

2019

The Impact of Bullying Participant Role on the Relationship Between School Climate and Attitudes Towards Interpersonal Peer Violence

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THE IMPACT OF BULLYING PARTICIPANT ROLE

The Impact of Bullying Participant Role on the Relationship Between School Climate and
Attitudes Towards Interpersonal Peer Violence

By

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Dissertation submitted in partial fulfillment of the requirements
for the degree of

Doctor of Philosophy
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Abstract

Positive school climate has been linked to lower levels of school violence and interpersonal conflict. Interventions that impact school climate have been shown to powerfully impact school violence and bullying prevalence. The current study used data collected from three middle schools in the same Rocky Mountain town. The survey tool contained items asking students about their behaviors when confronted with interpersonal conflict such as bullying, their attitudes towards interpersonal conflict, and their perceptions of their school's climate. Significant differences were found between genders on attitudes towards interpersonal peer violence but no differences were found in the distribution of genders across participant roles. In addition, significant differences were found between bullying participant roles on both attitudes towards interpersonal peer violence and in perceptions of school climate. Finally, a moderated regression revealed a significantly stronger relationship between attitudes towards interpersonal peer violence and school climate in the defender group compared to other participant roles. This study contributes to the knowledge base surrounding school climate and will assist those who design school climate interventions in developing a more nuanced approach for reducing bullying and challenging students' attitudes about the acceptability of interpersonal peer violence.

Keywords: school climate, bullying, participant roles, interpersonal peer violence

Acknowledgements

Several people contributed over the years to making this dissertation, and my education in general, possible. First and foremost, my graduate advisor, Dr. Greg Macheck, has walked me through my education with wit, knowledge, and wisdom. He has pushed me to produce my best work and has never let me get away with less than my best. His honesty has made me the researcher and practitioner that I am today.

My husband, partner in crime, and fellow school psychologist, Taylor has provided me with unending support and motivation throughout this whole wonderful and horrible process. Whether it was writing notes about being proud of me, doing chores, or proofreading my final draft, he was always by my side, reminding me of how far I have come and why I am doing this. He has been a source of knowledge, perspective, love that I could not survive without.

My amazing cohort has provided countless late-night messages of encouragement and hope throughout the past six years. I was so lucky have both an Ed.S, cohort and a Clinical cohort- both of whom were formative in my development as a school psychologist, a professional, and a colleague. Whether it was Thursday dinners at James Bar or Wednesday night statistics homework, my success in graduate school would not have been possible without them.

Finally, my family. Both the ones close by and the ones across the country. Aunt Patty, Uncle Jeff, Allison, Ryan, Ayla, Addy, and Joel made graduate school possible for me because I could escape to the Bitterroot Valley for love, support, tacos, and pizza. I will forever treasure my years in graduate school because it allowed me to grow and deepen my relationship with them. My mom, stepdad, dad, stepmom, and favorite sister provided love and support from afar. Alternating tough love with pride and encouragement, somehow always knowing what I needed when I needed it.

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Chapter I: Purpose and Rationale

In a study performed by the United States Secret Service (2002), it was found that 71% of school shooters perceived themselves to have been victims of bullying in the past (Vossekuil et al., 2002). This is particularly alarming given that bullying is widespread in schools across the nation (Renfro et al., 2003). Although bullying is often thought of as a problem that is restricted to the bully and the victim, bullying diminishes student feelings of school safety and school engagement, which impacts all children in a given school (Mehta et al., 2013). In an attempt to capture bullying's impact on all learners, recent research emphasizes bullying as a group process in which most children can be categorized into six definable participant roles (Salmivalli et al., 1996). In this model, even children who are outsiders or bystanders are considered participants because of their role in allowing the victimization to continue without intervention (Salmivalli et al., 1996).

School level factors such as school discipline levels, academic focus, and relationships between students and teachers have shown to impact bullying levels (Bosworth & Judkins, 2014; Low & Ryzin, 2014). Although bullying has the potential to occur anywhere in school, it is most frequently observed in unsupervised areas such as hallways or on the playground (Belančić, Nikčević-Milković, & Šuto, 2013; Craig, Pepler, & Atlas, 2000). A higher student teacher ratio has also been associated with a higher likelihood of teachers witnessing bullying, suggesting that one means of decreasing bullying is to increase the number of teachers available to mediate and intervene when conflicts arise (Waasdorp et al., 2011).

Recently, bullying and victimization have been discussed in the context of school climate because of the reciprocal relationship that bullying and school climate share. Although definitions of school climate vary, most definitions agree that it is a property of a school that is a

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composite measure of school safety, school engagement, and school environment (Bradshaw et al., 2014; Thapa et al., 2013; Van Horn, 2003). School climate is a predictor of academic achievement and student psychosocial well-being. Positive school climate has been shown to increase the effectiveness of targeted bullying interventions, and has been implicated as a direct means of decreasing bullying because of its emphasis on systemic change within a school, rather than within an individual student or group of students (Bosworth & Judkins, 2014; Low & van Ryzin, 2014). Targeting bullying and investigating its link to school climate is of the utmost importance (Fontana, 1999).

The purpose of this study is to investigate the relationship between middle school students' attitudes towards interpersonal peer violence and their own behavioral role during incidents of school bullying. Previous research suggests a strong link between attitudes and behavior but the extent to which attitudes predict a students' particular participant role during incidents of bullying is sparse (Salmivalli & Voeten, 2004). In addition, this study seeks to investigate whether or not the relationship between students' attitudes towards interpersonal peer violence and students' perceptions of school climate changes according to their bullying participant role.

The current study used data collected from three middle schools in the same Rocky Mountain city. The survey tool contained items asking students about their behaviors when confronted with interpersonal conflict such as bullying, their attitudes towards interpersonal conflict, and their perceptions of their school's climate. It was created using items from the United States Department of Education School Climate Scales (EDSCLS), the Participant Role Questionnaire (PRQ) and the Attitudes Towards Interpersonal Peer Violence Scale (ATIPVS) to discover if children in different participant roles have different perceptions of school climate in

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the domains of school engagement, school safety, and school environment (Dept. of Education, 2016; Salmivalli et al., 1996; Slaby, 1998). Given previous research, this study proposed four aims: (a) to determine if gender differences existed between in the distribution of participant roles and attitudes towards interpersonal peer violence; (b) to determine if middle school students in different participant roles endorsed different attitudes towards interpersonal peer violence; (c) to determine if middle school students in different participant roles endorsed different perceptions of school climate; (d) to determine if the relationship between perceptions of school climate and attitudes towards interpersonal peer violence changed according to students' participant roles.

Chapter II: A Review of the Literature

Definition of Bullying

Although there is not one accepted definition of bullying, most definitions include intentional harm doing, a power differential between the bully and the victim, and chronicity of the victimization (Olweus, 1995). Further, although not definitional in nature, other traits help to characterize the harmful actions observed when one child victimizes another. Peer aggression in school children can take a number of forms. It is common to classify aggression into reactive and proactive subtypes. Aggression that is classified as reactive would be preceded by some provocative act by the victim such as refusing to lend a pencil or refusing to move over in line. This provocative act is not necessarily an intentionally aggressive act but one that in the mind of the reactive aggressor would require retribution (Dodge, 1991). Conversely, proactive aggression is a type of aggression in which the aggressor has some goal in mind (Dodge, 1991). It is instrumental because the acts of aggression work to achieve some preplanned, desired outcome for the aggressor (Espelage & Swearer, 2003). Although it is not uncommon for some difficult students to show high levels of both types of aggression, it is proactive aggression that is seen as more prototypically “bullying” in nature. This is because of the intentionality and lack of provocation seen in proactive acts (Espelage & Swearer, 2003).

Physical bullying. Bullying has many different subtypes but the greatest amount of research has focused on physical and relational subtypes.

When one pictures a situation that involves bullying, one typically imagines a larger child, usually a boy, “picking on” or physically hurting a smaller child. Physical bullying incorporates bodily harm inflicted on a victim that is repeated, intentional, and incorporates a power difference between the bully and the victim (Olweus, 1995). This narrow conceptualization of bullying as purely a physical act is partially due to the fact that direct,

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physical bullying is frequently displayed in the media and in movies or television shows. This is also how bullying is frequently typified because it is so noticeable and disruptive in the classroom and on the playground. School personnel have shown to rate physical bullying as more serious than other types of bullying and intervention in these situations is relatively more common because of the threat of imminent physical harm (Bauman & Del Rio, 2006).

Relational & verbal bullying. Relational bullying occurs in interpersonal contexts in which social hierarchy, social rules, and acquisition of social power are primary motivators of behavior. Research suggests that children who engage in relational bullying have a high level of social cognition and theory of mind (Smith et al., 2012; Sutton, Smith, & Swettenham, 1999). Awareness of the social rules of the classroom and the social dynamics between peers are important skills if the goal of the bullying behavior is to manipulate these dynamics. This high level of social cognition may explain why relational bullying is not topographically consistent. It may involve direct action (e.g. making the friendship conditional upon some act to coerce the victim), social alienation (e.g. refusal to engage the victim in conversation), rejection (e.g. rumor spreading such that peers will not include the victim in play activities) or social exclusion (e.g. refusal to invite the victim to social events; (Yoon, Barton, & Taiariol, 2004). Regardless of whether the aggressive action is direct or indirect, it has been shown to contribute negatively to feelings of safety at school (Goldstein, Young, & Boyd, 2008). Bullies who engage in these types of behaviors do not fit the commonly held belief that bullies are socially inept, “oafish” children who lack communication skills and therefore use force to achieve their needs (Sutton et al., 1999). On the contrary, children who engage in relational bullying have a large number of complex social tools (e.g. humiliation, exclusion, harassment) that allow them to inflict harm on their victims in many different ways (Sutton et al., 1999).

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Participant Roles and Their Characteristics

A 2006 study investigating the experiences of victims and bully-victims proposed that bullying occurs on a continuum rather than as a dichotomous variable in which a child is a bully or a victim (Dulmus, Sowers, & Theriot, 2006). This study echoed the findings of an earlier study investigating bullying as a group process which found that bullying is perpetrated, sustained, and prevented outside of the bully-victim dyad (Salmivalli et al., 1996). Instead, this study suggested that most children in a school have a role in bullying either as a bully, a victim, a reinforcer of the bully, an assistant to the bully, a defender of the victim, or an outsider (Salmivalli et al., 1996). Recent research has defined the existence of a 7th group, bully-victims (Dulmus et al., 2004; Mlisa et al., 2008; Salmivalli & Nieminen, 2002). This conceptualization of bullying suggests a more complex relationship between students in which victimization is a group process where choosing to be directly involved is as impactful as choosing to ignore the conflict because choosing to ignore may communicate approval or permission (Salmivalli et al., 1996). In other words, children do not have to join in the bullying to perpetuate the cycle. Several studies have estimated the distribution of participant roles among students. Most recently, a 2016 study on 1,638 adolescents found the following distribution of participant roles: 8.7% bullies, 12.1% assistants, 12% reinforcers, 10% victims, 18.9% defenders, 24.1% outsiders, and 13.8% unassigned or without a clear role (Pouwels, Lansu, & Cillessen, 2016). Overlap between roles was not reported but it is known that it occurs frequently enough that the “unassigned” category was created so that these children are able to be accounted for (Pouwels et al., 2016; Salmivalli et al., 1996).

Interestingly, there are gender differences in the distribution of participant roles. Males are more likely to be bullies, reinforcers, or assistants, and females are more likely to be

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defenders or outsiders (Pouwels et al., 2016; Salmivalli et al., 1996). This uneven distribution may be due to the cultural tendency for females to be raised to hold more empathic views and for males to be brought up using aggression and physical force to resolve conflict; however, a clear reason for these differences has not yet been discovered.

Bullies. Students who are characterized as bullies take on a leadership role when victimizing other students. They are active and take initiative in perpetrating aggression against others (Salmivalli et al., 1996). They also show poorer academic adjustment than their victims, characteristics which have been shown to continue into adulthood (Melander, Hartshorn, & Whitbeck, 2013; Ragatz et al., 2011). Although bullies show high levels of antisocial behavior, in many cases they also hold socially dominant positions and there is a subset that is reported by their peers to be highly popular (Pouwels et al., 2016). Although bullying exists across races, in a sample of indigenous youth, high levels of perceived discrimination predicted a higher likelihood of being a perpetrator of bullying and in schools where a small percentage of the student body identifies as non-white, native American and African American youth are more likely to be perpetrators of bullying (Carlyle & Steinman, 2007; Melander et al., 2013). This suggests that children who bully may do so as a result of prior experiences being victimized, especially in schools where the demographic makeup of the school has only a small percentage of students of color (Carlyle & Steinman, 2007; Melander et al., 2013).

Assistants and reinforcers. Assistants and reinforcers play a supportive role to bullying and are not considered to be the primary aggressors. An assistant may hold a victim down or seek out a victim on behalf of a bully whereas a reinforcer may not physically or emotionally engage the victim but instead shout approval to the bully or work to draw a crowd so that the bully has an audience (Salmivalli et al., 1996). Behaviorally and socially, assistants and

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reinforcers often are viewed as being on the same level as bullies (Pouwels et al., 2016). They play a vital role in perpetuating bullying by drawing attention to the bully. It has been found that bullies are more sensitive to the reinforcing nature of positive peer feedback than to negative consequences such as intervention from defenders (Salmivalli, Voeten, & Poskiparta, 2011). This highlights the crucial role of assistants and reinforcers and may mean that although a teacher or a peer may step in to intervene, the aversive nature of punishment is outweighed by the positive reinforcement enjoyed from the attention received (Salmivalli et al., 2011). Both reinforcers and assistants act to amplify the impact of the victimization but likely will not have a leadership role, instead choosing to follow the instructions of the bully. This may lead to tight social bonds being formed between bullies, assistants, and reinforcers. In fact, one study found that children in these roles tended to belong in social networks with other children who were bullies, assistants, and reinforcers and that these children tend to organize their peer associations around their participant roles (Salmivalli, Huttunen, & Lagerspetz, 1997). The reason for this has not been specifically noted but it has been found that children who are more supportive of bullies in written vignettes tend to have lower levels of empathy towards others (Almeida, Correia, & Marinho, 2009). Similar levels of empathy may explain why bullies, assistants, and reinforcers show a tendency towards networking among one another rather than outwards towards children who show higher levels of empathy and moral engagement, such as defenders (Almeida et al., 2009).

Victims. Students who are considered victims are targeted by other children both directly and indirectly (Salmivalli et al., 1996). Children become victims for many reasons and it is difficult to reliably predict which children will become victims and which will not. In most cases, victims are perceived to be weaker than bullies, are ineffective at defending themselves, or

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may react to bullying in ways that are reinforcing to the bully. Studies have attempted to elucidate a common theme amongst all cases of bullying (Veenstra et al., 2005). These studies have pointed to many individual traits including low socioeconomic status, minority status, disability status and high academic achievement as reasons for being bullied but no one trait is present in all cases of bullying (Lemstra et al., 2011; Melander et al., 2013; Rose, Espelage, & Monda-Amaya, 2009; Tippett & Wolke, 2014).

