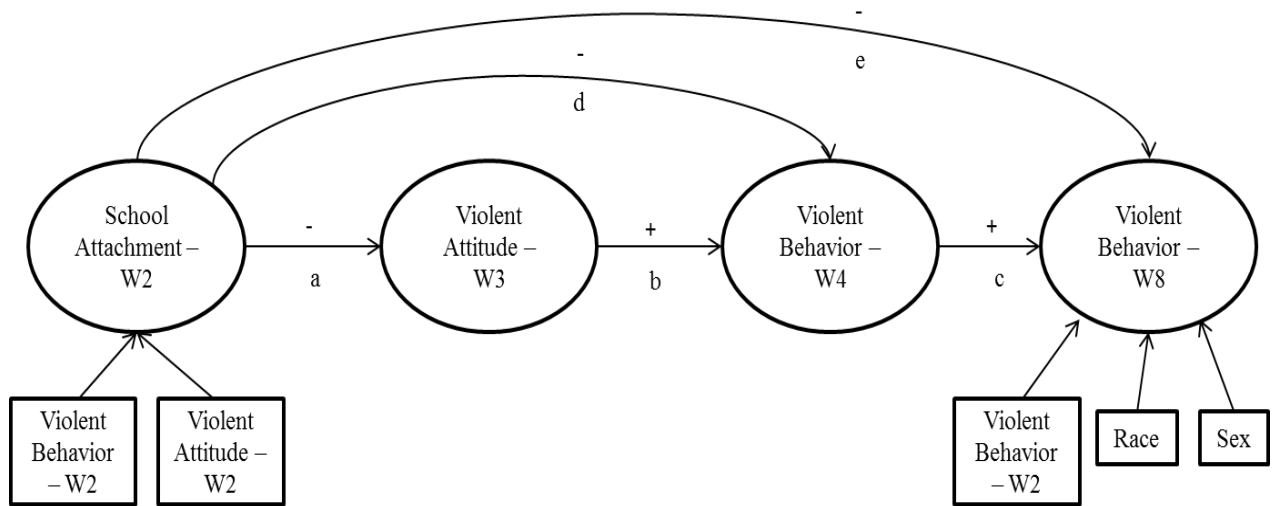
Figure 1. Mediation model between school attachment and violent behavior mediated by violent attitudes.

Figure 2 Structural model standardized coefficients
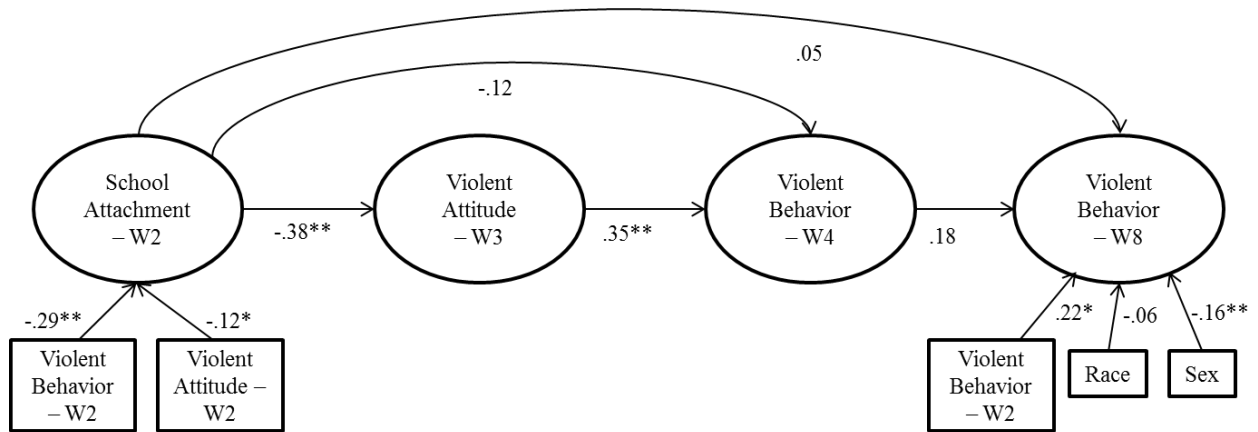
Figure 2. Result mediation model between school attachment and violent behavior mediated by violent attitudes. Standardized regression coefficients are depicted. **p<.01, *p<.05.

CHAPTER 3

Bullying, Victimization and Emotional Engagement during Early Adolescence: Teacher-Student Relatedness Matters

Abstract

The school experience of early adolescence, marked by peer and teacher relationships, can bring about both positive and negative experiences, such as emotional engagement and bullying behavior. Although previous researchers have examined the importance of peer influence on bullying behavior, few researchers have testing the role of teacher-student relatedness as a promotive factor for early aggression and peer rejection during school transition. For the current study, a sample of 264 ethnically diverse students, 52% of whom were female was studied. Data were collected over 3 years, from 5th grade to 7th grade, from a small urban city in the Midwest. Structural equation modeling results provide evidence that peer rejection and aggression experiences in elementary school predicted becoming a victim or a bully, in 7th grade. In addition, bullying behavior is associated with emotional engagement. Most importantly, teacher-student relatedness during the transition process protected youth against the negative effects of peer rejection and becoming a victim of bullying in 7th grade. These results highlight the importance of the role of teachers as a significant proximal context for positive youth development.

Early adolescence has been described as a unique stage of development for youth that is especially marked by puberty (Smetana, Campione-Barr, & Metzger, 2006). During this developmental period different changes occur at the individual and contextual levels (Eccles et al., 1993). At the individual level, youth will start to experiment with different roles in society and develop their own identities. At the contextual level, they will move on to new school environments with more complex and challenging academic tasks. In this context, researchers have suggested that early adolescence triggers a downward spiral for some youth that ends with negative consequences (Eccles, Lord, & Midgley, 1991). Transition from elementary school to middle school is a critical life event that represents declines of school engagement and motivation for youth that can be explained by their new school settings and new relationships with teachers and peers (Wigfield & Eccles, 1994). The current review start by describing studies about the importance of peer and teacher relationships for student's adjustment, especially during early adolescence and school transition. Next, *aggression* and *bullying* behavior are described highlighting its nature and negative consequences for students in the school setting. In addition, peer relationships are described in a more general sense, point it out *peer rejection* as a potential risk factor for children. Furthermore, the importance of the relationship and *relatedness* with teacher is described arguing the lack of studies that assess their influence on peer relationships as a protective factor. Finally, the importance of *emotional engagement* for early adolescence is described with a focus on adjustment in school, especially after school transition.

Martínez, Aricak, Graves, Peters-Myszak, and Nellis (2011), for example, found that perceptions of social and teacher support declined after this transition. Bellmore (2011), in a longitudinal study of 901 children from 4th grade through 8th grade, found that peer rejection was associated with lower GPAs during this transitional period. Moreover, the school life of

adolescents will be influenced by relationships with their peers and teachers, which can explain levels of engagement in the school (Roeser, Eccles, & Sameroff, 2000). Newman, Erdley, and Marshall (2011) followed a sample of 365 students from 5th to 6th grade and found that positive peer relationships, such as friendships, play an important role for later positive adjustment in school after transition from elementary school. Positive relationships with teachers can also help youth during school transitional periods. Reddy, Rhodes, and Mulhall (2003) examined the role of teachers' support in explaining adjustment for adolescents moving to middle school. They followed a sample of 2,585 students from 6th grade to 8th grade and found that the perception of teacher support explained subsequent positive psychological adjustment of students. Even though teachers and peers can support student transition during this stage of development, negative relationship with peers such as aggression, peer rejection, and bullying behavior can increase risk for school adjustment.

Aggression and *bullying* behaviors are vital concerns during middle school, influenced by different proximal contexts such as family, peers, and school (Espelage, Bosworth, & Simon, 2000). Aggression and bullying researchers report evidence of the importance of the peer group in the school setting to explain these behaviors. As an example, the homophily (within group) hypothesis explains the mechanism through which individuals with similar behavior tend to group together and influence each other's conduct (Espelage & Holt, 2001). Espelage, Holt, and Henkel (2003) examined a sample of 384 middle school students from the Midwest region of the U.S. using a longitudinal design. They found that the within group hypothesis applies to bullying and fighting behavior during early adolescence such that youth tend to affiliate with others that bully and fight with similar frequency.

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Aggression is defined as a form of behavior in which the perpetrator intends to harm someone else, either physically, psychologically, or in other possible ways (Berkowitz, 1993). Aggression has been studied in children at earlier stages of development, and the research has considered different behaviors (Pepler et al., 2006) and contexts, such as the classroom and playgrounds (Craig et al., 2000). Although evidence suggests that aggressive behavior decreases as children develop (Nagin & Tremblay, 1999; Bongers, Koot, Ende, & Verhulst, 2011), it can still remain a problem in later stages of development, especially during later school years and early adolescence. Aggression can also be influenced by different individual and contextual variables. Examples of individual variables are genetics (Hart & Marmorstein, 2009; Pavlov, Chistiakov, & Chekhonin, 2012) and temperament (Szewczyk-Sokolowski, Bost, & Wainwright, 2005), and examples of contextual variables are relationships with teachers and peers (Rodkin & Hodges, 2003; Salmivalli, 2010), particularly friendships (Adams, Bukowski, & Bagwell, 2005; Bukowski, Motzoi, & Meyer, 2009). Aggression during childhood and adolescence is an important concern due to its correlation with later adjustment problems (Buhs, Ladd, & Herald, 2006). Card, Stucky, Sawalani, and Little (2008), for example, conducted a meta-analytic review of 148 studies examining the relationship between direct and indirect forms of aggression and adjustment. They found that direct aggression is linked to externalizing problem behaviors, such as outward displays of negative peer relationships. Conversely, indirect aggression was more associated with the internalization of problem behaviors.

Aggressive behavior can be stable across time and have negative consequences in later life. In particular, children with high stable trajectories of aggression usually show more problems with later adjustment (Tremblay et al., 2004). Campbell and colleagues (2006) examined a longitudinal sample of 1,195 children aged 9 to 12 for different aggression patterns

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and levels across time. They found that stable aggression was associated later with higher levels of externalizing and internalizing behavior and poorer social skills. Conversely, moderate earlier aggression that decreases over time was related to better adjustment later at 12 years old. Although previous research has considered aggression as a factor for children's adjustment and development, few researchers have combined this construct with other variables of adjustment during school transition and later school engagement. This type of approach is important because it can capture the effect of peer relationships during elementary school and on through transition to middle school and later adjustment.

One specific type of aggressive behavior is *bullying* (Roland & Idsøe, 2001; Rigby, 2004). Bullying behavior is a systematic and repetitive aggression against the same individual or group (victim). This repetitive act of aggression is spread over time and involves the same students, which differentiates it from a simple act of aggression, such as a fight. This repetitive behavior can occur over a short or long period of time (Olweus, 1978, 1994; Sullivan, 2011). Researchers have recognized different roles involved in bullying dynamics, such as acting as a bully, being a victim, or being a bully-victim (Veenstra et al., 2005; Solberg, Olweus, & Endresen, 2007). Bullies are more likely to engage in proactive aggression or aggressiveness in general compared with victims (Camodeca & Goossens, 2005; Farrington & Baldry, 2010), whereas victims are more likely to report rejection and exclusion than bullies (Buhs, 2005). For instance, early peer rejection has been associated with peer maltreatment and adverse school adjustment results in elementary school (Buhs & Ladd, 2001; Buhs, Ladd, & Herald, 2006). Finally, the bully-victims report less favorable psychological function and adjustment measures that either being bullies or victims alone (Haynie et al., 2001). Furthermore, previous researchers have found that students involved in bullying behavior are less attached to their school

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(Cunningham, 2007) and present lower levels of psychosocial adjustment, such as lower reported levels of life satisfaction and depressive symptoms (Estévez, Murgui, & Musitu, 2009), less psychological distress (Holt & Espelage, 2007), and more emotional and behavioral problems compared to victims not involved in bullying (Leiner et al., 2014).