Once a student has been made a victim of bullying, he/she is more likely to be victimized again either by the same perpetrator or by others, creating a toxic cascade of events that leads to increased depressive symptoms, higher likelihood of holding a weak social position, and increased reactive aggression (Carlyle & Steinman, 2007; Pouwels et al., 2016; Salmivalli & Nieminen, 2002). A 2014 study on victimization in middle school found that 11% of students were chronic victims of bullying (Smokowski, Evans, & Cotter, 2014). It has also been found that victims had more difficulty with social cognition compared to bullies, which may negatively impact their ability to create protective factors such as a network of social support (Gini, 2006). One study found that secondary students' reports of victimization were related to levels of peer support (Gage, Prykanowski, & Larson, 2014) Indeed, it has been suggested that differences exist between the experiences of victims who have support and victims who do not, perhaps because students with social support are more likely to have friends to act in their defense (Salmivalli et al., 2011).

Bully-victims. Although Salmivalli's original description of the participant roles in bullying does not account for children who are both victims and bullies, this group of students is an important one to consider because of their high levels of both proactive and reactive aggression (Salmivalli & Nieminen, 2002). In fact, children who are bully-victims have shown to

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display higher levels of aggression than either victims or bullies (Salmivalli & Nieminen, 2002). These aggressive behaviors in school may explain why bully-victims show high levels of criminal thinking, psychopathy, and criminal behaviors later in life (Ragatz et al., 2011).

Children who are bully-victims have shown to suffer higher rates of victimization including verbal, relational, and physical bullying (Dulmus et al., 2006). In fact, recent research found that in one sample, bully-victims experienced four out of nine possible bullying behaviors between 2 and 3 times a month, totaling a minimum of 8 incidences of bullying per month (Dulmus et al., 2006). In addition, children who were bully-victims, were more likely than children who were just victims to report feeling indifferent towards children who were bullied, or feeling as though the bullied children deserved the abuse (Dulmus et al., 2006). Recent research has also shown that bully-victims attribute more blame to ambiguous social scenarios and have a higher proclivity for anger and vengeance (Camodeca et al., 2003). This attitude of attributing blame to victims suggests that children who have been victimized may be using these negative experiences to internally explain their own victimization as well as justify their violent actions toward others (Dulmus et al., 2006). It also points to the fact that a subset of children holds the belief that there are instances in which bullying is excusable and that this subset may be willing to act on this belief to the detriment of their peers.

Defenders. Students who are defenders are the children who are the most likely to directly stop the bully, encourage the victim to report the bullying to an adult, or report the bullying themselves (Salmivalli et al., 1996). Girls are more likely to be defenders than boys, although boys are represented in groups of defenders (Pouwels et al., 2016; Salmivalli et al., 1996). A study investigating the moral and social cognitions of children in different participant roles found that children who are defenders have a higher moral sensibility than children in other

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participant roles (Gini, 2006). In addition, defenders tend to show high levels of prosocial behaviors and have high sociometric status, a position which may allow them the social credibility stand up to a bully or report the actions of the bully without fear of retribution (Pouwels et al., 2016).

Outsiders. Students who are outsiders who choose not to participate directly in the bullying conflict may serve to encourage the bully by nonverbally communicating approval (Salmivalli et al., 1996). Although one intervention strategy is to instruct children not to get involved when they encounter another child being victimized, this may not be effective in discouraging the bully. In fact, when a student steps in to defend against a bully significant reductions in bullying frequency within a classroom are observed and interventions that work to empower bystanders to defend victims have shown decreases in bullying incidents (Ross, Horner, & Higbee, 2009; Salmivalli et al., 2011).

Prevalence of Bullying

The lack of a standard definition in psychological research and school settings creates difficulty in determining true prevalence rates of bullying, though it is more likely that this causes more underestimation than overestimation (Swearer et al., 2010). Adding to difficulty in ascertaining true prevalence rates, bullying is most likely to occur in unsupervised areas such as the hallway or on the playground (Belančić et al., 2013; Craig et al., 2000)

Prevalence rates of both relational and physical aggression change according to age (Wang, Iannotti, & Nansel, 2009). More specifically, decreases in both types of aggression are correlated with increasing age (Wang et al., 2009). Research has found that the typical trajectory of bullying involves a sharp increase and peak in bullying in early adolescence (between the ages of 11 and 13 years) followed by a steady decline during high school; although it does not

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disappear completely in the high school years (Espelage & Swearer, 2003). This sharp increase has been hypothesized to occur as a result of the disruption of the social hierarchy that occurs during the transition between elementary and middle school but little research supports this notion (Farmer et al., 2011).

Prevalence in rural communities. Although early research on bullying in rural communities (Olweus, 1993a) suggests bullying prevalence is equal to or less than in urban communities, more recent research suggests that rural schools have higher rates of bullying than urban schools (Dulmus et al., 2004). A 2004 study in rural Appalachia, United States found that 82.3% of students in the 192 student sample reported experiencing bullying in the past 3 months (Dulmus et al., 2004). This prevalence rate complements the results of a nationwide study in 2009 study of over 7,000 students in grades 6-10 stating that 12.8% of children had suffered physical victimization, 36.5% had been verbally victimized, 41% had been relationally bullied, and 9.8% had been cyberbullied (Wang et al., 2009). However, this rural sample showed differences from past research reporting that bullying typically peaks in the middle grades and is followed by a sharp decline in high school (Espelage & Swearer, 2003). Specifically, children in grades 3-5 indicated higher rates of being bullied compared to children who were in grades 6-8, who formed a larger percentage of the non-bullied group (Dulmus et al., 2004).

Prevalence and gender. A commonly held belief about bullying is that it is typically seen more in boys than in girls. There is research in support of this, but only when comparing rates of physical bullying (Björkqvist, 1994; Wang et al., 2009). A 2009 study found that 18.8% of boys were involved in physical bullying whereas only 8.8% of girls were involved (Wang et al., 2009). Although males are more likely than females to be bully perpetrators, recent research has debunked the myth that bullying is solely a male behavior (Pouwels et al., 2016; Salmivalli

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et al., 1996). In terms of relational bullying, boys and girls show similar rates. In a 2009 study, 26.8% of boys and 27.5% of girls reported using relational bullying in order to victimize a peer (Wang et al., 2009). This research suggests that girls do not abstain from bullying altogether. Instead, they are less likely to engage in physical bullying, a form of bullying which is more noticeable by teachers, but are as likely as boys to be involved in indirect forms of aggression such as relational bullying (Crick & Grotpeter, 1995).

Prevalence and age. Studies of children in middle schools and high schools across the United States found that although bullying declines as children age, bullying is present at all grade levels (Evans, Smokowski, & Cotter, 2014; Wang et al., 2009). Specifically, one study found that physical bullying decreased from 14.9% to 11.0% between grades 6 and 10 regardless of gender. Verbal and relational bullying demonstrated similar declines, although both were comparatively more prevalent than physical bullying in the high school years (Wang et al., 2009). In a 2005 study of 7,182 children in sixth grade through tenth grade, 25.6% of students reported being victims of social isolation and 31.9% reported being victims of rumor spreading (Wang et al., 2009). More specifically, 50% of sixth graders reported being the victims of relational bullying while 35.7% of tenth graders also reported being victims (Wang et al., 2009). Further evidence for the persistence of relational aggression in older years can be found in a 1999 study in a college-aged sample (Werner & Crick, 1999). In summary, although relational bullying may hit its peak in the middle school years, the overall prevalence rate remains high into high school.

Effects of Bullying

Children who have been the victims of bullies have also been shown to develop an intense fear of school and school activities. These feelings of fear and anxiety contribute to

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school refusal, poor school performance, higher levels of depression and a more negative view of themselves than children who are not victims of bullies (Olweus, 1993). Interestingly, bullying also impacts feelings of safety at school for victims and bullies alike (Glew et al., 2008). Not surprisingly, victims of bullying report drops in academic scores and are two times more likely to display depressive symptoms than children who are not bullied (Hazler, 1992; Lemstra et al., 2011). Children who have high involvement in bullying either as a bully or a victim report feeling more unsafe and having lower belonging in school compared to children who have low involvement in bullying (Goldweber, Waasdorp, & Bradshaw, 2013; Waasdorp et al., 2011). In addition, it has been found that children who report that they have been bullied in school are less likely to be academic high achievers and are more likely to dislike or feel neutral towards schools, which may be due to the fact they often have fewer friends and a thinner network of social support compared to children who are not victimized (Batsche & Knoff, 1994; Bayar & Uçanok, 2012; Dulmus et al., 2004). In schools with increased perceived teasing and bullying, drop-out rates are higher (Cornell et al., 2013; Swearer et al., 2010). Children who are involved with bullying regardless of bully or victim status hold perceptions of their school climates that are lower than students who are not involved, and therefore do not fully experience the psychosocial and academic benefits of a positive school climate (Nickerson et al., 2014). Finally, being bullied is linked to displaying aggressive behaviors and holding proviolent beliefs consistent with the attitude that violence is a constructive means of solving problems, which may contribute to a cycle of violence that perpetuates bullying (Stockdale et al., 2002).

The psychological, social, and academic impacts of being victimized highlight the importance of gaining a better understanding of the different types of bullying and the ways in which these forms of bullying are interpreted and intervened upon.

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School Climate

School Climate is a composite measure of the environment of a school that, depending on the scale, includes measures of school safety, school engagement, and school environment (Bradshaw et al., 2014; Thapa et al., 2013). There is no universally operationalized definition of school climate but these dimensions are some of the most commonly found between measures. Within these dimensions, some of the most common factors include academic focus and delivery; interpersonal relationships between faculty, staff, parents, and students; physical and emotional safety; institutional environment; and school improvement efforts (Thapa et al., 2013). Schools who score highly on overall school climate measures tend to have higher academic achievement, lower levels of burn out, and higher enrollment in institutions of higher education (Haynes, Emmons, & Ben-Avie, 1997; Salmela-Aro et al., 2008). Schools with positive school climate also report stronger attitudes against aggression, higher bystander intervention, and lower levels of peer victimization (Lee & Song, 2012; Low & Ryzin, 2014).

School engagement. School engagement is an element of school climate that combines the relationships between students, the ability of students to connect with their school, and the cultural competence of school staff. Of these elements, the most well understood is that of the interpersonal relationships between students and staff. Interpersonal relationships are the connections made between peers, between students and staff, and between staff that allow for trust, confidence, and knowledge to be communicated. Peer support, even more than adult support, is a significant factor in whether or not a student is bullied, which has a significant impact on school climate (Gage et al., 2014; Nickerson et al., 2014). Children who attend schools with a high tolerance for diversity and who experience high levels of positive student-teacher relationships report lower levels of bullying and higher feelings of safety while at school, all of

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which contribute to a positive school climate (DeRosier & Newcity, 2005; Richard, Schneider, & Mallet, 2012). One avenue where school climate may decrease incidences of bullying is in students' ability to seek help because of their trust in school staff. A supportive school climate is associated with a higher likelihood of seeking help when faced with bullying, which increases the opportunity for teachers to show disapproval of bullying and administer consequences (Connolly & Corcoran, 2016; Hoover & Hazler, 1991).

Teacher perceptions and actions toward bullying have repeatedly been shown to have a powerful impact on levels of bullying, student perceptions of bullying, and whether or not students report bullying (Aceves et al., 2010; Lee, 2010). As the authority figures with whom students have the most interaction, teachers are the best candidates for promoting school belonging at a systems level by demonstrating overall lack of approval or non-approval of aggressive behaviors (Craig et al., 2000). When teachers are able to acknowledge and address bullying in the classroom, students are more likely to have an intolerance for bullying as well as to report it (Aceves et al., 2010; Pryce & Frederickson, 2013).

On an individual level, the quality of student-teacher relationships is also an important factor in reducing bullying (Richard et al., 2012). In classes where teacher disapproval of bullying behaviors is apparent, victims tend to be more comfortable in coming forward, allowing teachers more opportunities to intervene and demonstrate the unacceptable nature of bullying (Connolly & Corcoran, 2016; Pryce & Frederickson, 2013). Student perceptions of school environment and teachers' views on interpersonal violence are also related to lower levels of relational bullying even more than actual observed school environmental factors such as responsiveness to violence (Elsaesser, Gorman-Smith, & Henry, 2013). Therefore, whether or not measured levels of

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responsiveness to violence are low, if teachers are able to give the impression of action and intolerance to violence, levels of relational bullying have the potential to be reduced.

School connectedness, or the degree to which students, staff, and parents feel as though they are a valued member of their school community is also a large contributor to interpersonal relationships. When school connectedness is high, children feel more cared for by those at school, and feel as though they are a valued member of the school community. In 1994, The National Longitudinal Study of Adolescent Health surveyed 75,515 students in grades 7-12 from 127 schools across the United States (McNeely, Nonnemaker, & Blum, 2002). Surveys collected a unique set of data that addressed both feelings of school connectedness as well as specific school attributes that contributed to those feelings (McNeely et al., 2002). School connectedness was measured by five items on the survey that addressed relationships between peers, feelings of safety, and, trust between students and staff. School attributes related to connectedness included demographic composition (e.g. rates of poverty and racial/ethnic composition), discipline policies (e.g. severity of punishments), structural school characteristics (e.g. class size and school size), student participation, teacher qualifications, and classroom management (McNeely et al., 2002). Results of the study revealed that a major contributor to school connectedness was classroom management and classroom climate, suggesting that individual teachers' behaviors and patterns of engagement with students have a significant impact on school connectedness. Indeed, an intervention for bullying and victimization that is frequently used involves developing strong bonds of trust between students and teachers (Ramsey, 2010). Small class size is often cited as being important for school connectedness because of the depth of relationships that the teacher is able to form with students. Interestingly, overall school size shows a stronger relationship with school connectedness than individual class size (McNeely et al., 2002). On

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average, children in smaller schools indicated higher levels of school connectedness (McNeely et al., 2002). This suggests that high school connectedness may be more dependent upon the larger school community and context, rather than the microclimate of an individual classroom which places the burden of connecting with students on the entire school community, including support personnel, administrators, and other staff.

School connectedness is lower in schools with harsher discipline policies, especially in those institutions where permanent expulsion was used as punishment for even a first time offender. This suggests that zero tolerance policies such as those used to respond to drug and alcohol offenses are detrimental to overall school connectedness (McNeely et al., 2002). Another study found that children with high levels of behavior problems such as stealing, lying, and assault had less commitment to school and weaker bonds with teachers, two strong measures of school connectedness (Fong, Vogel, & Vogel, 2008). Thus, a self-perpetuating cycle exists in which high levels of behavior problems are connected to lower levels of school connectedness, and school connectedness leads to higher levels of externalizing behaviors.