In the U.S. the prevalence of bullying behavior, despite all the efforts invested in prevention, is still a matter of concern because of the higher rates compared to other developed countries. The Health Behavior in School-age Children study conducted in Europe and North America in 2009-10, with a sample of 581,838 student age 11 to 15 years old from 33 different countries, showed a prevalence of 11.3% for boys and 10.7% for girls in the U.S, 9% for boys and 9.9% for girls in England, 7.5% for boys and 4.3% for girls in Spain, to name a few (Chester et al., 2015). Modecki, Minchin, Harbaugh, Guerra, and Runions (2014) reviewed 80 studies examining the prevalence of bullying across countries. They found mean prevalence rates of 35% for traditional bullying. Previous studies in the U.S. showed similar rates of involvement as a victim, perpetrator, or both, with higher rates for 6th through 8th graders compared to 9th and 10th grade students (Nansel et al., 2001). Bullying behavior peaks during early adolescence and decreases in the following years. Pepler and colleagues (2006), for example, examined a sample of 1,896 adolescents from 6th to 12th grades. The results indicate that reports of bullying were higher in high school compared to the younger grades (elementary), with a peak level during 9th grade, which corresponds to the transition to high school. Therefore, bullying dynamics may need to consider school transition for a more complete examination of the role of peer relationships and school adjustment and their effects on early adolescents. Researchers have studied various individual and contextual risk factors for bullying behavior (Espelage, 2014), but few have studied factors that help youth overcome the effects of risk exposure such as emotional

engagement in school, and the positive interactions between different microsystems in the school context. Everyday experiences in school are important considerations in order to assess peer dynamics and the relationships that students have with teachers and adults that can help protect them from bullying behavior and victimization.

Aggression and bullying are two types of aggressive behaviors during early adolescence that occur mostly in the school context. Yet, it is important to consider these behaviors in a broader social context in which relationships with peers and teachers are important. During early adolescence the role of peers is particularly important for youth development, as they are exploring different roles and identities. Social support from peers becomes more relevant during this time, while parental support decreases in importance as youth transition into middle to late adolescence. Benefits from peer relationships have been studied by examining the effects of friendships during early adolescence. For instance, in a study of 162 5th grade students, Rubin and colleagues (2004) found that the perception of friendship quality was positively correlated with internalizing problems, self-esteem, and perceived social competence. Moreover, they found a negative relationship between friendship and rates of rejection and victimization, but only for girls. Conversely, *peer rejection* can become a potential threat for youth mental health, especially during this stage of development where peer relationships are crucial for youth. Hall-Lande, Eisenberg, Christenson, and Neumark-Sztainer (2007) studied the role of different protective school factors that moderated the relationship between social isolation and mental health outcomes in a sample of 4,746 adolescents from grades 7-12. In particular, they found that school connectedness was a protective factor mediating that relationship. Yet, mediational statistical analyses were not reported and, in addition, the relationships were not assessed across time to capture changes.

Aggression, bullying behavior, and rejection from peers can be stable across time and lead to more extreme acts of violence (Farrington, 1995). In the school context generally, and the classroom in particular, these behaviors occur every day. Though membership in classrooms is not necessarily chosen by students, they may have to cope with peer aggression or rejection (Slamivalli, 2010). Therefore, what happens in schools and classrooms on a daily basis is important for understanding aggressive behavior and victimization. This also highlights the role that teachers can play, because it is possible to recognize differences among classrooms based on the levels of victimization (Salmivalli, 2010). Kärnä and colleagues (2011) found classroom variations to be higher compared to school variations when they assessed the effectiveness of the bullying prevention program Kiva. Thus, although differences across schools may explain some variation in bullying victimization at the individual level, the variation across classrooms is even more important for explaining individual variation.

Although *teachers* do not belong to the peer ecology, they can influence student dynamics and behaviors in the classroom (Rodkin & Ryan, 2011). Teachers can have an unspoken or unrecognized role in determining students' peer experiences, especially those involving bullying victimization (Farmer, McAuliffe, & Hamm, 2011). Teacher practices in the classroom can help explain the motivation, behavior, and academic performance of the students (Wentzel, 2002); most importantly, however, they can also contribute to explaining levels of aggression and bullying in the classroom (Craig, Henderson, & Murphy, 2000). For example, Boulton (1997), in a sample of 138 school teachers from different school levels, found differences in the behaviors that were recognized by teachers as bullying behavior. In particular, all teachers considered physical assault, verbal threats, and forcing others to do things as bullying behavior. Conversely, name calling and spreading rumors were not identified as bullying by all

teacher respondents. Therefore, teachers' definitions of bullying can influence how they might

address different behaviors in the classroom, which can thereby have an impact on the culture of

that particular classroom. This finding is important because it can have a direct relationship with

norm setting in the classroom and the quality of the relationships among the students.

Another way for to teachers to influence student dynamics is through the development of

a *sense of relatedness* between teachers and students, which contributes to later positive levels of

engagement (Furrer & Skinner, 2003). This is a critical factor because teachers can become

important role models for behavior. The sense of relatedness that students feel with their teachers

can be framed using the self-determination theory (SDT). SDT defines people as active, growth-

oriented, and proactive organisms that internalize external regulations from the environment,

such as norms and values that meet their basic needs and result in more constructive engagement.

Researchers have identified two types of internalization mechanisms – *introjection* and

integration. The introjection process refers to a partial internalization that can influence a

regulatory process but that is not necessarily assumed and incorporated. Integration denotes a

complete and optimal internalization process, assimilated by the individual, that will become a

self-determined behavior (Deci, Eghrari, Patrick, & Leone, 1994; Deci & Ryan, 2002). Within

the SDT three fundamental psychological needs can be recognized, namely the need for

relatedness, competence, and autonomy. Relatedness in particular has been defined as a need to

connect with other people such as family, peers, and teachers (Skinner & Pitzer, 2012).

Applying self-determination theory, Roth, Kanat-Maymon, and Bibi (2011) examined

the effect of autonomy teaching support and the process of internalization of prosocial values

toward classmates with respect to bullying behavior in a sample of 725 high school students in

Israel. They found that students who have internal regulation toward others were less likely to

engage in bullying behavior than those without such internal regulation. Although these results provide evidence to support the importance of internalizing norms against bullying behavior and (prosocial) values, the study did not consider other important school variables, such as classroom engagement. Moreover, less is known about the role that teachers may play in defining a general structure in the classroom and the sense of relatedness with students that can contribute to preventing or ameliorating aggressive and bullying behaviors. This role is particularly critical because it has a direct relationship with students' engagement and achievement in school.

Emotional Engagement in School

Emotional engagement in school includes both a behavioral and emotional component. Children who are emotionally engaged are more likely to become involved in school activities than less engaged youth (Skinner & Belmont, 1993; Fredricks, Blumenfeld, & Paris, 2004*).* Emotional engagement also has a direct influence on student achievement (Skinner, Kindermann, & Furrer, 2009). In a sample of 1,014 children from 5th grade, Dotterer and Lowe (2011) found that levels of student engagement mediated the effects of the classroom context on academic achievement. In particular, they measured different features of the classroom such as instructional quality, climate, and teacher-student conflicts to examine the effects on achievement. The results provide evidence of the importance of engagement for student achievement. Conversely, school disengagement is associated with negative outcomes such as dropping out of school and risk behaviors in general. For example, Henry, Knight, and Thornberry (2012) found in the Rochester Youth Development Study (RYDS) that included 911 student records beginning in the 8th and 9th grades that school disengagement was associated with high school dropout rate and later violent behavior.

Emotional engagement generally undergoes changes during adolescence, which in turn affects school adjustment. In particular, educational researchers have found a decrease in levels of engagement throughout adolescence, which helps to explain lower levels of achievement when compared to previous school years (Roeser, Eccles, & Sameroff, 1998). Moreover, different experiences of victimization can also influence school adjustment during early adolescence. Juvonen, Nishina, and Graham (2000) investigated the links between peer harassment, adjustment in school, and achievement during middle school in a sample of 244 participants. They found that the self-report of victims as to the effect of school adjustment was mediated by psychological adjustments such as loneliness, depression, and self-worth in the following year. These results highlight the connection that adjustment in school has with peer victimization, and longitudinal data would be useful for the exploration of a more causal relationship between those variables.

Adjustment in school, especially during the transition from one school to another, is an important concern for researchers in that identifying protective factors present during development could support the adjustment process. Therefore, the purpose of this study is to examine the role that a student's sense of relatedness with teachers plays in the development of early aggression, social rejection, and later bullying victimization and emotional engagement after transition to middle school. Few researchers have examined these variables together during early adolescence. Moreover, early identification of risk can inform prevention and special support for children and early adolescents. This may be particularly important during transition to middle school.

The theoretical model depicted in Figure 3 summarizes the conceptual model guiding this study. Early adolescents perceived by their teachers as more excluded by peers and more

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aggressive (wave 1) are expected to report more victimization and bullying behavior in middle school (wave 2) (paths a and b), respectively. In addition, involvement in bullying behavior, as either a victim or a bully, is hypothesized to associated with less emotional engagement with school (wave 3) (paths c and d). A negative association between both victimization experiences and levels of emotional engagement in the school is also expected. Moreover, I hypothesize that positive teacher-student relatedness will moderate the negative effects of peer exclusion and aggressive behavior in elementary school (wave 1) their bullying behavior in middle school (paths e, f, g, and h).

Methods

Sample

Data for the present project is draw from a larger project from a small urban city in the Midwest region of the U.S. Data used in this study were collected from one school district, 6 elementary schools and 3 middle schools. The demographics and academic achievement of the schools are comparable. Participants started the longitudinal project when they were in 5th grade classrooms at elementary schools serving students from kindergarten through 5th grade. Six waves of data were collected from 5th grade until 7th grade. For the current study, data from three waves collected in the fall of three consecutive years were used (wave 1, wave 2 and wave3).

A subsample of 264 students from 5th grade was followed during transition to middle school, assessing student and teacher perceptions. The final sample for this study was made up of 208 youth, and of these, 52% were female, 51.4% European American, 30.4% African American, 8.8% Asian American, and 3.4% Hispanic.

Data Collection.

        To participate in the study, letters describing the project were sent to students homes asking for parental consent to participate. Overall, 84% of students returned letters giving them parental permission. The surveys were administered to students in their classrooms in the fall and spring, approximately six months apart, for three consecutive years. The schools were visited on one additional day to administer make-ups to students who were absent for the initial survey administration. During the application of the instrument, students were told that the purpose of the survey was to find out about students' beliefs and behaviors and that the survey was not a test with right or wrong answers. In addition, students were assured that the information in the survey would be kept confidential, and that filling out the survey was voluntary. For the present study, information was gathered using waves 1, 2, and 3 (corresponding to the fall application of each school year). The survey instructions and items were read aloud while students read along and responded.

Measures

Emotional Engagement.

        We used an established self-reported measure of student emotional engagement to assess the dependent variable of the study (Skinner, Kindermann, & Furrer, 2009). The measure has a five-item Likert scale that assessed the perception of the students of how they engage in their classes and learn while at school (i.e., *My classes are fun; When I am in class, I feel good*). The responses from the participants range from 1 (not at all true of me) to 5(very true of me). Higher scores indicate more emotional engagement in school. The Cronbach Alpha was .75 at wave 3. The validity of this measure has been demonstrated in research showing that students who rate

themselves high on engagement are more likely to be identified by their teacher as engaged (Skinner et al., 2009).

Bullying.

Bullying behavior measurement was based on the Illinois Bully Scale (IBS) (Espelage & Holt, 2001). The Bully subscale assesses a student's self-report of engaging in aggressive behaviors toward others in school, including teasing, spreading rumors, and excluding other students. This measure was captured with a seven-item Likert scale and considered aggressive behaviors during the last 30 days in school. The responses range from 1 (never) to 5 (7 or more times). Example items include *I upset other students for the fun of it* and *I fought other students I could easily beat*. Higher scores indicate more aggressive behavior. The Cronbach Alpha was .86 at wave 3.

Victimization.

The other measure of aggressive behavior was whether a respondent reported being a victim of bullying based on the IBS Victim subscale (Espelage & Holt, 2001). Like the Bully subscale, this measure uses a Likert scale with three items to capture the self-report of students that have been victims of aggressive behavior in the school during the last 30 days. Example items include *I got hit and pushed by other students* and *Other students picked on me.* The responses range from 1 (never) to 5 (7 or more times). Higher scores indicate more victim behavior reported. The Cronbach Alpha was .85 at wave 3.

Teacher-Student Relatedness.

To assess teacher-student relatedness was measured with an eight-item Likert scale of relatedness using student self-report in wave 2 (Skinner & Belmont, 1993; Skinner, Furrer, Marchand & Kindermann, 2008). The scale assesses student perception about their relationships with teachers, highlighting how close, reliable, and important they are. Example items include

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My teacher really cares about me, My teacher spends time with me, and *I can depend on my teacher for important things.* The responses from the participants range from 1 (not at all true of me) to 5 (very true of me). Higher scores indicate more positive teacher-student relationships. The Cronbach Alpha was .81 at wave 2.

Aggression.

Overt aggressive behavior was assessed with the aggression subscale of the Interpersonal Competence Scale (Cairns, Leung, Gest & Cairns, 1995). Teachers were asked to rate students on aggressive behavior in class, considering as aggression getting into trouble, being involving in fights, and arguing with other students. The measure was a three-item Likert scale, with responses ranging from 1 (never) to 5 (always). Higher rates indicate more aggressive behavior reported by the teacher. The Cronbach Alpha was .86 at wave 1.

Peer exclusion.

Peer exclusion was assessed using the Interpersonal Competence Scale (Cairns, Leung, Gest & Cairns, 1995). Teachers rated the levels of exclusion of each student by peers. They assessed how often the student was left out by others in group situations. This measure consists of a two-item Likert scale, with responses ranging from 1 (never) to 5 (always). Higher rates indicate more levels of isolation. The correlation among the items in wave 1 was .95.

Data Analytic Strategy

Structural equation modeling (SEM) analysis was conducted to test the conceptual model using Mplus 6. The model was assessed based on the measurement and structural components. Measurement model assess the direction and magnitude of the loading factors for each latent factor. The structural part of the model was assessed using chi-square (χ^2), the relative fit measures of the normed fit index (NFI) and comparative fit index (CFI), and the estimated root mean square error of approximation (RMSEA) and its 90% confidence interval (Kline, 2011).

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Moderation analysis was conducted by creating an interaction term with the two predictors which were standardized to avoid multicollinearity. The interaction term was included in the model for each moderation analysis. Missing data were handled using the full information maximum likelihood (FIML) estimator in Mplus 6.0 (Byrne, 2012).

Results

Descriptive and correlation analysis

Table 4 shows the scales of the study, along with their descriptive statistics and correlations. Although full information maximum likelihood (FIML) estimator was used to handle missing data, multiple imputation was also conducted using Markov Chain Monte Carlo (MCMC) Method with SPSS 22. Similar results were found regardless the method, therefore FIML estimator results are reported below.

Measurement model

The measurement model is described in table 5. All items loaded significantly on the latent factor of the model in the expected direction, which provides evidence of appropriate psychometric aspects of the measures of the model.

Structural model

Results for the structural model are depicted in Figure 4 and Table 6 following the theoretical model. Results from the analysis provide evidence for an acceptable fit of the data [χ^2 (216, N=206) = 1707.44, p<0.001, with NFI=0.81, CFI =0.90, RMSEA=0.06, within 90% confidence interval]. Peer exclusion has an effect on bullying victimization (β = .19, p <0.05). Students who were identified by teacher as being excluded in elementary school were more likely to report being victims of bullying in middle school. Aggression in elementary school was positively related with the self-report of bullying in middle school (β = .19, p <0.05). Students who were identified by teacher as being more aggressive in elementary school were more likely

to report being bullies in middle school. Emotional engagement was negatively associated with bullying and victimization ($\beta = -.18$, $p < .05$; $\beta = -.25$, $p < .01$), respectively. Finally, teacher-student relatedness has a main effect on bullying ($\beta = -.19$, $p < .01$) and victimization ($\beta = -.31$, $p < .01$). Students that report higher levels of relatedness with teachers at wave 2, were less likely to engage in bullying behavior, as a victim or as a perpetrator at wave 3. The results also indicate an interaction effect between exclusion and becoming a victim of bullying ($\beta = -.18$, $p < .01$) based on the effect interaction term created by multiplying the standardized values of exclusion and teacher-student relatedness. The results, which are depicted in Figure 5, provide evidence for the hypothesis of the study about the role of teacher-student relatedness as a protective factor in regards to victimization but not bullying. The figure shows that the relationship between exclusion and becoming a victim of bullying is moderate at higher levels of teacher-student relationships.

Discussion

School transition is a challenging event for adolescents and the development of their peer relationships. The results of this study highlight the negative consequences of peer rejection, aggression, and bullying behavior on subsequent school engagement during the transition from elementary to middle school. The results of this study, however, also provides evidence that teacher-student relatedness in the classroom, and emotional engagement in school that it leads to, may be vital for protecting youth from the negative effects of bullying victimization. Teacher-student relatedness supports a basic psychological need of humans to relate and attach to others, which contributes to student engagement. Moreover, the importance of this relatedness provides support for the idea that the quality of the relationship between teachers and students is vital for engagement in the school and academic success (Ryan, Stiller, & Lynch, 1994; Ryan, 2001;

Niemiec & Ryan, 2009; Pianta, Hamre, & Allen, 2012). These results of this study support the notion that efforts to enhance teacher-student relationship can have the added benefit of reducing adolescent aggression and bullying behavior, and their negative consequences. The results of this study also provides evidence that victims and bullies in school have distinct negative consequences for youth. Yet, a closer relationships with teachers may be especially helpful for children with more inter- and intrapersonal problems, who may be easier targets of victimization (Salmivalli & Peets, 2009).

The results also indicate that peer rejection and aggressive behavior in elementary school predict becoming a victim or a bully in middle school. Considering that bullying behavior usually takes place away from the presence of adults, the development of self-management behavior and control is important because it promotes independence in school settings (Doll, Song, & Siemers, 2004). Yet, a positive relationship with adults in school, especially teachers, is also important in that these relationships moderate the negatives consequences of bullying behavior for victims. This is a significant contribution because most bullying studies and prevention strategies focus on the youth and their peer relationships (Salmivalli, 2010).

More positive teacher-student relationships build on the entire climate of the school by improving school safety and providing a more supporting learning environment (Astor, Benbenishty, & Estrada, 2009; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Although previous bullying prevention efforts include teachers, they typically focus on the role teachers can play to recognize and intervene in bullying episodes, but they do not necessarily focus on strengthening the teacher-student relationship more generally. The results of this study highlight the importance of a positive relationship between students and teachers for preventing both bullying behavior in the first place and helping bullying victims form more positive school

adjustment. Future research that examine teacher knowledge, awareness, and attributions of bullying behavior, along with their relationships with students more generally may provide vital information for developing interventions that enhance school climate in ways that create both safe and effective learning environments.

My results can help inform a program of research that examines more deeply the role teacher-student relationships may have on different types of bullying and victims such as nonaggressive or passive victims, compared to aggressive or provocative victims (Schwartz, 2000). Notably, I did not find that teacher-student relationship had any moderating effect on the relationship between aggression and bullying behavior for bullies. Flaspohler, Elfstrom, Vanderzee, Sink, and Birchmeier (2009) conducted a meditational study looking at victimization and life satisfaction, and they found that victims, compared to bullies and bully-victims, feel more social support from teachers that mediates that relationship. It is possible that teacher student relationships have an effect on certain types of bullies but not others. Researchers have reported subgroups of bullies such as popular/socially intelligent bullies, moderately popular bullies, and unpopular/less socially intelligent bullies (Peeters, Cillessen, & Scholte, 2010). Future research that examines how teacher student relationships may effect different types of bullying behavior would be a useful next step.

Some limitations of the present study, however, must be considered. First, the study tests only one aspect related to the school experience, namely teacher-student relatedness. Other facets of the school experience, such as school climate or school attachment, were not examined. Although these variables can provide insight into other aspects of the school experience, the current study was focused on the relationship with teachers as a proximal context. In this sense, this work offers a significant contribution to the field in that it examines this specific

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relationship, recognizing teacher-student relatedness as a promotive factor for victims of bullying behavior. Researchers can move further by including other facets of the school experience into future studies. Another limitation of the study is that bullying behavior, both as a victim and as a perpetrator, was measured only considering the last 30 days. Although phenomenon proximal measure may be useful, it may not have captured more distal behavior or experience of bullying which may have lasting effects on both current school engagement and coping with the middle school transition. Yet, the longitudinal nature of the study, which considered elementary to middle school, can account for this limitation in that it provided a useful assessment of peer relationships over time. Moreover, teacher reports of aggressive behavior and peer rejection is another way to support the measures of the study. Third, the role of bystanders in bullying behavior was not included in the study, but they may be a critical player for understanding the full ecology of peer influences for the development of bullying behavior. Nevertheless, the self-report of students and nominations from teachers used in the study provide a valuable evaluation of the peer dynamics and student engagement in school.

These limitations notwithstanding, this study makes unique contributions in several ways. First, it examines a development of aggression and peer exclusion from elementary school to middle school, considering bullying behavior and emotional engagement as final outputs. Second, the work highlights the importance of teacher-student relatedness as a proximal context for bullying behavior and emotional engagement. Third, recognizes resiliency approach (Fergus & Zimmerman, 2005) to study teacher-student relationship was used to examine how it can help youth overcome the negative effects of peer rejection and becoming victims of bullying behavior in middle school. Everyday experiences in the school matter for motivation, achievement, and engagement. The findings of the study build on this finding by providing evidence of the

importance of peer relationships and support from teachers and students for everyday school experiences. More importantly, because negative peer relationships are related with lower levels of student emotional engagement in school, students dealing with problems in their peer relationships can benefit from more teacher support. Therefore, positive relationships with teachers and peers are facilitators in the social context of student engagement (Skinner & Pitzer, 2012). This study provides additional evidence of the role teachers can play in helping address bullying in middle schools and the negative consequences for their victims.

Therefore, the significance of these findings can inform prevention for bullying behavior and enhancement of school engagement by working with teachers at schools. In particular, a closer and more meaningful relationship with students contributes to providing emotional support to them during early adolescence and school transition. In these cases, teachers not only provide academic support, but can also develop positive relationship with students.

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Table 4 Descriptive Statistics and Zero-Order Correlations

Variable	1	2	3	4	5	6
1. Emotional Engagement (w3)	1					
2. Bully (w3)	-0.31**	1				
3. Victim (w3)	-0.21**	0.26**	1			
4. T. Student Relationship (w2)	.29**	-0.26**	-0.26**	1		
5. Aggression (w1)	-0.05	0.27**	0.22**	-0.18**	1	
6. Peer exclusion (w1)	-0.04	0.16*	0.24**	-0.06	0.35**	1
M	3.57	1.42	1.95	3.60	1.81	1.96
SD	0.75	0.62	1.1	0.80	0.87	1.08
α	0.75	0.86	0.85	0.81	0.86	

Note. ** p<.01; * p<.05

Table 5 Standardized and Unstandardized Regression Coefficients for the Measurement Model

Factor	Latent Factor	β	B	S.E.
My classes are fun		.76	1	
I enjoy learning new things in my classes	Emotional Engagement (W3) – Year 3	.83	1.12	.10
When we work on something in class I feel interested		.86	1.12	.10
When I am in class I feel good		.71	1.03	.11
In my classes I work as hard as I can		.34	0.37	.08
I upset other students for the fun of it		.59	1	
I helped harass other students		.60	0.66	.10
I teased other students		.60	0.87	.09
I spread rumors about other students	Bully (W3) – Year 3	.78	0.98	.12
I started arguments or conflicts		.81	1.27	.15
I encouraged people to fight		.88	1.29	.15
I excluded other students from my group of friends		.64	1.12	.14
Other students picked on me	Victim of Bullying (W3) – Year 3	.60	1	
Other students called me names		.59	0.99	.07
I got hit and pushed by other students		.89	1.07	.21

Note.