School safety. Schools that are safe pose less of a physical risk to children. Violence in schools comes in many forms, including gang activity at school, weapons such as guns or knives at school, and interpersonal violence such as fighting or bullying. School safety is the extent to which the school environment is free from violent actions, threats of harm, and risk of emotional or physical victimization. In addition to the direct impact of attending a school that is physically and emotionally safe, when children feel safe at school, they are better able to devote emotional and cognitive resources during the school day, engage with the learning process, and commit to school work (Astor, Guerra, & Van Acker, 2010; Thapa et al., 2013). They also are less likely to avoid school related activities and school altogether. Low levels of school safety have shown to

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not only impede learning but are also predictive of higher levels of mental illness and higher incidences of school drop-out (Cornell et al., 2013; Nijs et al., 2014). Similarly, research has shown that aspects of school safety such as peer aggression and bullying are associated with low academic achievement, low peer involvement, and conduct problems (Swearer et al., 2010).

School safety has been shown to be impacted heavily by school factors such as order and discipline as well as safe school promotion for marginalized groups such as gender and sexual minorities (Toomey, McGuire, & Russell, 2012). In addition, classroom level factors such as the perceptions of order and discipline and of teacher efficacy in intervening are highly related to whether or not students feel safe at school (Koth, Bradshaw, & Leaf, 2008; Veenstra et al., 2014). This suggests that feelings of safety are more complex than a direct relationship between violent actions such as fighting, gang activity, and bullying and highlights the importance of whole-school ecological investigation into factors that promote safe schools (Skiba et al., 2004).

School environment. School environment refers to the systems in place that define the day to day activities of the school. For example, universal behavioral expectations and discipline practices are important aspects of the institutional environment because they contribute to the overall engagement and connection between students and teachers. Schoolwide positive behavioral supports that encourage learning of positive behavior across the school also contribute to the overall institutional environment of a school and have been shown to have a supportive impact on enhancing bullying interventions (Bosworth & Judkins, 2014; Low & Ryzin, 2014). Furthermore, in schools that are high in informality, conflict, and social facilitation over academics, higher rates of bullying have been observed (Kasen et al., 2004).

Instructional environment. A school's instructional environment refers to the elements that impact the goals, values, and norms for the teaching and learning environment (Thapa et al.,

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2013). The primary goal of schools in the United States is to promote learning and educate children in academic as well as social/emotional skills. As such, the extent to which a school is able to provide a safe and supportive learning environment is a crucial element of school climate and a key contributor for building an effective school. Specific elements of teaching and learning that have shown to impact children's experiences of school include cohesion, respect, mutual trust, and cooperation between students and teachers (Thapa et al., 2013).

An environment in which children feel safe exploring new topics, asking for assistance, and sharing knowledge is supportive for learning and indicative of a positive school climate by reducing bullying behavior (Richard et al., 2012). Indeed, in schools that hold a high learning focus, declines in bullying behavior have been observed (Kasen et al., 2004). It has also been suggested that an environment that emphasizes learning not only promotes higher levels of academic achievement but higher levels of self-esteem as well (Kasen et al., 2004).

Beliefs About Violence

Recent research suggests that cultural and community values play a significant role in attitudes toward violence (Affonso et al., 2010). A 2010 study in Hawaii found that conflict between families can transcend generations and that many conflicts can be traced back to school-based disagreements. This points to school as an important venue for prevention of future violence. It also highlights the role that the family plays in perpetuating beliefs about violence as a means of resolving conflict, and the difficulty of eliminating the scars of past conflict between families (Affonso et al., 2010). In focus groups, loss of positive cultural beliefs and traditions was also implicated in the perpetuation of violence as was the importance of created anti-violence curricula that are specific to the communities in which they are implemented (Affonso et al., 2010).

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The development of attitudes and beliefs that are pro-aggression or pro-violence is a complex process. It has been shown that a positive attitude towards violence is correlated with both physical and relational bullying perpetration, and that children who bully self-report higher beliefs supportive of violence than children who do not bully (Espelage, Bosworth, & Simon, 2001; Stoddard, Varela, & Zimmerman, 2015). Research has also shown that witnessing violence such as bullying at school or at home promotes higher levels of aggression in students (Mazefsky & Farrell, 2005). This is significant given that a recent study found that 36% of students witnessed bullying 1-2 times per month, 19% witnessed it 2 times per week, and 15% witnessed bullying more than 1-2 times per week (Evans & Chapman, 2014).

A 2000 study found that when children moved to a new classroom that had norms about aggression that were different from previous years, those children displayed attitudes towards aggression that matched the new classroom (Henry et al., 2000). In addition, a study of 7th graders found that holding a positive attitude toward violence was correlated with physical and relational bullying perpetration (Stoddard et al., 2015). This suggests a crucial role of teachers and schools in the formation and maintenance of attitudes towards aggression and an obligation of school staff to prevent positive attitudes towards violence from forming. In addition, this study, which tested children from 1st through 6th grades, found that classmates' normative beliefs about aggression impacted both beliefs about aggression and behavior, whereas in the younger grades, only beliefs were impacted (Henry et al., 2000). This complements the theory that bullying peaks in the middle school years because students' moral reference point changes from adults to peers (Yoon et al., 2004). Furthermore, research suggests that children do not simply model the behavior of their peers. Instead, they incorporate beliefs associated with peer behavior into their own belief systems (Henry et al., 2000).

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Beliefs and attitudes that are supportive of aggression and retaliation not only impact behavior but the perception of the belief holder about school safety and belonging. In a study of 11,000 students and 1000 staff, it was found that when a student or staff member had an attitude that was approving of aggression, that student or staff member was also less likely to feel safe or a sense of belonging at school (Waasdorp et al., 2011).

Student attitudes towards bullying and school violence. A 2006 study investigating the experiences of victims and bully-victims in rural schools proposed that bullying occurs on a continuum rather than as a dichotomous variable in which a child is a bully or a victim (Dulmus et al., 2006). This perspective has been adopted within bullying research, which has fostered research into the complexity of bullying interactions. Although Salmivalli's participant roles do not account for students who are both bullies and victims, research into these students' beliefs about violence and tendencies towards aggression is important in illuminating the connection between attitudes and behavior. According to this research, children who are "bully-victims" have been both the targets of other children's abuse as well as the perpetrators. Bully-victims are more likely than bystanders to believe that it is "not wrong" to bring a gun to school (Glew et al., 2008). This suggests that children who are both victimized and who victimize others are more likely to hold the belief that violence is a constructive tool for solving problems (Glew et al., 2008).

Research on participant roles in bullying and the attitudes held by students categorized into different roles found that the degree of anti-bullying attitude held by a student was related to their participant role. More specifically, those who were considered defenders had the highest anti-bullying attitudes (Salmivalli et al., 2011). This research suggests a strong link between attitudes towards bullying/interpersonal violence and bullying behaviors.

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However, there exists a gap in the research investigating the impact of attitudes towards interpersonal peer violence on perceptions of school climate and how these in turn promote different bullying roles. The purpose of this study is to elucidate the relationship between middle school students' attitudes towards interpersonal peer violence and their own behavioral role during incidents of school bullying. In addition, this study seeks to investigate the how one's bullying participant role moderates the relationship between attitudes towards interpersonal peer violence and school climate.

Hypotheses

Research question 1. Are there gender-based differences in mean attitudes towards interpersonal peer violence and in the distribution of participant roles?

Hypothesis 1. It is predicted that males will have mean attitudes towards interpersonal peer violence that are different than females. Previous research has demonstrated that females have higher anti-bullying attitudes than males that is persistent across ages (Salmivalli & Voeten, 2004).

Hypothesis 2. The current study seeks to replicate a previous analysis describing gender differences in the distribution of participant roles while using a new sample in a new region. Therefore, it is predicted that in the current sample, the same pattern will be followed. Previous research suggests that these gender-based differences exist in other populations but no research has examined participant roles in this region of the United States (Salmivalli et al., 1996). Specifically, females have a higher likelihood of being classified as defenders or bystanders and males have a higher likelihood of being classified as bullies, assistants, or reinforcers. Knowledge of the likelihood of belonging in different participant roles will help school

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administrators and staff learn how to tailor interventions to maximize effectiveness for males and females.

Research Question 2. Do children in different participant roles demonstrate different mean attitudes towards interpersonal peer violence?

Hypothesis 3. It is expected that there will be a main effect of participant role on mean attitudes towards interpersonal peer violence. Past research has found differences in attitudes towards bullying between different participant roles (Salmivalli et al., 2011). However, mean attitudes towards interpersonal peer violence and nonviolent problem solving has not been examined.

Research Question 3. Do children in different participant roles demonstrate different mean perceptions of school climate?

Hypothesis 4. Given the integral role of school climate in psychosocial and academic outcomes in schools, it is expected that there will be a main effect of participant role on perceptions of school climate (Lee & Song, 2012; Low & van Ryzin, 2014). Although this is a replication of a previous finding, it has not been investigated in this region and has not been replicated many times (Nickerson et al., 2014). Because of the positive effects of positive school climate, discovery of differences in perceptions of school climate between participant roles may give us important information about long term outcomes for these students.

Research Question 4. What is the relationship between school climate and attitudes towards interpersonal peer violence and is it moderated by student participant roles?

Hypothesis 5. There will be a significant relationship between student perceptions of school climate their attitudes towards interpersonal peer violence. Previous research has found that when students and staff hold higher aggressive attitudes, they feel a lower sense of

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belonging and safety at school, two important components of school climate. (Waasdorp et al., 2011)

Hypothesis 6. Given the complex relationship between school climate, bullying participant roles, and aggressive attitudes, it is expected that student participant roles will moderate the relationship between perceptions of school climate and attitudes towards interpersonal peer violence. The addition of participant role as a moderator will highlight differences in the relationship strength between attitudes and perceptions of climate. If the relationship between attitudes and climate is stronger for one participant role than another, it may point to new avenues for intervention. No previous research has used the EDSCLS in this way but previous research utilizing school climate has suggested that perceptions of school climate differ according to participant role as do aggressive attitudes (Lee & Song, 2012; Low & Ryzin, 2014; Salmivalli & Voeten, 2004).

Chapter III: Method

Participants

Participants were recruited from three public middle schools in a rocky mountain city with a larger metropolitan population of just under 120,000 people. Participants were in sixth, seventh, or eighth grade. Because participants were under the age of 18, written parental consent was obtained for all participants in addition to written assent from the participants. Seven hundred eighty five out of 1,676 middle school students in the three schools participated, leading to a response rate of 47%. No student opted out of participation after parental consent was given; however, some students did not complete the survey in its entirety. The distribution of students was approximately evenly distributed across grades and schools. In addition, the distribution of genders was approximately equal. Although many races were represented in the sample, students of Caucasian descent were overwhelmingly in the majority, which is expected given the racial makeup of the town where the sample was taken. See Table 1 for detailed demographic information.

Table 1.

Demographic Information for Participants

Demographics	N	Percentage of Participants
Grade	785	100%
Sixth	240	30.6%
Seventh	265	33.8%
Eighth	280	35.7%
School	785	100%
School 1	292	37.2%
School 2	245	31.2%
School 3	248	31.6%

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Gender	779	100%
Male	377	49%
Female	402	51%
Race	778	100%
White	651	83.7%
Black or African American	12	1.5%
Asian	18	2.3%
American Indian or Alaska Native	34	4.3%
Native Hawaiian or Pacific Islander	2	.3%
More Than One Race	61	7.8%

Procedures

After obtaining district approval, written parental consent was obtained through permission forms that were sent home with students prior to survey administration (Appendix A). Prior to survey administration, teachers were trained by the principal investigator or other trained members of the research team. During this training, teachers learned how to handle student questions, how to explain the survey, and how to administer the survey to their class.

On the day that surveys were administered, teachers read a script explaining to students the procedures and purposes of the survey (Appendix C). Students were asked to give written assent before beginning the surveys and were given the opportunity to ask questions before, during, and after administration (Appendix B). If a parent or student elected not to participate in the questionnaire, they were given an alternate activity by the teacher. Although no harm was anticipated to be caused by the questionnaire, answering the questions in the survey may have participants to have some mild uncomfortable feelings or thoughts about bullying. Any student who became uncomfortable during administration, he or she was given permission to skip the

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question or stop completing the questionnaire immediately. School staff (teachers and school counselors) and research staff were available to address student discomfort if it was required.

All surveys were administered via paper and pencil on the same day during homeroom classes and took approximately 45 minutes. Graduate students who were trained by the research team were available at all schools to address any questions or concerns. All students who had parental consent and who gave assent received the Education Department School Climate Survey (EDSCLS; Appendix D), the Participant Role Questionnaire (PRQ; Appendix E), and the Attitude Towards Interpersonal Peer Violence Survey (ATIPVS; Appendix F)

Measures

Education department school climate survey (EDSCLS). The EDSCLS is a school climate measurement tool that was created and validated by the National Center for Education Statistics (Appendix A). It was pilot tested on 16,000 students in 50 elementary, middle and high schools. The results of the pilot tests were factor analyzed to determine a factor structure with 13 topics in 3 domains: school safety, school engagement, and school environment. Through the pilot study, each topic and domain in the EDSCLS was determined to have Cronbach's alpha level of over 0.7, indicating an adequate level of internal consistency.

The EDSCLS is a school climate measurement tool that was created and validated by the National Center for Education Statistics (Appendix D). It contains questions about students' experiences in school in three areas: school safety, school engagement, and school environment. Responses are given to each item on a four-point Likert scale (1-Strongly Disagree, 2- Disagree, 3- Agree, 4- Strongly Agree). On each of the 12 subdomains, a mean score was computed (Table 3). Then, these mean scores were averaged to generate scores for each domain of school climate;

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engagement, environment, and safety. To compute the overall climate score, the mean of the three domain scores was taken for each participant.

Confirmatory factor analysis was performed to determine if the factor structure of the current data fits theory and past factor analysis results. The estimated factor loadings from the current sample adequately matched the factor loadings given from the original pilot study performed when the measure was constructed. Estimated factor loadings ranged from .56 to .88 for the first order factor analysis, which estimated factor loadings of each item onto its designated subdomain. On the second order factor analysis, which specified the factor loadings for the 12 subdomains onto each of the 3 primary domains (engagement, safety, environment), the factor loadings ranged from .56 to .99. Results and factor loadings can be found in Appendix G.

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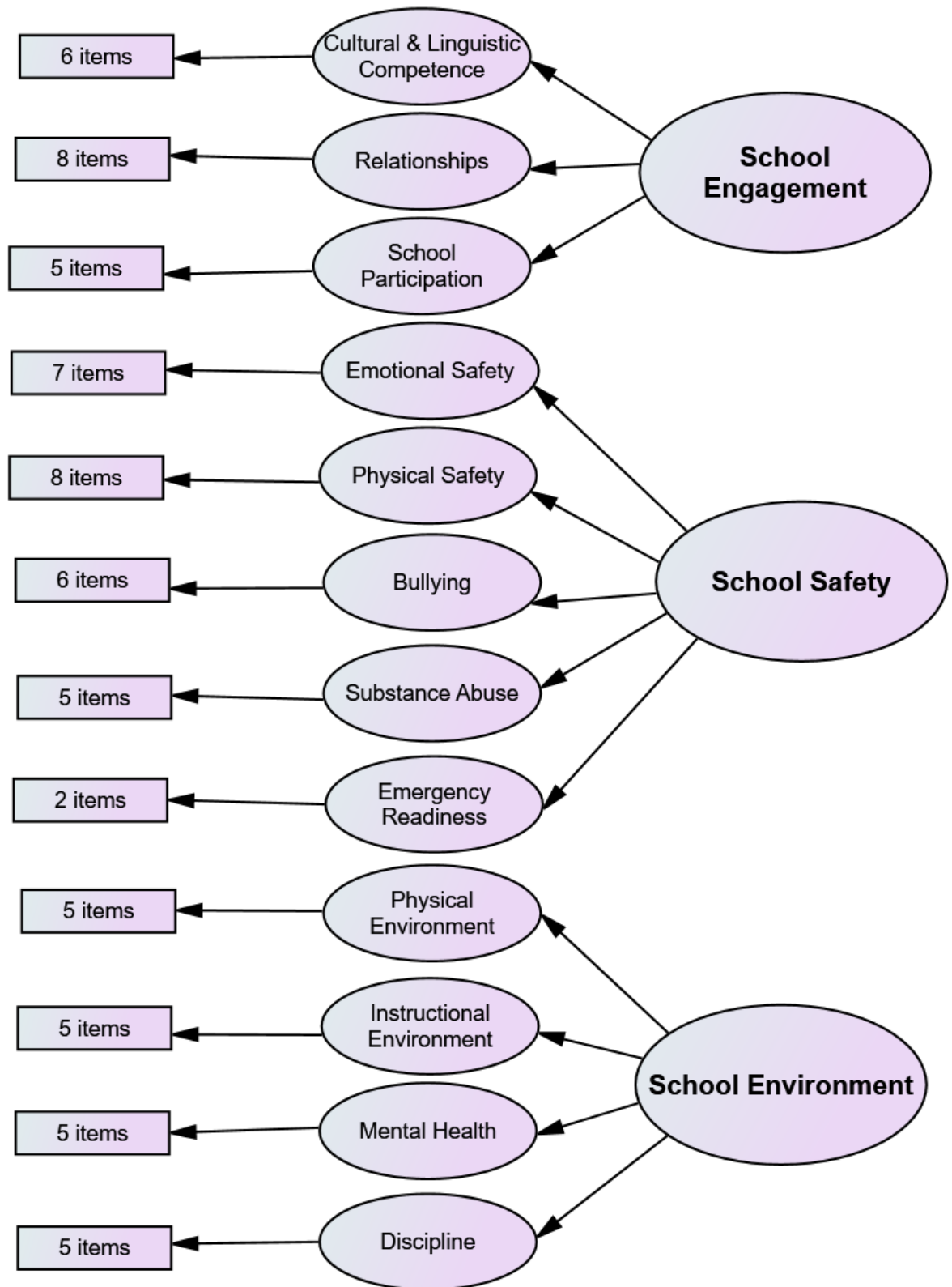


Figure 1. Conceptual diagram of path analysis for confirmatory factor analysis on the EDSCLS

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Reliability analyses using Cronbach's alpha were run on all items in the EDSCLS. The EDSCLS demonstrated good inter-item correlations with Cronbach's alphas ranging from .52 to .89. Notably, the lowest alpha was for the emergency readiness scale, which only included 2 items, which may have impacted the correlation (Table 2).

Table 2.

Cronbach's alpha for EDSCLS & Participant Role Questionnaire

	Number of Items	Cronbach's alpha
EDSCLS		
School Engagement	18	.87
Cultural & Linguistic Competence	5	.67
Relationships	8	.83
School Participation	5	.60
School Safety	28	.93
Emotional Safety	7	.84
Physical Safety	8	.84
Bullying	6	.80
Substance Abuse	5	.89
Emergency Readiness	2	.52
School Environment	20	.91
Physical Environment	5	.79
Instructional Environment	5	.75
Mental Health	5	.77
Discipline	5	.76
Participant Role Questionnaire		
Bully	3	.51
Assistant	3	.53
Reinforcer	3	.44
Defender	3	.67
Outsider	3	.38

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Participant role questionnaire - self report (PRQ). The Participant Role

Questionnaire- Self Report is a modified version of the revised questionnaire that estimates student responses to bullying conflicts based on self-report (Salmivalli & Voeten, 2004). Due to ethical concerns, the original format of the study, which required peer reporting of bullying behaviors, was not able to be implemented. However, research on bullying participant roles has suggested that self-report data and peer-report data significantly correlate (Salmivalli et al, 1996). This 15-item version was adapted into a self-report version (Bushard, 2013). The roles were derived using a five-factor solution (Salmivalli et al., 1996). Some studies have suggested that the correlations between aggressive roles (bullies, assistants, and reinforcers) are high enough that these roles should be combined into one role (Salmivalli, Huttunen, & Lagerspetz, 1997). Similar correlations between aggressive roles were found in the current data set. However, given the established theoretical and behavioral differences as well as the potential intervention possibilities yielded by differentiating between these roles, they were kept as distinct factors for this study (Salmivalli et al. 1996).

In the Participant Role section, students evaluated (on a three-point scale: 0=never, 1=sometimes, 2= always) how they respond in different bullying behavioral descriptions (Appendix E). Each item in this portion of the questionnaire was scored on one of the five subscales, each containing three questions (bully, reinforcer, assistant, defender, bystander). Items on the *bully* scale described actions taken against other students and how often they start bullying. The items on the *reinforcer* scale referred to actions that might perpetuate the bullying such as laughing or encouraging others to watch. The items on the *assistant* scale described behaviors that involve direct contact with the victim but in a way that follows others rather than initiates the bullying. The *defender* scale asked about how often students try to get others to stop

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bullying or encourage the victim to report the bullying. The *bystander* scale described “doing nothing” and staying outside of the bullying conflicts (Appendix E). Finally, the *victim* scale included two items from the Olweus Bullying Questionnaire (OBQ) that ask about the frequency of victimization that a child has experienced (Olweus, 1996).

Participant roles were established using Salmivalli’s research criteria (Salmivalli et al., 1996). Scores for each student were standardized into z-scores such that the mean score for the school = 0 with a standard deviation of 1. In order to be classified into the participant role of bully, reinforcer, assistant, defender, or bystander, victim, or bully-victim, two criteria were met: (a) a student must score above the mean on one of the subscales (z score higher than 0), and (b) he/she must have scored higher on that subscale than on any of the other scales. If a student has a high score on two or more subscales and the difference between those scores is less than 0.10, that student will be classified as having “no identifiable participant role.” In order to be classified as a victim, the student had to indicate that they had been victimized 2-3 times per month or more. If a student scored above the mean on a given role but also gave a response that designated them as a “victim”, then they were placed in the “victim” group, per the recommendation of the survey’s creator (Salmivalli et al., 1996). However, students who meet both the criteria for victim and the criteria for bully will be classified as “bully-victims”.

Attitudes towards interpersonal peer violence scale (ATIPVS). The ATIPVS is a 14-item questionnaire developed by Slaby in 1989 (Appendix F). It was developed for use with students in grades 6-8 to measure violent attitude orientation as well as knowledge in resolving conflicts without the use of violence. On the original survey, items on the questionnaire were measured on a four-point Likert scale with some items reverse coded. However, due to a clerical error, the current survey was measured on a 3-point scale. Lower mean scores indicate less knowledge or

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skill in non-violent conflict resolution and an overall attitude that is more approving of interpersonal peer violence. Each student received an individual ATIPVS score that consisted of that person's average across all ATIPVS items.

Treatment of Missing Data

A missing data analysis was conducted on the entire data set. The results of this analysis supported that all data were missing completely at random. No discernable patterns were discovered in the items that were missing. Because fewer than 3.4% of responses were missing from the data set, Person-Mean imputation was used to fill in data for subscales with more than five items according to the rules described below. Person-Mean imputation has been used in survey research to estimate individual responses by utilizing the mean of the available data on each subset (Leplege, & Coste, 2010). Rather than imputing the mean of the entire population, as in Mean Imputation, Person-Mean imputation utilizes the mean subset value for an individual participant for each missing value in that subset. It has been suggested to be a valid means treating missing data in data sets missing fewer than 5% of items (Hawthorne, Hawthorne, & Elliott, 2004; Huisman, 2004; Peyre, Leplege, & Coste, 2010). Due to the nature of the surveys and the use of mean scores, missing data were treated differently according to the section of the survey.

On the School Climate portion, one subscale contained 9 items. On this subscale, participants who missed two or fewer items were retained in the dataset and the missing value was imputed using their response on that subscale. On subscales that contained between five and eight items, participants who missed one item on a given subscale were retained in the dataset and the missing value was imputed using the scores provided for that subscale. On subscales with four or fewer items, only those participants with a complete set of data were included in the

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analyses that included those subscales. On the overall climate domain, participants were required to have composite scores for each of the three subdomains (engagement, environment, safety). These missing data rules resulted in the exclusion of 28 cases from the engagement subdomain (3.6%), 51 cases from the safety domain (6.5%), 22 cases from the environment domain (2.8%) , and 70 cases in the overall climate domain (8.9%).

On the Participant Role Questionnaire, if a participant left any response blank in a subdomain, they were not assigned a participant role and were excluded from all analyses that included the Participant Role Questionnaire. This occurred in 107 cases (13.6%).

On the Attitudes Towards Interpersonal Peer Violence Questionnaire, if a participant did not respond to more than two items, their responses were excluded. The remaining participants with missing items were treated using person-mean imputation. This resulted in 24 cases (3.1%) being excluded from these analyses. Given the high response rate, the exclusion of these participants is not anticipated to have a significant effect on the data.

Chapter IV: Results

Research Question 1

Are there gender-based differences in mean attitudes towards interpersonal peer violence and in the distribution of participant roles?

Hypothesis 1. It was predicted that males and females would have different attitudes towards interpersonal peer violence. Attitudes were measured using the Interpersonal Peer Violence Questionnaire. In the current sample, females showed significantly higher levels of nonviolent problem solving abilities than males ($t(753)=-6.26, p <.001$, two-tailed; Figure 2). This result is consistent with previous research demonstrating that females have higher anti-bullying attitudes than males (Salmivalli & Voeten, 2004).

Table 3

Mean Attitudes Towards Interpersonal Peer Violence

Gender	n	M	SD	$t(725)^*$	p	Cohen's <i>d</i>
Male	365	2.37	.31	-6.26	<.001	0.45
Female	390	2.51	.31			

*denotes 2-tailed test

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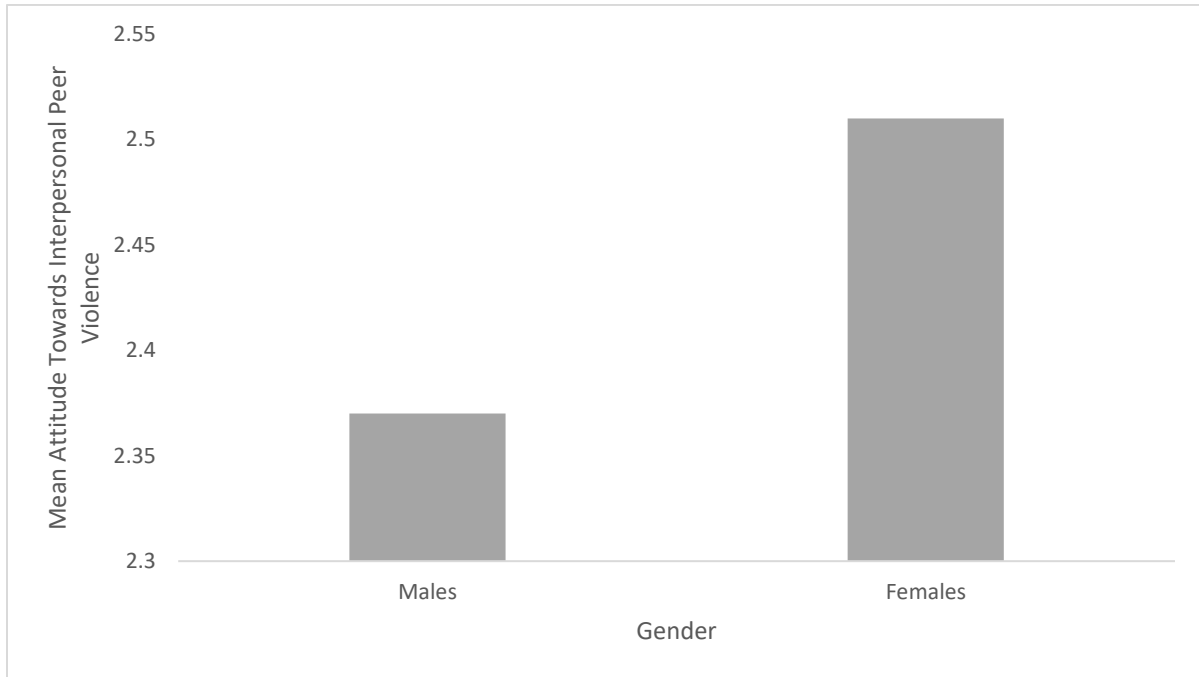


Figure 2. Mean Attitudes Towards Interpersonal Peer Violence.

Hypothesis 2. The current study sought to replicate a previous analysis describing gender differences in the distribution of participant roles while using a new sample in a new region (Pouwels et al., 2016; Salmivalli et al., 1996). It was predicted that gender-based differences would exist in the distribution of participant roles. A Chi square test of goodness-of-fit was performed to determine whether there were gender differences in the likelihood of belonging to different participant roles. Membership in each participant role was equally distributed across genders (Table 4; $X^2(7, n=673) = 5.903, p = .551$). Although some slight variations in the distributions of participant roles were present, no significant gender differences were detected (Figure 3). This result is contrary to previous research suggesting a strong relationship between gender and likelihood of membership in a participant role.

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Table 4

Distribution of participant roles divided by gender.