* All coefficients are significant at p < .01

Table 6 Standardized and Unstandardized Coefficients of the Structural Model

	β	B	SE	95% CI		R^2
Emotional Engagement						.13
Bully	-.18	-.23*	.12	-.37	-.08	
Victim	-.25	-.23*	.09	-.42	-.04	
Victim						.18
Exclusion	.19	.14*	.07	.03	.26	
Aggression	.11	.10	.08	-.03	.23	
Teacher Relatedness	-.31	-.31**	.10	-.45	-.15	
Interaction	-.18	-.15*	.07	-.26	-.04	
Bully						.09
Exclusion	.07	.03*	.04	.03	.21	
Aggression	.19	.12	.05	-.03	.10	
Teacher Relatedness	-.19	-.14*	.05	-.23	-.05	
Interaction	-	-	-	-	-	
Covariance						
Exclusion – Aggression	.31	.13**	.04	.06	.19	

Note. **p<0.01; *p<0.05

Figure 3 Theoretical model
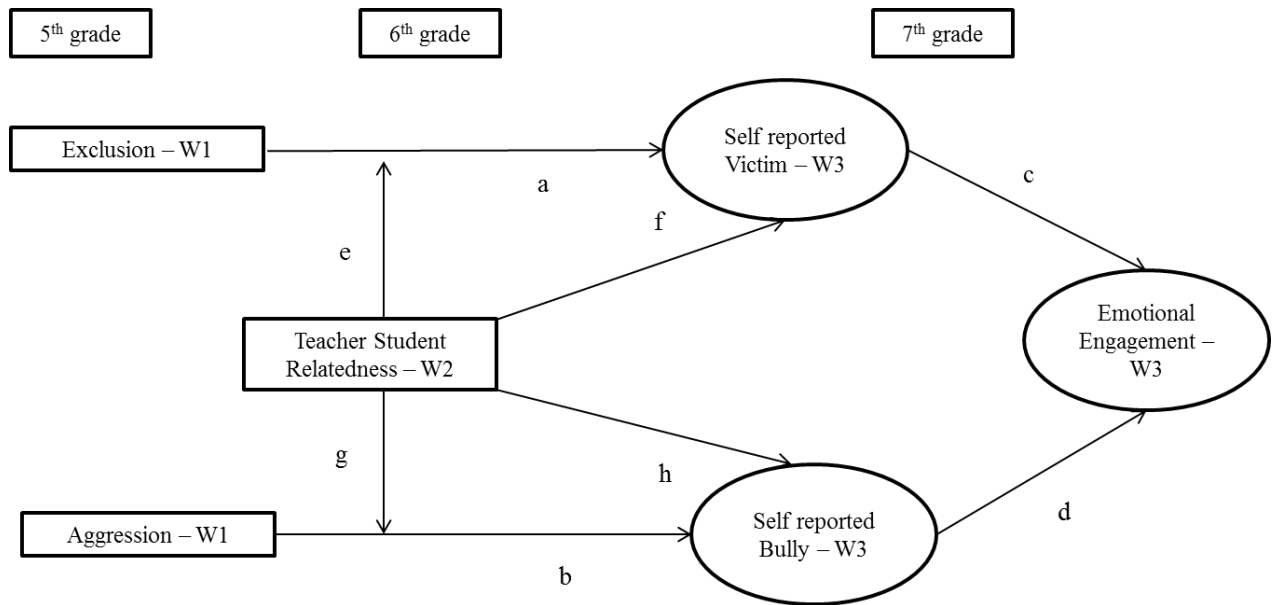
Note. The figure depicts the theoretical model of the study.

Figure 4 Standardized Regression Coefficients for the Structural Model
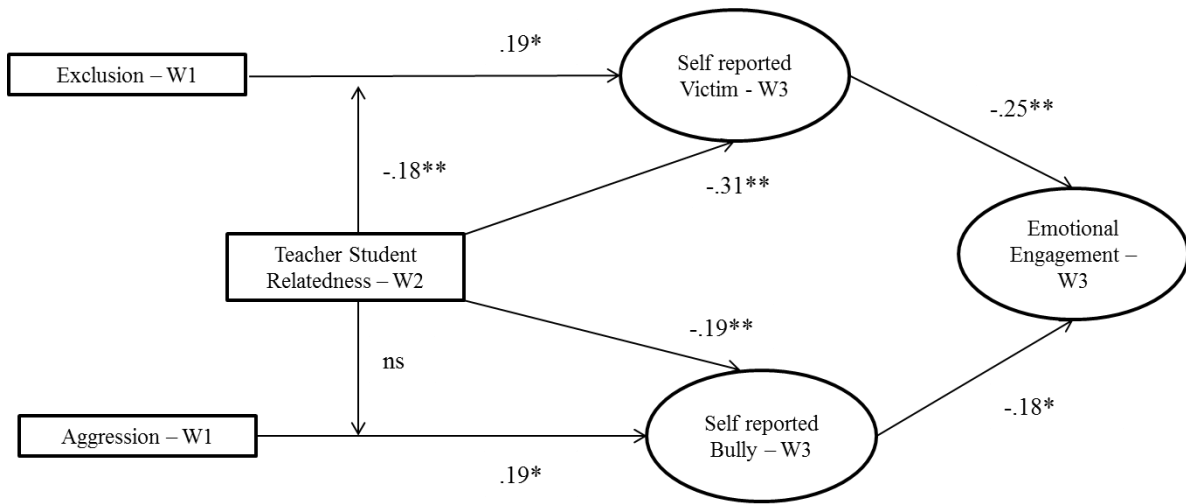
Note. **p<0.01; * p<0.05

Results are controlled by gender and race. Other paths are not included in the picture to better illustrate the results.

Figure 5 Interaction effect between exclusion by peers and becoming a later victim of bullying behavior according to the levels of teacher-student relatedness.
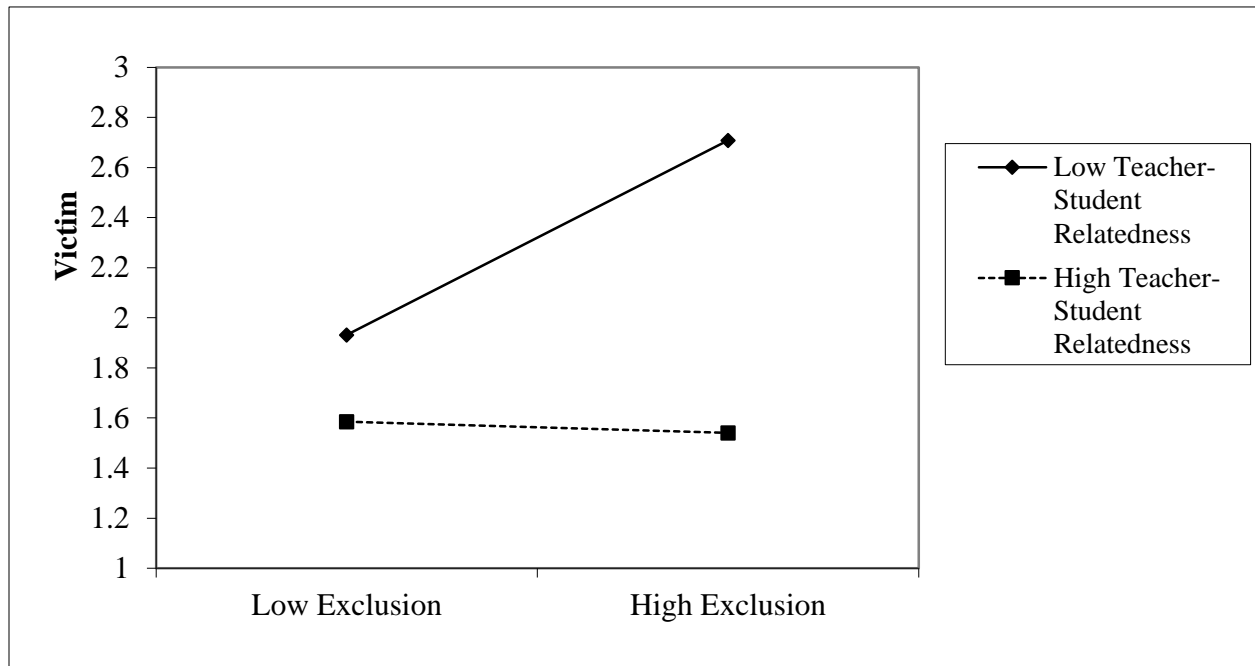
Note. Values were calculated using 1SD above and below the mean to define high and low.

CHAPTER 4

Life Satisfaction, School Satisfaction, and School Violence: A Mediation Analysis for Chilean Adolescent Victims and Perpetrators

Abstract

Researchers have found an association between school violence, as a victim or as a perpetrator, and levels of life satisfaction among youth. In particular, adolescents that engage in school violence report lower levels of life satisfaction, compared to those not involved. Moreover, school climate and school satisfaction can contribute to explaining school violence and life satisfaction. Yet, few researchers have examined underlying mechanisms between school violence and life satisfaction, by considering school satisfaction as a mediating factor. Thus, I examined a sample of 802 seventh graders, with an average age of 12.6 years, from three different cities in Chile. Structural equation modeling results provide evidence for a negative association between school climate and involvement with school violence, as expected. Being a victim of school violence has an indirect effect on life satisfaction through school satisfaction. Being a perpetrator, however, has no indirect effect on life satisfaction. The results highlight the importance of school satisfaction and school climate to understand their relationships with school violence and life satisfaction. The results suggest that prevention initiatives that consider school context may be a useful strategy for ameliorating negative consequences of school violence among youth.

School violence is correlated with negative experiences for children and adolescents in the school context. In particular, a negative relationship exists between the school climate and becoming a victim or a perpetrator of school violence, and the levels of school and life satisfaction among children and youth (Valois, Zullig, Huebner, & Drane, 2001; MacDonald et al., 2005; Valois et al., 2006; Proctor, Linley, & Maltby, 2009). Researchers have examined different predictors for life satisfaction with a focus mostly on risk factors. Yet, few have also considered other underlying mechanisms that contribute to explaining the relationship between school violence and life satisfaction while also considering school variables, such as school climate and school satisfaction. Therefore, the purpose on this paper is to analyze the relationship between school violence and life satisfaction among youth, and to explore the role of school satisfaction as a possible mediator in that relationship.

The school domain is important to consider for children and youth because of the amount of time they spend in school (Roeser, Eccles, & Sameroff, 1998; Eccles & Roeser, 2011). The school context can provide the connections with peers and teachers that become vital sources of support for children that can enhance their well-being (Deci & Ryan, 2002; Ryan & Deci, 2009). School satisfaction, teacher support, school safety, and academic achievement are particularly relevant school variables that help students develop a positive school experience and overall well-being (Suldo, Riley, & Shaffer, 2006). Suldo, Shaffer and Riley (2008) examined a sample of 321 high school students and found support for a model that explained life satisfaction, considering the influence of school satisfaction. A safe school environment, one characterized by limited school violence, provides a context for students to thrive and develop autonomy and a sense of competence, and are more likely to participate in school-related activities (Eccles & Roeser, 2011). Moreover, researchers have found a negative association between violent

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behavior and life satisfaction among youth (Valois et al., 2001; Valois et al., 2006). These studies support the notion that the school experience can contribute to children's overall life satisfaction. Yet, few researchers have examined the underlying school-related mechanisms that might help contribute to youths' life satisfaction. Notably, factors associated with their school experience may play a vital role in youths' overall life satisfaction especially given how much time they spend in school and their potential exposure to school violence.

Adolescence is a developmental stage that is characterized by significant changes for youth at both the individual and contextual levels (Eccles et al., 1993). At the individual level, youth will explore different roles in society as part of a natural identity search. At the contextual level, peers become much more important for youth, and changes in the school context, such as transition to high school, will require adolescents to confront new challenges to their well-being (Žukauskienė, 2014). As part of this context, school violence and school satisfaction and school climate play fundamental roles for children's life satisfaction (Benbenishty & Astor, 2005; Eccles & Roeser, 2010; Turner, Reynolds, Lee, Subasic, & Bromhead, 2014). In addition, these roles are particularly important during this stage of development because researchers have found a decline over time throughout adolescence in the levels of life satisfaction (De Fraine, Van Landeghem, Van Damme, & Onghena, 2005; Suldo et al., 2006; Proctor et al., 2010).