Participant Role	Male students		Female students	
	N	%	N	%
Bully	20	6.1	38	5.2
Victim	48	14.7	52	15
Bully-Victim	7	2.1	4	1.2
Assistant	27	8.3	39	11.3
Reinforcer	39	11.9	28	8.1
Defender	63	19.3	75	21.7
Outsider	73	22.3	80	23.1
No Role	50	15.3	50	14.5

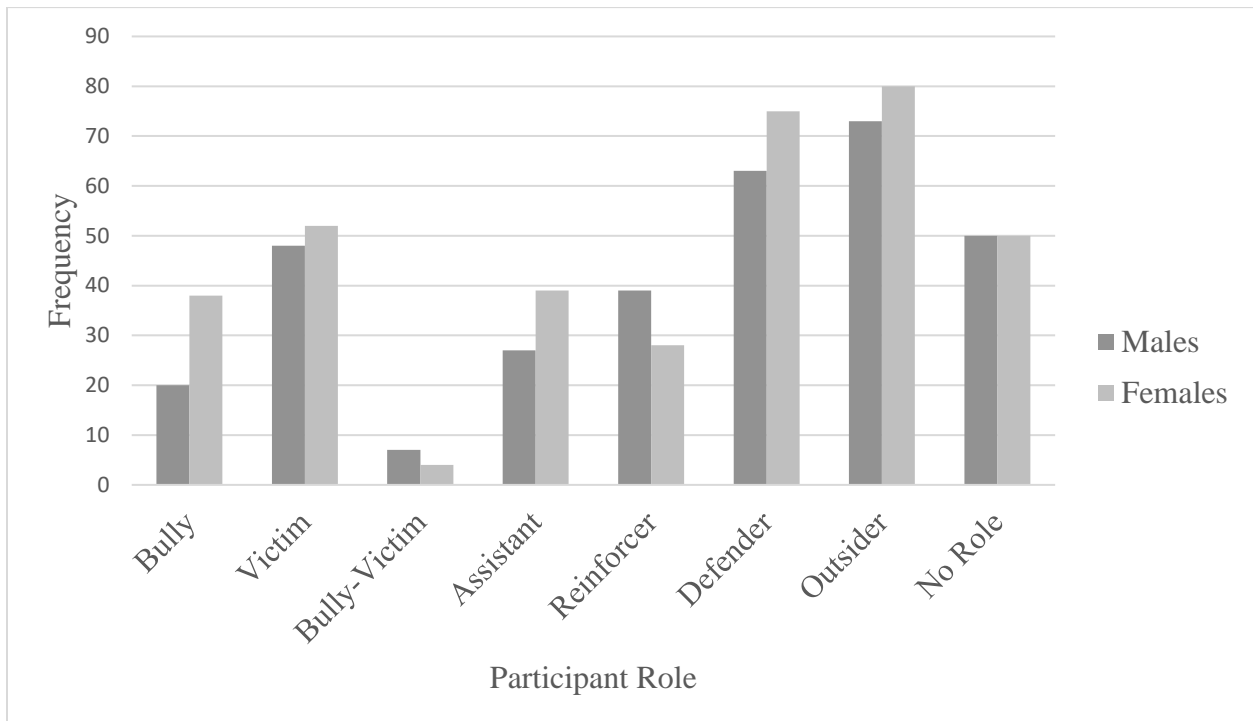


Figure 3. Frequency distribution of participant roles by gender

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Research Question 2

Do children in different participant roles demonstrate different mean attitudes towards interpersonal peer violence?

Hypothesis 3. It was expected that there would be a main effect of participant role on mean attitudes towards interpersonal peer violence. Given the observed differences between genders on attitudes towards interpersonal peer violence, a 2x8 (Gender x Participant Role) Factorial ANOVA was conducted. A main effect of participant role was found ($F(7,662) = 9.121, p = .001$) and a main effect of Gender was found ($F(1,662) = 10.418, p < .001$). However, no significant Participant Role by Gender interaction was found.

Table 5

Mean attitudes towards interpersonal peer violence by gender and participant role

Participant Role	N	Attitude Towards Violence M(SD)
Bully	37	2.38(.33)
<i>Females</i>	18	2.5(.28)
<i>Males</i>	19	2.39(.33)
Victim	99	2.29(.29)
<i>Females</i>	52	2.3(.30)
<i>Males</i>	47	2.30(.29)
Bully-Victim	11	2.19(.33)
<i>Females</i>	4	2.12(.43)
<i>Males</i>	7	2.19(.32)
Assistant	64	2.34(.31)
<i>Females</i>	38	2.35(.30)
<i>Males</i>	26	2.34(.31)
Reinforcer	66	2.35(.36)
<i>Females</i>	27	2.46(.36)
<i>Males</i>	39	2.35(.36)
Defender	135	2.51(.31)
<i>Females</i>	73	2.60(.31)

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<i>Males</i>	62	2.51(.31)
Outsider	152	2.54(.28)
<i>Females</i>	80	2.63(.24)
<i>Males</i>	72	2.53(.28)
No Role	98	2.48(.31)
<i>Females</i>	49	2.54(.28)
<i>Males</i>	49	2.48(.31)

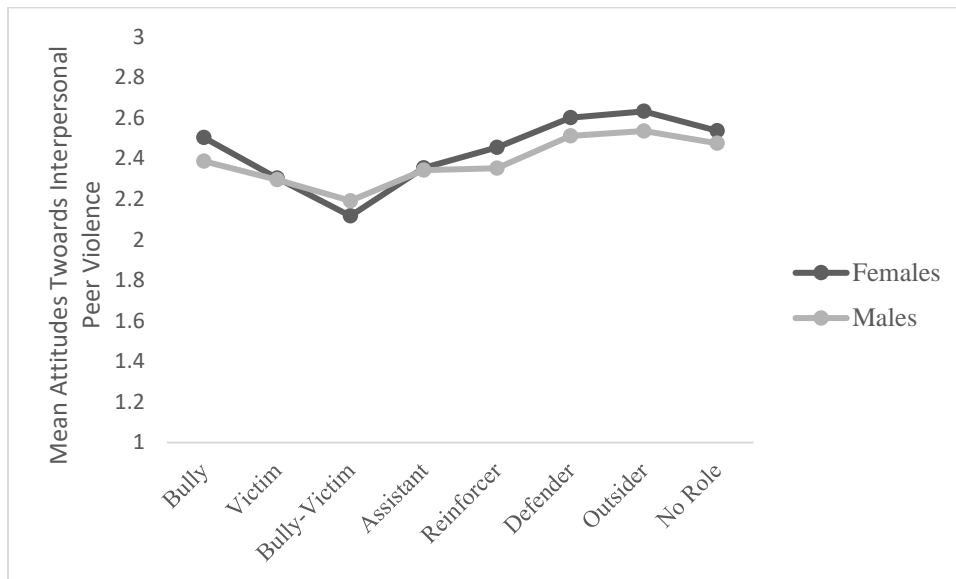


Figure 4. Mean attitudes towards interpersonal peer violence by gender and participant role.

Tukey's HSD post-hoc comparisons revealed significant pairwise differences in mean attitude towards violence between multiple participant roles. Results of the post-hoc analyses are reported in Table 6. Given the nature of this scale, it is important to note that lower scores indicate lower levels of nonviolent problem solving or higher approval of violence. Students classified as bully-victims indicated the lowest levels of non-violent problem-solving, which were significantly lower than defenders, outsiders, and students with no role (Table 5; Figure 4). Defenders and outsiders had the highest levels of nonviolent problem-solving, which were significantly higher than victims, bully-victims, assistants, and reinforcers. Victims demonstrated

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levels of nonviolence that were lower than defenders, outsiders, and students with no role.

Assistants' mean levels of nonviolent problem solving were significantly lower than those given by defenders and outsiders. Reinforcers also gave ratings that indicated significantly lower levels of nonviolent problem solving than defenders, and outsiders. Students with no identifiable role demonstrated significantly higher levels of nonviolent problem solving than victims.

Table 6

Pairwise Comparisons of Mean Attitudes Towards Violence

Comparison	Mean Difference	Std. Error	p
Bully v. Victim	0.09	0.06	0.76
Bully v. Bully-Victim	0.20	0.10	0.55
Bully v. Assistant	0.04	0.06	1.00
Bully v. Reinforcer	0.03	0.06	1.00
Bully v. Defender	-0.13	0.06	0.32
Bully v. Outsider	-0.15	0.05	0.12
Bully v. No Role	-0.09	0.06	0.79
Victim v. Bully-Victim	0.10	0.10	0.96
Victim v. Assistant	-0.05	0.05	0.98
Victim v. Reinforcer	-0.06	0.05	0.93
Victim v. Defender	-.22*	0.04	<.001
Victim v. Outsider	-.24*	0.04	<.001
Victim v. No Role	-.18*	0.04	<.001
Bully-Victim v. Assistant	-0.15	0.10	0.79

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Bully-Victim v. Reinforcer	-0.16	0.10	0.72
Bully-Victim v. Defender	-.32*	0.09	0.02
Bully-Victim v. Outsider	-.34*	0.09	0.01
Bully-Victim v. No Role	-0.28	0.10	0.06
Assistant v. Reinforcer	-0.01	0.05	1.00
Assistant v. Defender	-.17*	0.05	0.01
Assistant v. Outsider	-.19*	0.04	<.001
Assistant v. No Role	-0.13	0.05	0.10
Reinforcer v. Defender	-.16*	0.05	0.01
Reinforcer v. Outsider	-.18*	0.04	<.001
Reinforcer v. No Role	-0.12	0.05	0.16
Defender v. Outsider	-0.02	0.04	1.00
Defender v. No Role	0.04	0.04	0.99
Outsider v. No Role	0.06	0.04	0.78

*Denotes a statistically significant difference ($p < .05$)

Research Question 3

Do children in different participant roles demonstrate different mean perceptions of school climate?

Hypothesis 4. Given the integral role of school climate in psychosocial and academic outcomes in schools, it was expected that there would be a main effect of participant role on perceptions of school climate (Lee & Song, 2012; Low & Ryzin, 2014). A one-way between subjects ANOVA was conducted to compare the effect of participant role on perceptions of school climate. The current sample demonstrated mean differences between participant roles in

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all domains of school climate (Engagement, Safety, Environment) as well as in overall school climate. Mean values are reported in Table 7.

School climate. There was a significant effect of participant role on School Climate ($F(7,629)= 17.68, p >.001$). In addition, pairwise comparisons using a Tukey HSD posthoc test revealed significant differences in perceptions of overall school climate between multiple participant roles. Results from the post-hoc analyses are reported in Table 8. Specifically, students whose self-endorsed behaviors classify them as bully-victims had the most negative perceptions of their school's overall climate and defenders had the most positive perceptions of their schools' climate (Figure 5; Table 7). Bullies responses were significantly lower than defenders and outsiders but were not different from any other group (Table 7). Victims and reinforcers endorsed perceptions of school climate that were significantly lower than those of defenders, outsiders, and students with no role. Bully-victims reported perceptions of school climate that were significantly lower than defenders, outsiders, and students with no role, but were not significantly different from bullies, victims, assistants, or reinforcers. Assistants gave ratings that were significantly lower than defenders and outsiders. Defenders reported ratings that were significantly more positive than all other groups except outsiders. Outsiders gave responses that were significantly higher than bullies, victims, bully-victims, assistants, and reinforcers. Students with no identifiable role demonstrated overall levels of school climate that were significantly higher than victims, bully-victims, and reinforcers, but that were significantly lower than those of defenders.

Table 7

Mean Climate Scores

	Engagement M(<i>SD</i>)	Environment M(<i>SD</i>)	Safety M(<i>SD</i>)	Overall Climate M(<i>SD</i>)
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Bully	2.85(.33)	2.74(.40)	2.83(.41)	2.78(.38)
Victim	2.76(.41)	2.64(.44)	2.62(.42)	2.67(.38)
Bully-Victim	2.58(.42)	2.57(.45)	2.45(.43)	2.53(.32)
Assistant	2.92(.34)	2.79(.44)	2.86(.41)	2.84(.36)
Reinforcer	2.84(.35)	2.70(.41)	2.75(.39)	2.76(.33)
Defender	3.12(.38)	3.05(.43)	3.12(.44)	3.1(.38)
Outsider	3.08(.35)	2.93(.41)	3.05(.41)	3.05(.34)
No Role	2.97(.41)	2.87(.43)	3.02(.43)	2.94(.39)

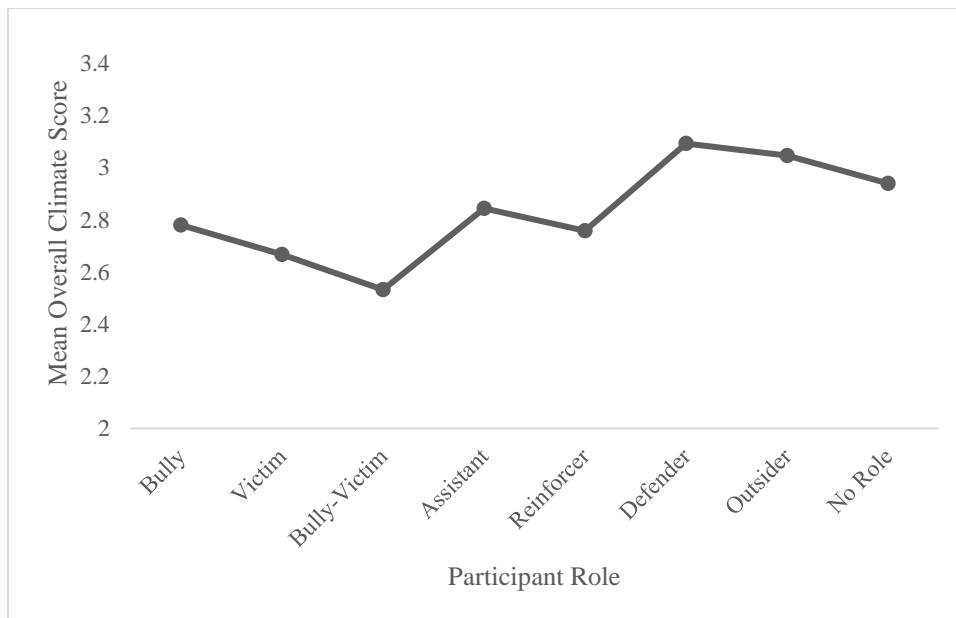


Figure 5. Mean levels of overall school climate divided by participant role.

Table 8

Pairwise Comparisons of Mean Perceptions of Overall School Climate

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Comparison	Mean Difference	Std. Error	p
Bully v. Victim	0.11	0.07	0.77
Bully v. Bully-Victim	0.25	0.13	0.55
Bully v. Assistant	-0.06	0.08	0.99
Bully v. Reinforcer	0.02	0.08	1.00
Bully v. Defender	-.31*	0.07	<.001
Bully v. Outsider	-.27*	0.07	<.001
Bully v. No Role	-0.16	0.07	0.32
Victim v. Bully-Victim	0.13	0.12	0.95
Victim v. Assistant	-0.18	0.06	0.07
Victim v. Reinforcer	-0.09	0.06	0.80
Victim v. Defender	-.43*	0.05	<.001
Victim v. Outsider	-.38*	0.05	<.001
Victim v. No Role	-.27*	0.05	<.001
Bully-Victim v. Assistant	-0.31	0.12	0.19
Bully-Victim v. Reinforcer	-0.23	0.12	0.60
Bully-Victim v. Defender	-.56*	0.12	<.001
Bully-Victim v. Outsider	-.51*	0.12	<.001
Bully-Victim v. No Role	-.41*	0.12	0.02
Assistant v. Reinforcer	0.09	0.07	0.89
Assistant v. Defender	-.25*	0.06	<.001

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Assistant v. Outsider	-.20*	0.06	0.01
Assistant v. No Role	-0.10	0.06	0.74
Reinforcer v. Defender	-.34*	0.06	<.001
Reinforcer v. Outsider	-.29*	0.05	<.001
Reinforcer v. No Role	-.18*	0.06	0.05
Defender v. Outsider	0.05	0.04	0.96
Defender v. No Role	.15*	0.05	0.04
Outsider v. No Role	0.11	0.05	0.35

*Denotes a statistically significant difference ($p < .05$)

In addition to analyses of overall school climate perceptions, differences across participant roles in the three school climate domains (Engagement, Environment, and Safety) were investigated.