Yet, less attention has been given to the role of school experiences as a predictor of life satisfaction and school violence. Goldbeck, Schmitz, Besier, Herschbach, and Henrich (2007) examined a sample of 1,274 adolescents ranging in age from 11-16 years old and found significant decreases in life satisfaction across the age range. This decline is also consistent with a decline in motivation and engagement in school (Eccles, Lord, & Roeser, 1996; Eccles, 2004). Therefore, the school context represents an important source of support for adolescents or,

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conversely, can also operate as a context for more risk exposure. Moreover, involvement with school violence as a victim or as a perpetrator may have a negative influence on school and life satisfaction.

Life Satisfaction and Children Subjective Well-Being

Subjective well-being (SWB) has been studied in different parts of the world with adult (Oishi, Diener, Lucas, & Suh, 1999), youth, and child populations (Diener & Diener, 1995). The results of these studies indicate, for the most part, a positive association between life satisfaction and SWB (Proctor, Linley, & Maltby, 2009). In the U.S. almost 32% early adolescents self-reported feeling satisfied with their life in a global domain, and 15% considered their school experience specifically as such (Huebner, Valois, Paxton, & Drane, 2005). In Chile, Oyanedel, Alfaro, Varela, and Torres (2014) studied children's subjective well-being in a sample of 2,572, 8- to 12-year-olds. They found similar results for the levels of life satisfaction compared to other countries. In particular, more than 80% of the participants reported higher levels of well-being and satisfaction on a five-item Likert scale. Moreover, a similar percentage reported a positive relationship with their teachers, though this report decreased with age from 8 to 12 years old.

One critical feature that defines children's well-being is life satisfaction (Huebner, 1991). This measure is defined as a general evaluation of an individual's personal life, considering different domains such as family, friends, school, and community, beyond transitory affective states (Huebner, 1994, 2004). As an important construct in positive youth development (Park, 2004), life satisfaction is related to emotional, social, and behavioral constructs (Proctor, Linley, & Maltby, 2009). Suldo and Huebner (2006), in a sample of 698 secondary school students, examined pupils who reported higher levels of life satisfaction, finding an association with lower externalization and internalization of behavioral problems. Gilman and Huebner (2006) found in

a sample of 485 adolescents that the group reporting the highest levels of satisfaction also

reported the highest levels of general school functioning compared to youth with only moderate

or low general life satisfaction. Lewis, Huebner, Malone, and Valois (2011) examined the

relationship between life satisfaction and engagement in school in a sample of 799 middle school

students. They found a significant relationship between cognitive engagement and life

satisfaction.

Life satisfaction can be influenced by the quality of interpersonal relationships over one's

lifetime (Casas, 2011). Valois, Paxton, Zullig, & Huebner (2006), for example, found that

involvement in serious physical fights (i.e., those that required treatment) was associated with

life disaffection. In addition, researchers have reported that different forms of peer victimization

contribute to explaining levels of life satisfaction (Martin & Huebner, 2007). Yet, few

researchers have examined the indirect effects these relationships may have on life satisfaction.

This is an important direction for research because it may help identify a possible underlying

mechanism associated with adolescents' life satisfaction that can inform school-based

interventions designed to enhance their well-being and academic achievement.

School Violence: Victims and Perpetrators

School violence has been recognized as an important concern for the safety and well-

being of North American students, despite the lower levels of victimization in the U.S. compared

to other developing countries (Eisenbraun, 2007; Johnson, 2009). In a national study of school

safety in the U.S., the percentage of youth homicide that takes place at school remained lower

than 2%, which is similar to previous years (Robers, Zhang, Morgan, & Musu-Gillette, L. 2015).

In 2013, 3% of students aged 12-18 years old reported being victimized at school in the past 6

months. In 2013, 22% of the 12- to 18-year-old students reported being bullied at school during the school year, and 7% being cyber-bullied.

In Chile, in the past decade the government has conducted three national studies of school violence within the school context. During 2005 and 2007 students self-reported a perception that close to 35% of all aggressions over the previous year occurred once a week or every day at school. During 2007, 26.3% reported being victimized at school (Ministerio del Interior 2006, 2008). In 2009, the perception of students of frequent aggressions in school was 22.2%, and 23.3% reported being victimized during the last school year, and 14.5% mentioned being the victim of bullying behavior (Ministerio del Interior, 2010).

Involvement with school violence, as either a victim or a perpetrator, can have negative consequences for youth in school, which can affect their levels of satisfaction, mental health output, and academic achievement (Estévez, Murgui, & Musitu, 2009; Valois, Kerr, & Huebner, 2012; Olweus & Breivik, 2014). Moreover, considering the importance of the school experience for children and adolescents, studying the relationship between school climate, school satisfaction, and life satisfaction may be vital for understanding how the school violence may contribute to school satisfaction and overall well-being of the students (Huebner et al., 2014).

Hostile school environments and negative peer interactions are associated with lower levels of school satisfaction (DeSantis King, Huebner, & Valois, 2006). In particular, school violence is related to less life satisfaction among children and youth in different studies (Valois, Zullig, Huebner, & Drane, 2001; MacDonald et al., 2005; Valois et al., 2006; Proctor, Linley, & Maltby, 2009). Furthermore, both perpetrators and victims experience reduced life satisfaction compared to bystanders (Flaspohler, Elfstrom, Vanderzee, Sink, & Birchmeier, 2009). When compared to students who have not been victims of school violence, those who experience

multiple forms of victimization have lower indicators of well-being, such as feeling unsafe at school, being more depressed, having low academic achievement, and reporting fewer internal assets (Felix, Furlong, & Austin, 2009). In general, researchers have found an association between different types of peer victimization and lower levels of life satisfaction (Valois, Kerr, & Huebner, 2012). Rigby (2000), analyzing a sample of 845 youth whose ages ranged from 12 to 16 years, found that children being bullied at school who also have low social support experiences reported poorer mental health outputs. Victims of bullying behavior can experience higher levels of emotional distress and social exclusion from peers, compared to non-victimized students (Juvonen, Graham, & Schuster, 2003). Exposure to violence can also produce negative consequences for youth. Flannery, Wester, and Singer (2004), for example, examined children from 3rd to 8th grades in a sample of 5,969 students in order to assess youth exposure to violence, violent behavior, and psychological trauma. They found that both types of violence were related with more trauma and later violent behavior. Therefore, victims of violent behavior experience different forms of negative consequences and personal distress as an opposite to emotional well-being (Olweus & Breivik, 2014). In particular, victims of bullying behavior, compared to students who not involved, had lower satisfaction with life (Estévez, Murgui, & Musitu, 2009). Although researchers have examined negative consequences of violent behavior, few have also considered school satisfaction for explaining the effect of these consequences on life satisfaction. As one exception, Oberle, Schonert-Reichl, and Zumbo (2011) studied 1,402 students from 4th to 7th grades from 25 public schools and found that feelings of belonging to the school was associated with more life satisfaction.

Students who are perpetrators of school violence report lower levels of life satisfaction as well. Estévez, Murgui, and Musitu (2009), with a sample of 1,319 students aged 11 to 16 years

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old, found that bullies, compared to non-bullies, reported higher levels of stress and lower

satisfaction with their lives. Velderman and colleagues (2008), in a sample of 3,483 students

from 4th to 6th grades in the Netherlands, found that students who were bullies rated their levels

of satisfaction with the school environment as much lower and they were less positive about

going to school and liking classes than students who were not involved in any form of bullying

in any form. Yet, few researchers have examined the role that school satisfaction may play in

mediating the effects of violent victimization and perpetration on life satisfaction.

School Satisfaction

School satisfaction contributes to adolescents' life satisfaction especially considering the

importance of the school environment and the amount of time youth spend in school (Danielsen,

Samdal, Hetland, & Wold, 2009). School satisfaction has been defined as a cognitive evaluation

of the overall pleasure with one's school (Casas, Bălţătescu, Bertran, González, & Hatos, 2013).

What happens during the daily life of youth in schools is important for their school satisfaction

and life satisfaction (Huebner et al., 2014). Researchers have found a positive relationship

between life satisfaction and school satisfaction (Suldo, Riley, & Shaffer, 2006). Proctor, Linley,

and Maltby (2010), using a sample of 410 adolescents, found that youth reporting to be very

happy with life in general have higher levels of school satisfaction compared to unhappy youth.

Moreover, positive and negative life experiences related to the school context contribute to

explaining levels of school satisfaction (Huebner & McCullough, 2000). Thus, school violence

may create a context for students that impedes both school and life satisfaction. Yet, few

researchers have considered school satisfaction as a mediator between negative life experiences,

such as school violence, on life satisfaction among youth.

In addition, researchers have found that school satisfaction among adolescence is associated with higher levels of academic achievement (Baker, Dilly, Aupperlee, & Patil, 2003; Bacete, Perrin, Schneider, & Blanchard, 2014). Higher levels of school satisfaction were correlated with positive academic results (Huebner et al., 2014). Similarly, Samdal, Wold, and Bronis (1999), examining data from 11- to 15-year- olds reported that one important predictor for academic achievement was feeling more satisfied with school. Huebner and Gilman (2006) also found that secondary school students with higher levels of school satisfaction reported higher levels of academic achievement (GPA). Antaramian, Huebner, Hills, and Valois (2010) examined a sample of 414 7th and 8th graders, assessing life satisfaction, mental health, and student engagement.

Recognizing school satisfaction as a mediator of the effects of school climate and violence is important because it can help ameliorate the negative consequences of school violence, as a victim or as a perpetrator, on life satisfaction. Victimized children experience less positive emotions in the school setting that then affect their life satisfaction (Martin & Huebner, 2007). Yet, school satisfaction, because it may indicate teacher and parent support, may help ameliorate the negative effects of violence on life satisfaction. In addition, it can inform prevention initiatives that bring support to students involved in school violence by highlighting an important component from the school context.

School climate

Researchers define school climate by considering the quality and character of school life which considers issues such as safety, instruction, school leadership, and the quality of relationships including diversity, collaboration, and connection (Cohen, Mccabe, Michelli, & Pickeral, 2009). These various domains of school climate are associated with school satisfaction

(Zullig, et al., 2011). Zullig, Huebner, and Patton (2011) found that teacher support, academic support, and discipline, were correlated with more school satisfaction. Steffgen, Recchia, and Viechtbauer (2013) conducted a meta-analysis to examine the relationship between violent behavior and school climate, finding a moderate effect size across 36 studies. Researchers also have noted that school climate is a critical factor associated with violence in schools. Turner, Reynolds, Lee, Subasic, and Bromhead (2014), using a sample of 492 7th to 10th grade students in Australia, found that positive school climate was correlated with the reduction of bullying behavior over time, both for victims and perpetrators.

Although researchers agree on the importance of school climate, school violence, school satisfaction, and life satisfaction, few have examined the connections among these factors. You et al. (2008) examined the relationship between hope and life satisfaction, accounting for the differential effects on victims and non-victims of bullying in a sample of 866 participants from 5th to 12th grades in the U.S. They found that victims of bullying have lower levels of school connectedness than non-victims and peer victims, and that school connectedness partially mediated the relationship between hope and life satisfaction for non-victimized students. Moreover, Flaspohler (et al., 2009) found that teacher support mitigated the negative consequences of bullying on the quality of life of bullying victims. Yet, examining school satisfaction as mediator between school violence and life satisfaction, while also considering the influence of school climate, has not been studied. Moreover, research about life satisfaction is presently in its initial stage in South America, when compared to other cultural contexts such as North America and Europe (Proctor, Linley, & Maltby, 2009), which highlights the importance of developing further studies about life satisfaction and other school variables.