Mean engagement.

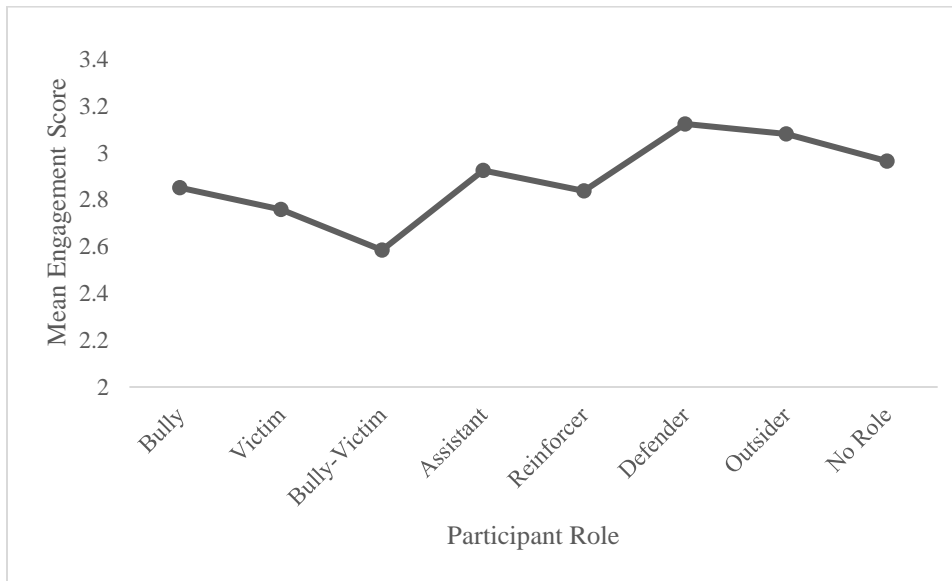


Figure 6. Mean levels of school engagement divided by participant role.

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There was a significant main effect of participant role on mean perceptions of school engagement ($F(7,655)= 13.11, p<.001$). A Tukey's HSD post-hoc test revealed significant differences in school engagement across several participant roles. Results from the post-hoc analyses are detailed in Table 9. Overall, students who identified as defenders had the highest levels of school engagement, which were significantly higher than all other groups except for outsiders (Figure 6). Bully-victims endorsed the lowest levels of mean school engagement, which were significantly lower than those of defenders, outsiders, and students with no role. Students who identified as bullies endorsed levels of school engagement that were significantly lower than defenders and outsiders but that were not significantly different from any other group. Victims reported significantly lower levels of school engagement than defenders, outsiders, and students who did not identify with any one group. Assistants gave ratings of engagement that were significantly lower than defenders. Reinforcers endorsed levels of engagement that were lower than defenders and outsiders. Outsiders demonstrated levels of school engagement that were significantly higher than those of bullies, victims, bully-victims, and reinforcers. Students with no role gave ratings that were higher than those of victims and bully-victims but that were significantly lower than those of defenders.

Table 9

Pairwise Comparisons of Mean Perceptions of School Engagement

Comparison	Mean Difference	Std. Error	p
Bully v. Victim	0.09	0.07	0.90
Bully v. Bully-Victim	0.27	0.13	0.43
Bully v. Assistant	-0.07	0.08	0.98

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Bully v. Reinforcer	0.01	0.08	1.00
Bully v. Defender	-.27*	0.07	<.001
Bully v. Outsider	-.23*	0.07	0.02
Bully v. No Role	-0.11	0.07	0.77
Victim v. Bully-Victim	0.17	0.12	0.83
Victim v. Assistant	-0.17	0.06	0.11
Victim v. Reinforcer	-0.08	0.06	0.89
Victim v. Defender	-.37*	0.05	<.001
Victim v. Outsider	-.32*	0.05	<.001
Victim v. No Role	-.21*	0.05	<.001
Bully-Victim v. Assistant	-0.34	0.12	0.10
Bully-Victim v. Reinforcer	-0.25	0.12	0.43
Bully-Victim v. Defender	-.54*	0.12	<.001
Bully-Victim v. Outsider	-.50*	0.12	<.001
Bully-Victim v. No Role	-.38*	0.12	0.03
Assistant v. Reinforcer	0.09	0.07	0.89
Assistant v. Defender	-.20*	0.06	0.01
Assistant v. Outsider	-0.16	0.06	0.10
Assistant v. No Role	-0.04	0.06	1.00
Reinforcer v. Defender	-.29*	0.06	<.001
Reinforcer v. Outsider	-.24*	0.05	<.001
Reinforcer v. No Role	-0.13	0.06	0.38

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Defender v. Outsider	0.04	0.04	0.98
Defender v. No Role	.16*	0.05	0.03
Outsider v. No Role	0.12	0.05	0.26

*Denotes a statistically significant difference ($p < .05$)

Mean environment.

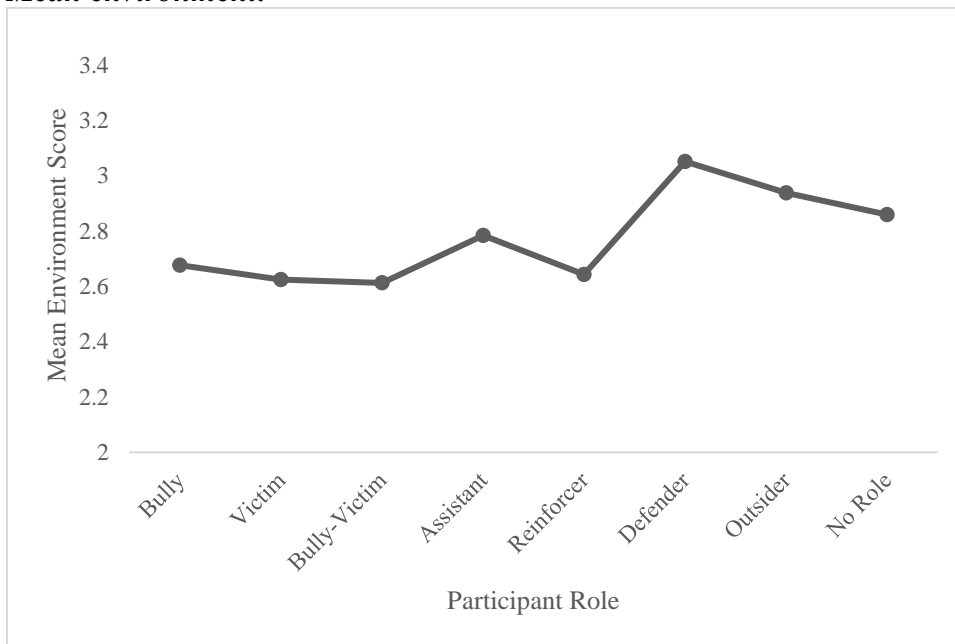


Figure 7. Mean Responses on the School Environment Subscale, divided by participant role.

A one-way ANOVA was conducted to analyze differences between participant roles on responses on the School Environment Subscale. The analysis revealed a significant effect of participant role ($F(7,667) = 13.067, p < .001$). In addition, Tukey's post-hoc comparisons revealed significant pairwise differences between participant roles. Results of the post-hoc analyses are detailed in Table 10. Students who identified as defenders gave the highest ratings of school environment which were significantly higher than all other groups except students identified as outsiders (Table 7; Figure 7). Students who identified as bully-victims endorsed the lowest mean

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ratings of school environment, however, they were only significantly lower than defenders.

Bullies indicated perceptions of school environment that were significantly lower than defenders and outsiders. Victims reported ratings of school environment that were significantly more negative than defenders, outsiders, and students with no identifiable role. The responses from assistants were only significant compared to defenders, who gave higher ratings of school environment. Outsiders indicated perceptions of school environment that were significantly higher than bullies, victims and reinforcers. Students with no identifiable role demonstrated perceptions of school environment that were significantly higher than victims and reinforcers but that were significantly lower than defenders.

Table 10

Pairwise Comparisons of Mean Perceptions of School Environment

Comparison	Mean Difference	Std. Error	p
Bully v. Victim	0.05	0.08	1.00
Bully v. Bully-Victim	0.06	0.15	1.00
Bully v. Assistant	-0.11	0.09	0.92
Bully v. Reinforcer	0.03	0.09	1.00
Bully v. Defender	-.37*	0.08	<.001
Bully v. Outsider	-.26*	0.08	0.02
Bully v. No Role	-0.18	0.08	0.32
Victim v. Bully-Victim	0.01	0.14	1.00
Victim v. Assistant	-0.16	0.07	0.27
Victim v. Reinforcer	-0.02	0.07	1.00

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Victim v. Defender	-.43*	0.06	<.001
Victim v. Outsider	-.31*	0.06	<.001
Victim v. No Role	-.23*	0.06	<.001
Bully-Victim v. Assistant	-0.17	0.14	0.92
Bully-Victim v. Reinforcer	-0.03	0.14	1.00
Bully-Victim v. Defender	-.44*	0.13	0.02
Bully-Victim v. Outsider	-0.33	0.13	0.22
Bully-Victim v. No Role	-0.25	0.14	0.60
Assistant v. Reinforcer	0.14	0.07	0.55
Assistant v. Defender	-.27*	0.06	<.001
Assistant v. Outsider	-0.15	0.06	0.22
Assistant v. No Role	-0.08	0.07	0.96
Reinforcer v. Defender	-.41*	0.06	<.001
Reinforcer v. Outsider	-.30*	0.06	<.001
Reinforcer v. No Role	-.22*	0.07	0.03
Defender v. Outsider	0.11	0.05	0.32
Defender v. No Role	.19*	0.06	0.02
Outsider v. No Role	0.08	0.05	0.84

*Denotes a statistically significant difference (p<.05)

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Mean school safety.

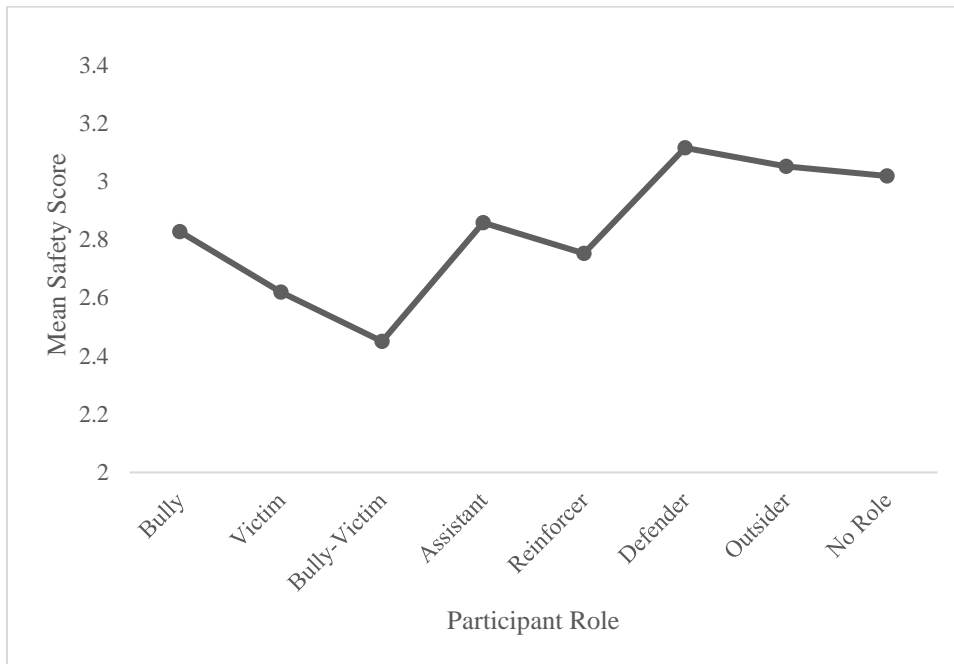


Figure 8. Mean Responses on the School Safety Subscale by participant role.

A one-way ANOVA demonstrated a significant effect of participant role on reported feelings of school safety ($F(7,643)=18.174, p <.001$). A Tukey's post-hoc analysis revealed significant pairwise differences, which are reported in Table 11. Students who identified as defenders reported the highest levels of safety, which were significantly higher compared to all other groups except outsiders and students with no role (Figure 8). Students who identified as bully-victims reported the lowest feelings of school safety, which were significantly lower than those of defenders, outsiders, and students with no role (Figure 8).

Bullies gave ratings of school safety that were significantly lower than defenders and outsiders. Victims demonstrated feelings of safety that were significantly lower than assistants, defenders, outsiders, and students with no identifiable role. Bully-Victims gave ratings that were significantly lower than defenders, outsiders, and students with no role. Assistants endorsed levels of school safety that were higher than those of victims but were lower than ratings from

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defenders, outsiders, and students with no role. Reinforcers endorsed levels of school safety that were significantly lower than defenders, outsiders, and students with no role but did not demonstrate differences from any other group. Defenders gave ratings of school safety that were higher all groups except outsiders and students with no role. Outsiders reported feelings of school safety that were significantly higher than bullies, victims, bully-victims, assistants, and reinforcers. Students with no role gave significantly higher ratings than victims, bully-victims, and reinforcers.

Table 11

Pairwise Comparisons of Mean Perceptions of School Safety

Comparison	Mean Difference	Std. Error	p
Bully v. Victim	0.21	0.08	0.18
Bully v. Bully-Victim	0.35	0.15	0.27
Bully v. Assistant	-0.02	0.09	1.00
Bully v. Reinforcer	0.05	0.09	1.00
Bully v. Defender	-.29*	0.08	<.001
Bully v. Outsider	-.25*	0.08	0.03
Bully v. No Role	-0.20	0.08	0.21
Victim v. Bully-Victim	0.14	0.14	0.97
Victim v. Assistant	-.23*	0.07	0.02
Victim v. Reinforcer	-0.16	0.07	0.25
Victim v. Defender	-.50*	0.06	<.001
Victim v. Outsider	-.46*	0.06	<.001

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Victim v. No Role	-.41*	0.06	<.001
Bully-Victim v. Assistant	-0.37	0.14	0.17
Bully-Victim v. Reinforcer	-0.30	0.14	0.40
Bully-Victim v. Defender	-.61*	0.14	<.001
Bully-Victim v. Outsider	-.60*	0.14	<.001
Bully-Victim v. No Role	-.55*	0.14	<.001
Assistant v. Reinforcer	0.06	0.07	0.99
Assistant v. Defender	-.27*	0.06	<.001
Assistant v. Outsider	-.23*	0.06	0.01
Assistant v. No Role	-0.18	0.07	0.14
Reinforcer v. Defender	-.34*	0.06	<.001
Reinforcer v. Outsider	-.30*	0.06	<.001
Reinforcer v. No Role	-.24*	0.07	0.01
Defender v. Outsider	0.04	0.05	0.99
Defender v. No Role	0.09	0.06	0.71
Outsider v. No Role	0.05	0.05	0.98

*Denotes a statistically significant difference ($p < .05$)

Research Question 4

What is the relationship between school climate and attitudes towards interpersonal peer violence and is it moderated by student participant roles?