Little is known about the levels of school and life satisfaction of adolescents in the Chilean educational context, yet these variables are important for their adjustment and achievement. Today, public educational policies in Chile have focused mostly on standardized testing achievement, though they have recently started to consider school climate. Moreover, researchers have found cultural differences among pupils and their levels of school satisfaction that may be useful to inform future studies in Chile. In particular, Park and Huebner (2005), with a sample of 472 South Korean and 543 U.S. adolescents, found that school satisfaction was more associated with life satisfaction among South Korean students compared to students from the U.S. Yet, satisfaction with the school has not been considered, especially as a mediator between school violence and life satisfaction, for the Chilean context. These issues, however, has not been studied in the Chilean context.

I examine a model of life satisfaction among youth that incorporates school climate and satisfaction, and violence victimization and perpetration (see Figure 6). I hypothesize that the effect of school victimization will have an indirect effect on Life Satisfaction through School Satisfaction (path a*b, and path d*b). Moreover, I expect to find a negative relationship between School Climate and Victim and Perpetrator of School Violence and School Satisfaction (path f, h and g), and that the effects of school climate on life satisfaction will be mediated by violent victimization and behavior, and school satisfaction. Few researchers have considered the relationship between life satisfaction and youth violence, while also examining the mediating effects of school satisfaction.

Methods

Sample

   This study is based on cross-sectional data from three different regions of Chile. The

participants were children from 3rd, 5th, and 7th grades, with a total sample size of 2,572. For the

purpose of the present study, only data from 7th graders were selected in order to control for

possible developmental effects across these disparate age groups. In addition, 7th graders are

more likely to perpetrate violence than 3rd or 5th graders (Nansel et al., 2001; Espelage &

Swearer, 2003). The final sample included 802 youth, 56.9% of whom were male, with a mean

age of 12.6 (SD=.79) years. Missing data were handled using the full information maximum

likelihood (FIML) estimator in Mplus 6.0 (Byrne, 2012).

Data Collection

   Self-report surveys were administered to the participants during a regular class period

between July and October of 2012. Students provided assent and passive consent of the parents

or guardians was obtained as requested by the schools. Ethical procedures were implemented

regarding information confidentiality and informed consent. Active consent was required both

from the school principal and the school's parent association representatives. A passive consent

procedure was implemented for parents and guardians, which involved sending a letter

explaining the objective of the research and instructions for opting out. Finally, active assent was

required from children themselves.

Measures

   Table 7 describes the means and standard deviations, range, number of respondents,

Cronbach alpha, and correlations for each measure in the study.

Life Satisfaction.

This is the dependent variable of the study. To capture the well-being of the participants, the Students' Life Satisfaction Scale (SLSS) created by Huebner (1991) was used. The scale contains seven items that rate students' self-satisfaction with their individual lives, with the aim of evaluating their lives in a general, context-free manner (Huebner, 2004) with positive psychometric properties (Huebner, 1994). Examples of items are: *I like my life*, *I have what I want in life*, and *My life is better compared to other kids*. Each item has a 5-point Likert scale (1 = strongly disagree, 5 = very much agree). Higher scores indicate greater life satisfaction.

School Satisfaction.

School satisfaction is a cognitive evaluation about the quality of life at school, considering the school in general, classmates, grades, and the overall school experience. Examples of items are: *To what extent do you feel satisfied with your school, with other students in your class, with your grades and general experience in the school.* The scale contained four items on a 10 point Likert scale (0 = low satisfaction, 10 = high satisfaction). Higher scores indicate more school satisfaction.

Victim and Perpetrator of School Violence.

Status as a victim of school violence was measured using a scale developed in Chile which assesses the levels of self-reported aggression in the school by other students (Varela, Farren, & Tijmes, 2010). Students were asked to rate the frequency during the school year in which they were a victim of different types of aggression such as exclusion, insults, threats, pushing, and hitting. Examples of items are: *Other students don't let you participate in school activities*, *Inside the school, other students will have threatened to hurt you*, and *Other students have hit you with the intention to harm.* The scale was measured with a seven-item Likert scale

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from never (1) to all the time (7). Higher values indicate higher levels of victimization of school violence as a victim.

Perpetrator of School Violence.

A student's classification as a perpetrator of school violence was measured using a scale validated in Chile (Varela, Farren, & Tijmes, 2010) that examined levels of self-reported aggressive behaviors in school contexts during the last year. The perpetrator scale uses the same behaviors as the self-report of aggressors, such as *I don't let students participate in school activities, I have threatened other students inside the school,* and *I have hit other students with the intention to harm.* The scale was measured with a seven-item Likert scale from (1) never to all the time (7). Higher values indicate higher self-report of perpetrator of school violence.

School climate.

The school climate scale was measured by assessing different aspects of the school climate such as safety, and bonding with teachers. Examples of items are: *My teachers listen and pay attention to me, I like going to school,* and *I feel safe at school*. Students were asked to self-report their levels of agreement for each item using 4 items with a Likert scale ranging from highly disagree (1) to highly agree (5). A higher value indicates a more positive school climate perception in the school.

Demographic variables.

Three variables were included in the models as control variables: Region, age, and gender. Region and gender were dummy coded (0 = Santiago area; 1 = outside Santiago; 1 = male; 2 = female, respectively), and age was entered as a continuous variable based on students' self-reported birthdate.

Data Analytic Strategy

Considering the nested structure of the data, multilevel modeling is recommended to account for the variability at the school level (level 2). Yet, the Intraclass Correlation Coefficient (ICC) was 3.7% for Life Satisfaction across the schools which suggests that the variation in the sample is predominantly at the individual level with very little variation at the school level. Thus, structural equation modeling (SEM) analyses were conducted to test the conceptual models using Mplus 6.0. The hypothesized models tested school satisfaction as a mediator variable between being a victim or perpetrator of school violence and life satisfaction. In addition, I hypothesized that school climate would have a positive effect on school satisfaction, and a negative effect on being a victim or perpetrator of school violence. The traditional mediation approach of Baron and Kenny (1986) requires the following conditions: (a) being a victim or perpetrator of school violence must have a direct effect on school satisfaction (mediator variable), (b) school satisfaction must have an effect on life satisfaction, and (c) the initial effect of being a victim or perpetrator of school violence on life satisfaction is no longer significant once the mediator variable is included. Yet, new approaches to mediation using structural equation models argue the need to test the indirect effect on the bases at 95% confidence intervals of the unstandardized coefficient estimates. In particular, the mediation effect is tested by computing 95% bias-corrected confidence intervals for those indirect effects using a bootstrapping approach. If this confidence interval does not include 0, it is possible to identify a significant effect (Hayes, 2009). According to this, 5,000 replications were performed for each analysis. In addition, the models were assessed based on chi-square (χ^2), comparative fit index (CFI), and estimated root mean-square error of approximation (RMSEA) and its 90% confidence interval. As a reference, RMSEA values of .05 indicate close approximate fit. CFI values >.90 reflect reasonably good fit

(Kline, 2011). Missing data were handled using the full information maximum likelihood (FIML) estimator in Mplus 6.0 (Byrne, 2012).

Results

Missing Data Analysis

The Little's MCAR test resulted in a chi-square = 1120.84 (df=1090; p<.25), providing evidence that missing data is at random. Moreover, the percentage of missing values in the study variables represents less than 5% for most variables, with the exception of one item on the Life Satisfaction scale, which had 9.9% of missing data. Although full information maximum likelihood (FIML) estimator was used to handle missing data, multiple imputation was also conducted using Markov Chain Monte Carlo (MCMC) Method with SPSS 22. Similar results were found regardless the method, therefore FIML estimator results are reported below.

Measurement model

Table 8 contains the factor loadings for each latent factor of the measurement model. All of them are significant and loaded in the expected direction.

Structural model

Results of the structural model are depicted in Figure 7 and Table 9. The model provides good fit to the data: χ^2 (620, N =802) =1671.43, $p < 0.01$; CFI = .90; TLI = .88; RMSEA = 0.05, 90% CI [.043, .049]; SRMR = .11. School satisfaction mediated the relationship between being a victim of school violence and life satisfaction, based on the indirect effect (b = -.04, p = .01; 95% biased-corrected CI for indirect effects: -.08, -.02) and non-significant results of path c' (b = .01, *ns*). Conversely, I found no indirect effect of being a perpetrator of school violence on life satisfaction (b =.02, p = .10; 95% biased-corrected CI for indirect effects: -.00, .06). In addition, as hypothesized, school climate was negatively related with being a victim or perpetrator of school violence (b = -.21, p<.01; b = -23, p<.01, respectively), and positively related with school

satisfaction (b = 81, p<.01). To add evidence for these results, a competing model was tested

using school satisfaction, instead of life satisfaction, as a dependent variable. Even though,

results provide similar fit for the data: χ^2 (620, N =802) =1652.39, $p < 0.01$; CFI = .899; TLI =

.886; RMSEA = 0.046, 90% CI [.043, .048]; SRMR = .11, results from the path analysis are

different. In particular, I found no effect of school violence, as a victim or perpetrator (b = -.03,

ns; b = -.02, *ns*, respectively) on Life satisfaction, and no indirect effect on school satisfaction (b

= -.01, p = .54, 95% biased-corrected CI for indirect effects: -.07, .02; b = -.01, p = .65, 95%

biased-corrected CI for indirect effects: -.04, .02).

Discussion

Results of the paper provide evidence for the importance of school variables, such as

school climate and school satisfaction, for explaining levels of life satisfaction among youth that

face violent behavior in school. In particular, I found that being a victim of school violence has

an effect on life satisfaction through school satisfaction. The current study highlights the

importance of school satisfaction for mediating the relationship between school violence and life

satisfaction. The results support the idea that victims are at greater risk for poorer psychological

adjustment and well-being than non-victims (Felix, Furlong, & Austin, 2009) and less life

satisfaction (MacDonald, Piquero, Valois, & Zullig, 2005; Valois et al., 2006; Martin &

Huebner, 2007; Proctor, Linley, & Maltby, 2009). This is important because life satisfaction is a

key predictor for quality of life and positive adjustment in different domains for youth (Casas,

2011).

My study also highlights the significance of school satisfaction for victims of school

violence. Victims of school violence may require more support from the environment to manage

violent episodes. In this regard, school factors can play a fundamental role in helping student

victims of violent behavior. Other researchers have found that lower levels of school violence are associated with positive relationships with teachers (Johnson, 2009). Thus, my results support the idea that building positive teacher-student relationships can be an effective strategy for helping student victims maintain a positive view on life.

My results also suggest that school climate is vital for helping youth feel satisfied in school. School climates that provide a more positive environment for student development, engagement, and adjustment may be especially critical for youth who are victims of violence. Victims of school violence may benefit from safer, more welcoming, and warmer school environments by building a greater sense of trust with the school and, therefore, raising school satisfaction levels. This is particularly important for victims that may require more support from the school context in order to ameliorate the negative consequences of school violence, especially its effect on life satisfaction. Life satisfaction is especially critical for adolescents because its absence (or low levels) may represent a risk for healthy development. The support of the school as a conventional institution can prevent the development of antisocial behavior (Hirshi, 2002; Espelage, Holt, & Poteat, 2010) and contribute to boosting students' levels of life satisfaction. School satisfaction and school climate can also contribute to adolescent well-being by creating a sense of belonging and participation in school.

Researchers in the U.S. with high school students found that the relationship between life satisfaction and becoming a victim of violent behavior is not uniform across religions, sexual orientations, gender, and race (Kerr, Valois, Huebner, & Drane, 2011). Expanding this knowledge across different cultural contexts can be useful in order to examine the role of school satisfaction as a relevant factor for adolescents. In developing countries this is particularly important because conclusions of this type can inform public polices and persuade policymakers

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to invest in these new and different domains. Yet, few researchers have studied these variables outside of the U.S. even though these issues may be particularly important for developing countries such as Chile. During the last decade the Chilean government has recognized school violence as a significant national issue and priority for the educational system. The Chilean government has been monitoring school violence by conducting national studies to inform the development of laws requiring schools to address violence. Yet, these studies have been mostly descriptive in nature and have not considered school factors that may predict of school violence, how school violence may effect life satisfaction, or how the effects of school factors might be mediated by school violence for predicting overall well-being of children in Chile. Proctor, Linley, and Maltby (2009) point out in a recent literature review of 141 studies that North America and Europe represented over 60% of research on school factors and violence. This indicates the important gap in findings from other cultural contexts, especially South America, which was found to have contributed the lowest number of studies of any region in the world. This study helps close that gap and because the results are consistent with studies in North America the findings from this study support the notion that the research from North American may also be applicable in Chile.

Notably, I did not find that school satisfaction mediates the effects of being a perpetrator of school violence on life satisfaction. This finding suggests that perpetrators build different types of relationships with their schools. This result is consistent with the results found by Velderman and colleagues (2008) regarding bullies and their levels of satisfaction. They reported a lower significant relationship with the school among perpetrators suggesting lower attachment with school. My results add to the literature by supporting a similar trend for perpetrators of school violence and their relationships with the school.

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Some limitations of the study must be considered to interpret the results. First, measures used in the study were all based on self-report which may increase response bias. Future research that combines other sources of information such as teacher reports, parent reports, and objective school data (e.g., suspensions due to violent behavior) would be important for advancing research in this area. Nevertheless, self-report measures represent the most common way to assess many of the study variables especially life satisfaction among children and youth (Gilman & Huebner, 2003). Second, the study used a cross-sectional design which does not allow for understanding causal pathways. Nevertheless, the study contributes to our understanding of the significant association between school climate, school satisfaction, school violence and life satisfaction. Future research could make an effort to build more longitudinal data collections and research projects in order to include a developmental perspective. Third, data were only collected from urban populations so rural and suburban perspectives were not represented. Thus, the generalizability of the study may be somewhat limited. This may be especially true in Chile where regional differences may be particularly strong especially between Southern and Northern parts of the country. Indeed, results from the last national survey of school violence show differences across regions (Ministerio del Interior, 2008). Yet, the large majority of the population today in Chile lives in urban areas which may have more in common than more rural areas regardless of their regional location. Moreover, even though multilevel methods were not used to account for the nested structure of the data, the Intraclass Correlation Coefficient (ICC) was close to zero and the geographical features of the school were entered as a control variable in the analysis so some school variation was included in the models tested. Finally, academic background from the students, such as GPA, was not collected. This can be important because GPA may influence the relationship between school satisfaction and life satisfaction, but this

would not likely explain away the results because of the large sample of youth and schools that included different regions of the country and significant variation in academic achievement. Future studies, however, that includes achievement would be helpful to eliminate the possibility of GPA as a spurious variable.

Notwithstanding these limitations, the current study contributes to the literature by (1) establishing a connection between school violence and school climate, school satisfaction, and life satisfaction; (2) highlighting a unique feature of school satisfaction that mediates the indirect effect for victims of school violence on life satisfaction, thereby representing an important function of the school that can be incorporated into prevention programs of school violence and life satisfaction; and (3) emphasizing the importance of positive school environments for life satisfaction, which could in turn inform public policy decisions to increase the mental health of adolescents. Positive school environments can support a more healthy youth development across time (Baker, Dilly, Aupperlee, & Patil, 2003).

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Table 7 Descriptive and Matrix Correlations Among Study Variables

Descriptive	Percent	Mean (SD)	Min	Max	n	α
Life Satisfaction		3.70 (.73)	1.43	5.0	794	.74
School Satisfaction		7.87 (1.37)	0	10	802	.69
Victim		1.80 (.83)	1.00	6.70	802	.84
Perpetrator		1.50 (.65)	1.00	6.00	797	.86
School Climate		4.04 (.76)	1.00	5.00	802	.76
Region (Capital)	27.2				802	
Gender (Female)	43.02				802	
Age		12.55 (.79)	10	17	802	
Correlation Matrix		Life Satisfaction	School Satisfaction	Victim	Perpetrator	School Climate
Life Satisfaction		1.00				
School Satisfaction		.37**	1.00			
Victim		-.15**	-.24**	1.00		
Perpetrator		-.13**	-.17**	.47**	1.00	
School Climate		.35**	.62**	-.18**	-.25**	1.00

Note.

*$p < 0.01$ level (2-tailed).

**$p < 0.01$ level (2-tailed).

Table 8 Measurement Model. Standardized Factor Loadings

	Predictor	Factor loading*	
		Victim	Perpetrator
Exclusion ←		0.61	0.70
Mocking ←		0.62	0.77
Force ←		0.67	0.76
Insults ←		0.70	0.74
Threat ←		0.80	0.74
Fun ←	School Violence (victim & perpetrator)	0.57	0.68
Push ←		0.80	0.77
Hit ←		0.77	0.75
Stolen ←		0.43	0.51
Cyber ←		0.63	0.67
Life going well ←		0.94	
Life I want ←		0.73	
Change aspect of life [a] ←		0.35	
Other type of life [a] ←	Life Satisfaction	0.42	
I have a good life ←		0.81	
I have what I want ←		0.76	
Life better than others ←		0.36	
School ←		0.77	
Classmates ←		0.67	
Grades ←	School Satisfaction	0.43	
Experience ←		0.69	
Teacher listens ←		0.89	
Like school ←		0.58	
Teacher treats well ←	School Climate	0.83	
Feel safe in the school ←		0.74	

Note.
*p < .01; [a] Variables were reverse code

Table 9 Results from Mediation Model Examining Physical and Relational School Violence, Life Satisfaction, and School Satisfaction

Predictor	Unstandardized [95% CI]	Direct Effect [95% CI]	Indirect Effect [95% CI]	Total Effect [95% CI]
School Satisfaction → Life Satisfaction	.13**[.07, .19]	.21**		
Victim → Life Satisfaction	.00 [-.10, .10]	.01	-.04** [-.08,-.02]	-.04 [-.13, .09]
Perpetrator → Life Satisfaction	-.04 [-.14,.06]	-.04	.02 [-.00, .06]	-.02 [-.14, .06]
School Climate → School Satisfaction	1.44** [1.2, .1.69]	.81**		
Victim → School Satisfaction	-.30** [-.50, -.11]	-.18**		
Perpetrator → School Satisfaction	.18 [-.02, .39]	.10		
School Climate → Victim	-.22** [-.32, -.13]	-.21**		
School Climate → Perpetrator	-.24** [-.32, -.16]	-.23**		
Life Satisfaction → Region	-.00 [-.12, .12]			
→ Sex	-.08 [-.19, .04]			
→ Age	-.08† [-.16, .00]			
Victim ←→ Perpetrator	.66** [.54,.76]			

Note. If the 95% confidence interval of the standardized specific direct and indirect effect did not include 0, we can conclude a significant indirect effect (Hayes, 2009).
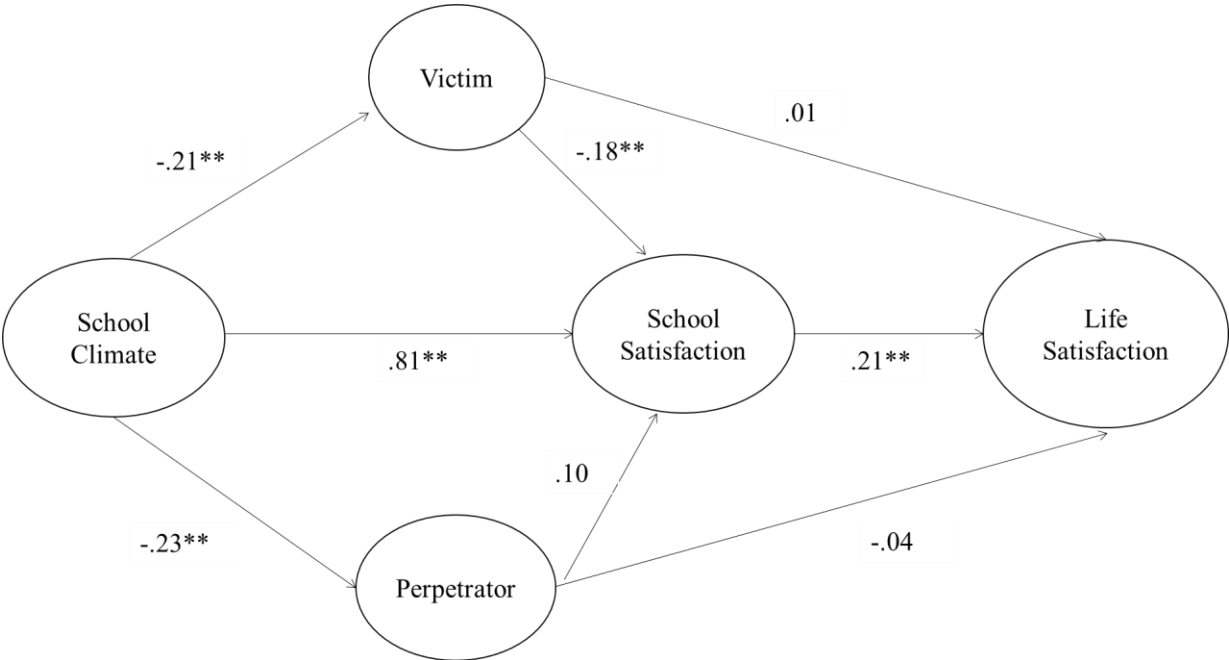† <.10; * <.05; ** < 0.01

Figure 6 Theoretical Model
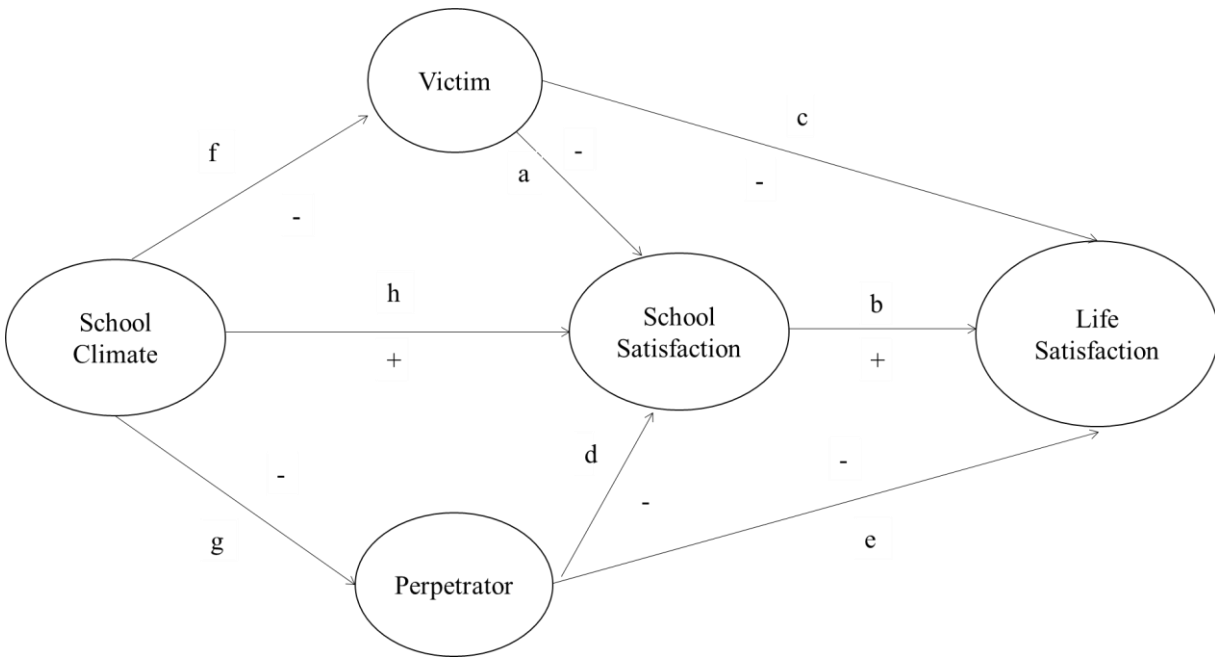
Note. Mediational Model of School Satisfaction, Victim and Perpetrator of School Violence and Life Satisfaction. Controlling for Region, Gender, and Age.

Figure 7 Standardized Structural Model Results for School Climate, Victims, and Perpetrators of School Violence, Life Satisfaction, and School Satisfaction

Note.
† p<.10, * p<05, **p<.01
Controlling for Region, Gender, and Age.