Hypothesis 5. It was hypothesized that there would be a significant relationship between student perceptions of school climate and their attitudes towards interpersonal peer violence.

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Previous research has found that when students and staff hold higher aggressive attitudes, they feel a lower sense of belonging and safety at school, two important components of school climate (Waasdorp et al., 2011).

A bivariate regression was conducted and found that attitudes towards interpersonal peer violence significantly predicted school climate ratings. The results of the regression indicated that attitudes towards violence explained 28.5% of the variance ($R^2=.285$, $F(1,605)=241.1$, $p < .001$). Although there is a significant relation between attitudes towards violence and perceptions of school climate, only a small proportion of the variance is explained by this relation.

Hypothesis 6. Given the complex relationship between school climate, bullying participant roles, and aggressive attitudes, it was expected that student participant roles would moderate the relationship between perceptions of school climate and attitudes towards interpersonal peer violence.

The PROCESS extension in SPSS was used to test this moderation effect using the moderated regression technique described by Aiken & West in their 1991 book on multiple regression. PROCESS computes the conditional effect of X on Y as a function of the moderator variable (Hayes, 2012). In the case of this study, X = attitudes towards violence (raw mean scores), Y = climate score (raw mean scores) and the moderator variable was the participant role. PROCESS uses ordinary least squares regression to compute regression coefficients, simple slopes for each component of the moderator, and standard errors in one step (Hayes, 2018). For all interaction effects, PROCESS computes an omnibus test of significance as well as the necessary products and p-values to quantify interactions and their statistical significance (Hayes 2018). The results of the moderation examined the strength of the correlations between X

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(attitudes towards violence) and Y (climate score) at all levels of the moderator (participant role). PROCESS also conducted an analysis of interactions by comparing the effects of X and Y across levels of the moderator to a designated reference group (outsiders). The outsider group was selected as the reference group because they were students who chose to remain uninvolved with bullying and who endorsed responses to bullying that were neutral. Attitudes towards interpersonal peer violence, participant roles, and the attitudes by participant role interaction significantly predicted school climate ($F(13, 505) = 23.14, R^2=.37, p < .001$; Table 12). Specifically, attitudes toward interpersonal peer violence positively predicted school climate, ($b = .38, t(505) = 3.91, p = <.001$). As for participant roles, victims were the only group that significantly predicted perceptions of climate (Table 12). In addition, a significant interaction (attitude by defender) was found (Table 12). Due to the overall model significance and a significant interaction term for the defender group ($p <.001$), slopes for attitudes predicting school climate was examined at each level of the moderator (participant role; see Table 13).

Table 12
Model Summary Using Ordinary Least Squares Regression

Variable	B	SE	t	p	LLCI	ULCI
Attitude	.381	.01	3.91	<.001	.19	.57
Bully	-.73	.47	-1.56	.12	-1.66	.19
Victim	-.78	.36	-2.15	.03	-1.49	-.07
Bully-Victim	-.62	.74	-.84	.40	-2.09	.84
Assistant	-.38	.41	-.93	.35	-1.19	.43
Reinforcer	-.51	.39	-1.31	.19	-1.26	.25
Defender	-.60	.34	-1.78	.08	-1.25	.06
Attitude x Bully	.22	.19	1.14	.25	.25	-.16
Attitude x Victim	.21	.15	1.43	.15	.15	-.08
Attitude x Bully-Victim	.11	.33	.34	.73	.73	-.54
Attitude x Assistant	.11	.17	.66	.51	.51	-.22
Attitude x Reinforcer	.13	.16	.81	.42	.42	-.18
Attitude x Defender	.26	.13	2.00	.05	.05	.00
Constant	2.71	.25	8.28	<.001	1.58	2.56

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To visualize this relationship, the simple slopes of the effect of attitude on climate at each level of the moderator were graphed (Figure 9). Examination of the simple slopes suggest that the defender group varies from the reference group, outsiders. Lastly, each remaining role does not seem to differ from outsiders which served as the reference group.

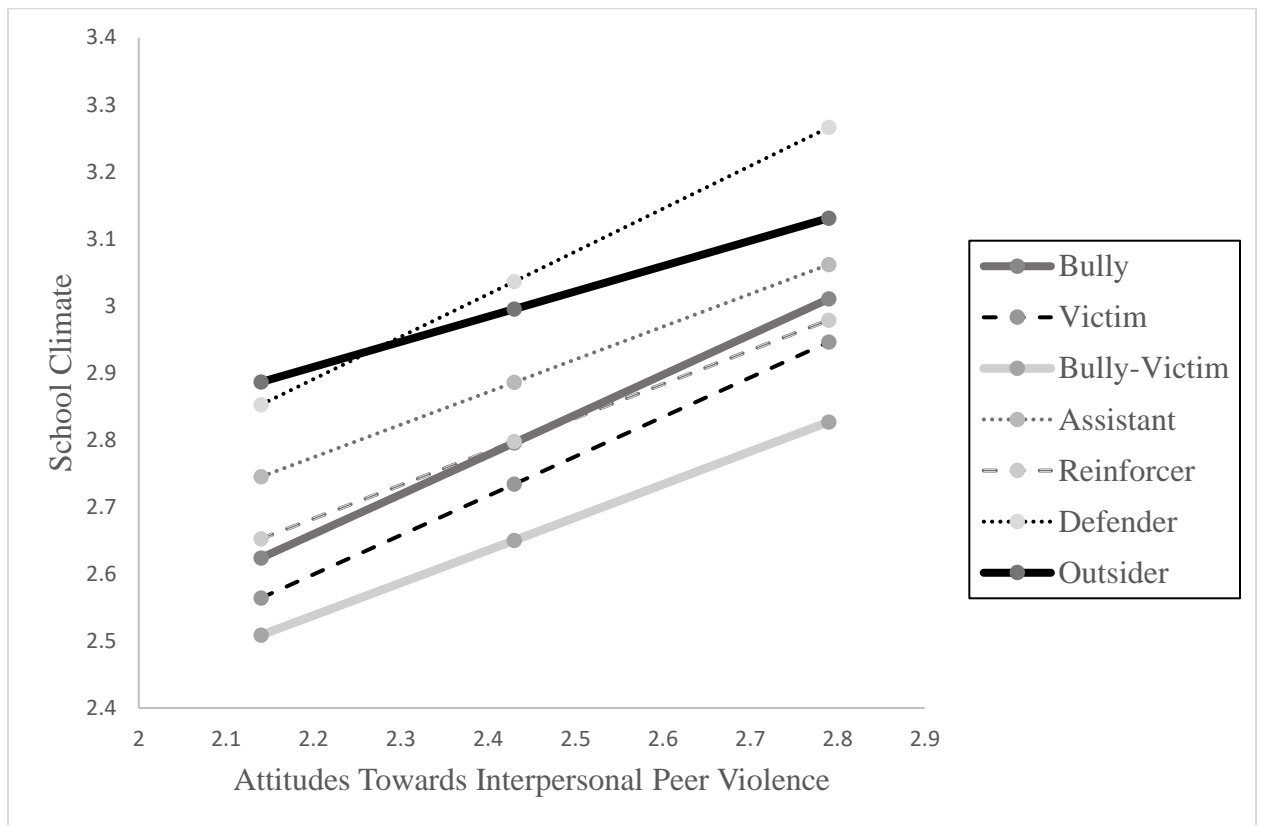


Figure 9. Simple slopes at each level of the moderator (Participant Role)

Upon examination of the conditional effects of attitudes on perceptions of school climate, it can be observed that the relationship between attitudes and school climate is similar for each participant role (Table 13). For every increase in attitudes, when accounting for a participant role, there is anywhere from a .38 to a .64 increase in perceptions of school climate. The largest

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increase is observed in the defender group and this group's difference from the outsider group appears to explain the observed interaction.

Table 13
Conditional Effects of Attitude on Perceptions of School Climate

Participant Role	B	SE	p	LLCI	ULCI
Bully	.60	.17	<.001	..27	.93
Victim	.59	.11	<.001	.37	.82
Bully-Victim	.49	.32	.119	-.13	1.12
Assistant	.49	.14	<.001	.22	.77
Reinforcer	.51	.12	<.001	.26	.75
Defender	.64	.09	<.001	.47	.82
Outsider	.38	.10	<.001	.19	.57

Chapter V: Discussion

This study used paper and pencil measures to investigate middle school students' self-reported attitudes towards interpersonal peer violence, perceptions of school climate, and behaviors in bullying interactions. Over 700 students were recruited from three middle schools in a Rocky Mountain town. This study built upon existing literature and validated measures to provide additional evidence for the differences in students' experiences at school. The following discussion of notable findings will be used to support clinical implications in schools and to make recommendations for future research.

Research Question 1

Hypothesis 1. It was predicted that differences would exist between genders in attitudes towards interpersonal peer violence. The results from the current study suggest that these differences do exist. As a whole, students who identified as females demonstrated significantly higher levels of nonviolent problem-solving attitudes than males. In other words, males gave responses espousing attitudes more accepting of violence than females and males in this study more readily endorsed attitudes supportive of the use of violence as a problem-solving tool. This result is consistent with past research suggesting differences between males and females in aggressive attitudes, especially in the context of bullying (Bjorkqvist, 1994; Vernberg, Jacobs, & Hershberger, 1999; Wang et al., 2009)

The differences between males and females' aggressive behaviors may be explained by their differences in their reasoning and explanations for engaging in violence. Males tend to view aggressive actions as a tool for resolving conflict whereas females view it as loss of control or unkindness (Richardson & Hammock, 2006). Another study found that highly aggressive boys cited a feeling that they had no other choice but to respond with violence when provoked by

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others (de Castro, Verhulp & Runions, 2012). This reflexive response may explain the lower problem-solving attitudes observed in the current study.

Some research suggests that differences between males and females in aggression and aggressive attitudes are derived from multiple sources including biological influences, normative influences, and environmental influences. For example, genetic research has found that prenatal exposure to hormones may cause differences in aggressive behaviors such that males are more aggressive than females (Bjorkqvist, 2017), though the role of social norms is also a key element. Sociological research has suggested that the reason for differences in aggressive attitudes between males and females is also due to differences in sociocultural upbringing (Maccoby, 1998). For example, studies on men's aggression have found that men's aggressive behaviors can be explained by individuals' conformity to masculine norms and the degree to which a person displays traditionally masculine personality characteristics such as the idea that violence is a strategy for control (Berke et al., 2015). Developmental studies on the importance of behavioral norms in children supports this notion that normative beliefs correlate significantly with aggressive behavior (Huesmann & Guerra, 1997). Another study found that aggression such as bullying is context specific and highly dependent on culture, the interpersonal relationship between the aggressor and the target, as well as the degree to which a person displays traditionally masculine personality characteristics such as dominance, power and the idea that violence is a strategy for exerting control (Richardson & Hammock, 2006).

Hypothesis 2. The current study sought to replicate previous analyses that have shown a pattern of gender differences in the distribution of participant roles while using a new sample in a new region. Therefore, it was predicted that in the current sample, the same pattern would be followed. More specifically, it was predicted that females would be more likely to fill the role of

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defender and outsider, whereas males would be more likely to be classified as bullies, assistants, and reinforcers (Carlyle & Steinman, 2007; Pouwels et al., 2016; Salmivalli et al., 1996).

The current study did not replicate previous research patterns. In fact, there were no significant gender differences in the distribution of participant roles. This is interesting considering previous research suggesting that females are more likely to be classified as defenders and outsiders, and males are more likely to be classified as bullies, assistants, or reinforcers (Cowie, 2000; Crapanzano et al., 2011; Salmivalli et al., 1996).

It is possible that the lack of observed differences between genders is due to recent school-wide education about bullying which has expanded students' understanding of the definition of bullying to include verbal and relational bullying as well as physical bullying. In Salmivalli et al's (1996) original study, which established participant roles and suggested gender differences between them, children were only asked to consider physical bullying when providing ratings on other students' bullying behaviors (Osterman et al., 1998; Salmivalli et al., 1996). Multiple studies have demonstrated differences between genders in the types of aggression used and provided evidence that females can be as aggressive as males (Crick & Grotpeter, 1995; Wang et al., 2009). However, the current study included more behaviors that females tend to use (i.e. indirect and verbal aggression), in addition to the behaviors preferred by males (e.g. physical aggression). This definitional expansion may explain the similarities across roles between genders in the current study. If the original participant role study excluded the use of verbal and indirect aggression, then it likely excluded female aggressors, skewing the distribution of student participant roles. Likewise, the lack of differences between genders in the victim role may also be explained by increased awareness of bullying and its definitions. In the original study, it is possible that students who were victims of verbal or relational bullying did

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not identify themselves as bullying victims since their victimization was not physical in nature (Salmivalli et al., 1996).

Past research on gender differences in defending behavior has given mixed results. Some studies suggest that females are more likely than males to be defenders (Salmivalli et al., 1996) while others found that males were more likely to engage in defending (Nickerson & Mele-Taylor, 2014;). In the current study, which was similar in design but used a peer-report version of the PRQ, no significant differences in defending were demonstrated between genders. It has been suggested that social-desirability may play a role in whether or not students ascribe to defending behaviors (Salmivalli et al., 1996; Sutton & Smith, 1999). Given that the current study used self-report, the impact of social desirability is an important consideration (Nickerson & Mele-Taylor, 2014) and this would be a useful construct to measure in the future. Another possible explanation for the lack of differences may be the increased overall emphasis in schools on interfering with bullying by peers and bystanders (Polanin, Espelage, & Pigott, 2012).

Research Question 2.