CHAPTER 5

Conclusion

Youth violence is a matter of concern across the globe due to the negative consequences for children and adolescents (Krug, Mercy, Dahlberg, & Zwi, 2002). Youth violence is usually focused on a small percentage of youth that engage in severe violent behavior (Vaughn, Salas-Wright, DeLisi, & Maynard, 2014). Countries, such as the U.S., have implemented several public and private efforts to study and prevent violent behavior among youth (World Health Organization, 2015). Yet, violent behavior in these populations still represents a significant concern worldwide.

Violent behavior in the school context is one particular expression of youth violence that demands public attention (Johnson, 2009). In developing countries, such as Chile, school violence was first noted as a social problem almost 15 years ago, when it began to capture the attention of researchers and policy makers. Violent behavior in the school context is a concern today for developed and developing societies alike, and it represents an important policy issue for governments, policy makers and, especially, investigators. Researchers today focus their efforts on different expressions of violence in the school context in order to better understand it and, perhaps more importantly, attempt to prevent violent behavior among youth.

Violent behavior can be expressed in different ways in the school, such as aggression, bullying behavior, and school violence. *Aggression* is the most general term used by scholars to refer to a form of behavior in which the perpetrator intends to harm someone else, either

physically, psychologically, or in other possible ways (Berkowitz, 1993). *Bullying* had been

described in the literature as a subtype of aggression (Espelage & Swearer, 2003), defined as a

systematic and repetitive aggression against the same individual or groups (victim), which is

spread over time and involves the same students. This repetitive behavior can occur over a short

or long period of time (Olweus, 1993, 1994). Finally, *school violence* refers to a more general

term of interpersonal violence in the school context, and it can take on different expressions,

including verbal, emotional, or sexual aggression among the members of a school community

(Benbenishty & Astor, 2005).

The literature on violent behavior in school is rich and diverse, but has mostly focused on

early negative predictors or risk factors. Yet, researchers indicate the importance of considering

multidimensional influences, patterns across developmental stages, and behavioral context when

studying school violence (Furlong & Morrison, 2000). Few researchers, however, have also

examined the contribution of other variables that can moderate, mediate, and prevent violent

behavior and its negative consequences (Farrington, 2007). Therefore, studies that consider the

interplay between risk and promotive factors are needed to complement current knowledge about

school violence.

Violent behavior among adolescents has a direct relationship with peer, family, and

community level risk exposure. Yet, this risk can be simultaneously associated and moderated by

cumulative protective factors (Pardini, Loeber, Farrington, & Stouthamer-Loeber, 2012;

Stoddard, Zimmerman, & Bauermeister, 2012). The school context and different school variables

can have a protective influence on violent behavior. Furthermore, the school context can

contribute to the prevention of violent behavior (Kasen, Berenson, Cohen, & Johnson, 2004)

through different variables and mechanisms, such as *school attachment*, positive *teacher student relationships*, and *school satisfaction*.

Researchers have examined the relationship between students and their schools by assessing the feelings of *attachment* or belonging to the school in everyday situations. Feeling attached to the school is an important promotive factor associated with less youth violence (McNeely & Falci, 2004; Logan-Greene et al., 2011; Henry, Knight, & Thornberry, 2012). Another important aspect of the school experience is the relationship between teachers and students. Based on self-determination theory students need to connect with others such as family, peers, and teachers (Skinner & Pitzer, 2012), and the resulting ties will contribute to the internalization of values that can protect youth from developing positive attitudes about violence and violent behavior (Roth, Kanat-Maymon, & Bibi, 2011). In addition to student-teacher relatedness school satisfaction and school climate may also play a role in school violence. *School satisfaction* is a cognitive evaluation of students' contentment with their school (Casas, Bălţătescu, Bertran, González, & Hatos, 2013), which is important for their adjustment in the school. *School climate* can be defined as the quality and character of school life considering students' experiences with their particular school's norms, goals, values, interpersonal relationships, and organizational structures (Cohen, Mccabe, Michelli, & Pickeral, 2009). Steffgen, Recchia, and Viechtbauer (2013) studied school climate and school violence by examining 145 studies and found that students' self-reported school climate was associated with school violent attitudes and behavior.

Thus, the purpose of my dissertation was to examine the role of different school variables that could contribute to understanding school violent behavior and its negative consequences. Researchers have identified several school variables that explain youth adjustment, but few have

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also considered these variables to be useful for explaining youth violence over time or in different cultural contexts.

My first paper highlighted the importance of school attachment and its effect on violent behavior later in life, by examining a sample of high school students through early adulthood. This study focused on the effects of school experiences later in life. I found an underlying mechanism by which the effect of school attachment operates on violent attitudes and subsequent violent behavior. I found that more school attachment in high school was associated with less violent attitudes the following year which predicted subsequent violent behavior. Thus, school attachment had effects on violent behavior several years later through its effect on approving attitudes of violence as an effective strategy to solve problems. These results are consistent with previous studies of the importance of social cognitive processes for explaining youth violence (Ali, Swahn, & Sterling, 2011; Gudjonsson, Sigurdsson, Skaptadottir, & Helgadottir, 2011). Thus, attitudes are self-regulated beliefs that guide behavior and are important for understanding violent behavior (Huesmann & Guerra, 1997). These results suggest that efforts to help youth feel attached to school may be a useful strategy for preventing violent behavior. For instance, school curricula could be examined in terms of insuring strategies that help student connect with and value school. Moreover, teachers and school personnel become important role models for students that can further help them feel attached to school and thereby helping to prevent violent attitudes among them.

My second study examined the development of early peer rejection and aggressive behavior through the transition from elementary to middle school. The study was guided by the idea that the effect of peer rejection and aggressive behavior on the levels of bullying behavior and victimization and emotional engagement in school. I used a longitudinal sample of early

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adolescents from the Midwestern region of the U.S. Aggression and peer rejection are considered to be stable over time and lead to more extreme acts of violence across development stages (Farrington, 1995). Moreover, Eccles et al. (1993) found that early adolescents may experience a downward spiral of school motivation and engagement, which highlights the importance of examining this developmental period.

Results of my second study indicated a direct effect of peer rejection and aggression on bullying behavior and victimization over time. These results add to the literature on school violence by providing evidence of the importance of peer relationships in elementary school. In particular, I found that students who behave more aggressively or are rejected by peers will engage in further bullying behavior when they were in 7th grade. Similar results were found for bullying victimization as well. Considering that these behaviors take place away from the presence of adults, and therefore with no supervision, the development of self-management behavior techniques is important because they promote student autonomy in schools settings (Doll, Song, & Siemers, 2004). Moreover, a developmental perspective is vital to understanding peer behaviors in the school context because it can pinpoint topics for early prevention and inform educators of their possible roles in intervention efforts. Those students more at risk during earlier schools years may be at greater risk later in middle school, especially considering the contextual change in setting brought on by moving to a larger school. Therefore, early socio-emotional support during elementary schools, especially for students more at risk in their peer relationships, is a vital prevention measure.

In study two I also tested the moderating (protective) effect of teacher-student relatedness on the relationship between peer rejection and aggressive behavior and the likelihood of the becoming a bullying victim or perpetrator. Previous researchers have pointed out the benefits of

positive teacher-student relationship on later levels of engagement and adjustment (Furrer & Skinner, 2003; Skinner & Pitzer, 2012). Yet, few have considered these variables effects on bullying behavior and victimization during transition to middle school. I found that the relationship between peer rejection and becoming a victim of bullying was moderated at higher levels of teacher-student relatedness. Although researchers have highlighted the importance of teacher support for student adjustment and engagement in school, my results expand on the benefits of that closer relationship, particularly by considering school transition. These results support the protective model of resilience (Fergus & Zimmerman, 2005). They also suggest that efforts that enhance teacher-student relationships may have an effect on school bullying as well and help youth during school transitions when they may be most vulnerable for bullying behavior and victimization (Rodkin & Ryan, 2011).

My final paper studied the relationship between school violence and life satisfaction in a sample of urban Chilean youth. In particular, I examined the role of school satisfaction as a possible factor that influences the relationship between school violence and life satisfaction. In addition, I included student self-reports of the perception of school climate and its influence on school violence. I examined the mediating effects of school satisfaction on school violence to inform our understanding of how school connectedness can play a role in supporting children's well-being (Ryan & Deci, 2009). In particular, I studied life satisfaction as an indicator of well-being (Huebner, 1991). Researchers have reported that life satisfaction has a positive influence on youth development (Park, 2004) and other positive outcomes for youth (Gilman & Huebner, 2006; Proctor, Linley, & Maltby, 2009).

My results confirm the importance of school variables, such as school climate and school satisfaction, for explaining levels of life satisfaction among youth who face violent behavior in

school. In particular, I found that being a victim of school violence reduces life satisfaction indirectly through school satisfaction. In contrast, perpetrating school violence has no indirect effect on life satisfaction. In addition, I found evidence of a negative relationship between school climate and school violence, regardless of students' roles as a victim or perpetrator of violence.

This third paper adds to the literature by highlighting the importance of school satisfaction especially for those students who face violent episodes as victims of bullying. Although researchers have found that victims are at most risk for poor adjustment (Felix, Furlong, & Austin, 2009) and low levels of life satisfaction (MacDonald, Piquero, Valois, & Zullig, 2005; Valois et al., 2006; Martin & Huebner, 2007; Proctor, Linley, & Maltby, 2009), my results suggest that one mechanism by which these effects occur is by reducing school satisfaction. These results suggest that efforts to improve school climate may both improve school experiences of youth and their overall adjustment outside of school. My results add to the literature indicating a moderate effect of school climate on school violence (Steffgen, Recchia, & Viechtbauer, 2013), and extend it by highlighting how these factors also influence life satisfaction more generally.

Considering the three studies together, my dissertation adds to the literature in several ways. First, the studies build a bridge between psychological research focusing on risk at the individual level, by focusing on the role that the school context, such as school attachment, teacher-student relatedness, and school satisfaction may play in understanding violent behavior and the potential of school related factors for preventing violent behavior. An educational research approach can complement youth violence research by providing more unique features from the school context that can enrich our understanding of violent behavior. In addition, this

research also suggests that schools are both a place for learning math and language skills and healthy social development.

Second, the results of the papers corroborate previous theoretical explanations for antisocial behavior. Social control theory establishes the importance of connecting with conventional institutions to incorporate norms and values from society (Hirschi, 2002; Gottfredson, 2001). When the students self-reported liking and caring about the school, I found an inverse relationship with antisocial behavior, such as school violence. Furthermore, when they reported having established positive relationship with the school, such as attachment and relatedness with teachers, the effect of the school is expressed over time.

Social cognitive information processing models have focused on scripts, beliefs, and the learning process (Huesmann, 1986; Huesmann, 1988). According to this model an aggressive child is one who has acquired aggressive scripts to guide such behavior in their early life, leading to the development of violent attitudes. Therefore, every individual builds a network of cognitive scripts and beliefs for social behavior, some of which emphasize aggressive response. This is a particularly important consideration during the schools years because children will learn these behaviors and crystallize these cognitions (Huesmann & Guerra, 1997; Anderson & Bushman, 2002; Bushman & Huesmann, 2010). Conversely, school variables can contribute to modeling and teaching an alternative set of behavioral scripts in order to prevent youth violence, converting the school into a place where children learn how to co-exist and respect others.

Third, the results of the papers reinforce the idea that school violence goes beyond violence that simply takes places in schools (Furlong & Morrison, 2000). Schools represent an important context for children as they spend significant amounts of time with peers and non family adults in this context. Thus, they are a significant proximal context that can play a crucial

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role in youth development. Moreover, the school is one of the most important contexts for the social and emotional development and growth of children (Eccles & Roeser, 2010). My three papers contribute to our understanding about how different aspects of the school context that may help understand violent behavior and positive youth development. In addition, these provide new insights for preventing violence among youth that focus on school contextual variables not typically considered in the violence prevention literature. Most school violence research simply considers schools as a vital location in which violence prevention needs to take place. My studies, however, suggest that interventions that focus on improving the school environment for educational purposes may also be a strategy for reducing school violence (Dessel, 2010).

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