Hypothesis 3. The third hypothesis of this study predicted that students in different participant roles would demonstrate different levels of attitudes towards interpersonal peer violence and nonviolent problem-solving. Students in the defender group endorsed the highest scores, which were significantly different (higher) when compared to victims, bully-victims, assistants, and reinforcers. This result is consistent with previous research suggesting that defenders demonstrate lower approval of aggression, higher anti-bullying attitudes, and that they actually demonstrate higher levels of prosocial behavior (Crapanzano et al., 2011; Salmivalli & Voeten, 2004; Stoddard et al., 2015). There is ample research that helps us hypothesize as to why defenders hold relatively low pro-aggressive stances. For one, having high empathy has been

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demonstrated to be predictive of being a defender, suggesting that this group of students is better able to take the perspective of others than students who choose to remain bystanders (Nickerson et al., 2008). Being keenly aware and sympathetic to the distress of others makes it unlikely that they will engage in aggressive overtures. Further, there is research demonstrating that being a defender is correlated with having a higher moral responsibility and higher moral engagement (Gini, 2006; Menesini et al., 2003). In other words, defenders demonstrate stronger feelings of guilt and shame when acting aggressively as well as lower feelings of pride. It is likely that their helpful actions serve both their worldview about how others should be treated, and also serve to avoid negative internal reactions should they allow aggressive means to continue in their presence, all of which likely contributes to their views on aggressive means of behaving towards others (Menesini et al., 2003).

Students categorized as outsiders also demonstrated more positive attitudes towards nonviolent problem solving when compared to bully-victims, victims, assistants, and reinforcers; however, their responses were not significantly different from defenders. The lack of difference between outsiders and defenders is contrary to what little research has been published. A 2010 study suggested that students who choose to remain outside of bullying tend to lack problem solving coping skills such as actively seeking solutions to a problem (Pozzoli & Gini, 2010). This difficulty with problem solving actually differentiates these “passive bystanders” or outsiders from defenders except when the outsiders perceived that there was pressure from peers to intervene (Pozzoli & Gini, 2010). In other words, if a student who typically would choose to be an outsider had adequate peer pressure to intervene, they were more likely to defend the victim (Pozzoli & Gini, 2010). Others have proposed that bystanders who do not intervene may be particularly under the influence of the classic bystander effect (Darley & Latane, 1968;

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Salmivalli, 2010) in which they feel that intervention is unneeded based on the presumed consensus based on others' inaction. Those that do not intervene may also lack confidence in their efficacy to make the situation better, or even fear reprisal (Chen et al., 2016; Hazler, 1996). Other interpersonal contextual factors may impact students' decisions to get involved or remain as outsiders. For example, research supports that the interpersonal relationship between the aggressor and the victim can also change how the aggressive actions are interpreted, which may contribute to outsiders' reasoning for remaining uninvolved (Richardson & Hammock, 2006). The previously mentioned factors were not specifically measured in the current study; however, they provide insight into why the current results were obtained.

Bully-victims were categorized as students who endorsed being bullied 2-3 times per month and also demonstrated high levels of bullying behaviors when compared to their peers on the Participant Role Questionnaire. They endorsed the lowest level of non-violent problem-solving attitudes of any group, suggesting that they are more accepting of interpersonal peer violence and the use of aggression as a means of resolving conflict. Specifically, their scores were significantly lower than defenders, outsiders, and students with no role, but were not significantly different from any other group. This result corresponds with previous research suggesting that bully-victims are a discrete group that demonstrates beliefs supportive of aggressive retaliation that are even higher than bullies or victims (Bradshaw, O'Brennan, & Sawyer, 2008; Mazefsky & Farrell, 2005; Ragatz et al., 2011; Unnever, 2005). This group of students has also been identified as having an overly reactive social style and a hypervigilant perspective in social situations (Schwartz et al., 1997). In other words, they are more likely to retaliate or be involved with bullying than children who have not been victimized, which may be explained by higher aggressive tendencies, higher problem behaviors, lower self-control, and a

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tendency to attribute more blame to ambiguous scenarios between other students (Bradshaw et al., 2008; Camodeca et al., 2003; Haynie et al., 2001; Salmivalli & Nieminen, 2002). Research has shown that bully-victims and other highly reactive youth tend to have violent early rearing environments and that such abusive upbringings are associated with lower moral reasoning (Dodge et al., 1997; Schwartz et al., 1997). For example, a 2012 study that investigated moral reasoning in bully-victims found that they had a tendency over bullies and victims to believe that violating moral rules was allowable or “right” (Perren et al., 2012). This disregard for moral rules and tendency to be highly reactive may contribute to poor social information processing and predispose these children to act aggressively or less likely to use nonviolent problem-solving strategies (Dodge & Coie, 1987).

The results of the current study show similarities across the “aggressive” roles on the PRQ relative to attitudes towards violence and non-violent problem-solving skills. That is, students who were involved in any of the aggressive bullying roles (bullies, reinforcers, and assistants) did not give overall response patterns that were significantly different from one another, suggesting that although their specific choices of behaviors may be different (e.g. directly bullying a student versus encouraging a bully), their overall attitudes towards violence as an acceptable means of solving problems are similar. This finding is consistent with other research that bullies, assistants, and reinforcers are not distinctive groups but really belong to a group more appropriately called an “aggressor” group (Pouwels et al., 2016; Salmivalli & Voeten, 2014). Similar to bully-victims, bullies, assistants, and reinforcers also demonstrated levels of nonviolent problem-solving attitudes that were significantly lower than defenders and outsiders. This is not surprising given that beliefs approving of violence are linked with higher levels of aggressive behavior and bullying perpetration (Espelage et al., 2001; Huesmann &

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Guerra, 1997; Stoddard et al., 2015). One explanation for the pro-aggressive stance observed in these students may be found in research on their interpretations of the use of violence. For example, it has been found that bullies interpret bullying behaviors as being fun or enjoyable and are less aware than prosocial students of the consequences of their actions (Naito & Gielen, 2005; Warden & MacKinnon, 2003). Other studies have suggested that bullies are active in initiating violence against others, possibly due to increased sensitivity to the peer reinforcement of assistants and reinforcers (Salmivalli et al., 1997; Salmivalli et al., 2011). It has also been shown that bullies show a higher tendency to justify the use of aggression against victims and to disengage emotionally from victims, allowing them to be aggressive without concern for the victim's experience (Gini, 2006; Hara, 2002).

Although taken at face value, it might seem surprising that victims have relatively low attitudes towards nonviolent problem-solving. This finding in the current study is supported by research suggesting that students who are victimized demonstrate aggressive behaviors and hold proviolent beliefs consistent with the attitude that violence is a constructive means of solving problems (Cassidy, 2009). It is also consistent with findings that demonstrate that victims report feeling more hopeless and less in control in social situations, and are more likely to avoid problems rather than solve them when compared to non-bullied students (Cassidy, 2009; Stockdale et al., 2002). These problem-solving deficits may be explained by lower social cognition and a lower sensitivity to moral rules which may impact their attitudes towards nonviolent problem solving as being unacceptable (Gini, 2006; Perren et al., 2012). For example, if victims hold a strong attachment to a belief in a just world, they may be less likely to revert to or practice nonviolent problem-solving strategies because they feel as though they deserve to be bullied (Hara, 2002; Perren et al., 2012). Indeed, research on Just World Theory

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suggests if the world is just, then good people are rewarded and bad people are punished (Hara, 2002). Following this logic, a victim may feel that their victimization is a result of being “bad” and then blame themselves for their treatment regardless of separate moral beliefs that violence is “right” or “wrong” (Hara, 2002; Perren et al., 2012). In the case of social cognition, victims have demonstrated difficulties understanding thoughts, beliefs, and experiential states of others (Gini, 2006). These social cognition skill deficits may make it difficult for them to understand the utility of nonviolent problem solving when engaging with other students (Perren et al., 2012).

Research Question 3

Hypothesis 4. Given the integral role of school climate in psychosocial and academic outcomes in schools, it was expected that there would be a main effect of participant role on perceptions of school climate.

Overall Climate. The results of the current study supported the hypothesis that mean differences in overall perceptions of school climate would be observed between participant roles. One particularly interesting result was that defenders demonstrated more positive perceptions of school climate as well as higher levels of school engagement, school environment, and school safety than all other groups. This result echoes previous findings that bullies, victims, and bully-victims typically demonstrate negative perceptions of school climate and defenders and outsiders demonstrate more positive perceptions of school climate (Goldweber et al., 2013; Nickerson et al., 2014; Stein, Dukes, & Warren, 2007). It has been suggested that these overall differences occur due to the increased emotional and mental health problems observed in students involved with bullying (Bradshaw et al., 2008). In addition, student-teacher relationships, peer support, and self-efficacy have been implicated in research around school climate and bullying participant roles (Berkowitz & Benbenishty, 2012; Li et al., 2011; Poyhonen et al., 2010)

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Engagement. The engagement subdomain on the EDSCLS included items that investigated students' perceptions of cultural and linguistic competence (e.g., "This school provides instructional materials that reflect my cultural background, ethnicity, and identity"), interpersonal relationships (e.g., "If I am absent, there is a teacher or some other adult at school that will notice my absence"), and school participation (e.g., "I regularly participate in extra-curricular activities offered through this school such as, school clubs or organizations, musical groups, sports teams, student government, or any other extra-curricular activities").

Defenders demonstrated the highest overall levels of school engagement which were significantly higher compared to all other groups, except for outsiders. This finding is consistent with previous research demonstrating that defenders give higher ratings of school belonging and connectedness, both important elements of school engagement (Nickerson et al., 2014). These high scores may be due to higher quality and frequency of interpersonal relationships with students and adults, which may be linked to having higher social status and higher moral engagement than other participant roles (Gini, 2006; Kasen et al., 2004; Poyhonen et al., 2010). It has also been found that defenders have a tendency to display high levels of prosocial behavior in addition to enjoying high sociometric status (Pouwels et al., 2016). This high social status, or popularity, has been shown to moderate feelings of self-efficacy, which may lead to increased bullying intervention (Henry et al., 2011; Poyhonen et al., 2010). The social rewards of defending and the prosocial characteristics of defenders may also increase defenders' social credibility, which likely contributes to a larger social network and stronger relationships with peers and adults, two factors that have been demonstrated to increase school engagement (Crapanzano et al., 2011; Henry et al., 2011; Ruggieri, Friemel, Sticca, Peeren, & Alsaker, 2013).

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Bullies, bully-victims, assistants and reinforcers reported significantly lower perceptions of school engagement compared to defenders. Although there is little existing research on school engagement for these groups, research investigating elements of school engagement provides support for this finding. For example, studies have found that these groups reported low levels of school connectedness, a correlate to school engagement, as well as low levels of social support compared to uninvolved students (Cunningham, 2007; Holt & Espelage, 2007). Peer support has been demonstrated to be an important predictor of school engagement (Li et al., 2011). If students in these aggressive roles feel unsupported by peers at school, it has likely impacted their ratings on school engagement. It is also possible that these students who feel unsupported at school and who are frequently involved in aggressive interactions are less likely to choose to participate in after school activities, which would increase their school belongingness and thus their school engagement (Brown & Evans, 2002).

Victims also demonstrated lower school engagement than defenders. Although it has not been specifically studied, this may be explained by adjacent research that victims report lower perceptions of school belonging than bullies and uninvolved students (Cunningham, 2007; Nickerson et al., 2014). Victims have also been shown to develop an intense fear of school and school activities (Olweus, 1993). These feelings may decrease their willingness to be involved with school outside of academic pursuits and explain their lower scores on the school engagement subscale (Olweus, 1993). Related research has found that victims demonstrate low levels of peer support and are perceived as unpopular by both peers and teachers (Cunningham, 2007; Gage et al., 2014; Holt & Espelage, 2007; Li et al., 2011). This unpopularity coupled with a higher likelihood of feeling emotionally distressed and socially marginalized likely contributed

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to lower ratings of school participation and a more negative view of interpersonal relationships, leading to school engagement (Juvonen, Graham, & Schuster, 2003).

Environment. The EDSCLS environment subscale includes items asking about physical environment (e.g., “Broken things at this school get fixed quickly”), instructional environment (e.g., “My teachers give me individual attention when I need it), mental health (e.g., “My teachers really care about me”) and school discipline (e.g., “Adults working at this school reward students for positive behavior”).

The current study hypothesized that students in different participant roles would report different mean scores on the school environment subscale of the EDSCLS. Defenders reported significantly higher ratings of school environment in comparison to all other groups except for outsiders. Although little research has been done on the domain of school environment, this finding is consistent with previous research conducted on the elements of school environment such as teacher support and warm student-teacher relationships (Berkowitz & Benbenishty, 2012; Junger, Piroddi, & Thornberg, 2016). Another study found that defenders perceive their school environments as welcoming and diverse and feel positively towards their school’s instructional and emotional environment (Nickerson et al., 2014). These positive ratings have been attributed to higher social competence and empathy, which are understood to be associated with defenders (Nickerson et al., 2014; Gini et al., 2008).

Bully-victims reported the lowest ratings of school environment but their ratings were not significantly different from the other aggressive roles (i.e. bullies, assistants, and reinforcers) nor were they different from outsiders. This result is similar to previous findings that bully-victims report the lowest levels of teacher support compared to other students involved in bullying (Berkowitz & Benbenishty, 2012). Bully-victims’ low ratings of school environment may also be

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due to increased involvement with school discipline systems both as aggressors and victims. In addition, bully-victims demonstrate higher rates of anxiety and depression than other participant roles, which, combined with their poor relationships with teachers may result in lower scores on the mental health subscale in the current study, due to lack of support (Holt & Espelage, 2007; Stein et al., 2007).

Victims and bully-victims in this study reported lower scores on the school environment subscale. These findings are consistent with previous research (Bradshaw et al., 2008) and may be related to victims' and bully-victims' perceptions of school discipline, specifically to the feeling that bullies were not adequately punished or disciplined for their aggressive actions (Veenstra et al., 2014). It may also be reflective of students' perceptions of their school's instructional environment, which has been shown to be negatively associated with being a bully-victim (Cunningham, 2007). Other research has demonstrated that victims and bully-victims perceive their school's environments as less welcoming and diverse than defenders, possibly due to the ongoing and repetitive nature of bullying (Nickerson et al., 2014).

Bullies reported significantly lower scores on school environment than defenders. Previous research on this result is mixed. One study found that students who bully others have more negative perceptions of overall school environment, while other research found that bullies are more comfortable at school, possibly due to holding higher social status and perceptions of being popular (Cunningham, 2007; Juvonen et al., 2003; Nickerson et al., 2014). The results from the current study may be related to the presence of positive behavior supports in the schools sampled. Positive behavior supports, such as those in place in the schools sampled, have been shown to establish norms that condemn aggressive behaviors, which may have diminished the

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sociometric status of students who bully, and therefore caused them more discomfort within the school environment (Bradshaw, 2013).

Safety. The safety measure included items asking for students to provide ratings about physical safety (e.g., “I sometimes stay home because I don’t feel safe at this school”), emotional safety (e.g., “I am happy to be at this school”), bullying (e.g., “Students at this school are teased or picked on about their cultural background or religion”), substance abuse (e.g., “Students use/try alcohol or drugs while at school or school-sponsored events”), and emergency readiness (e.g., “Students know what to do if there is an emergency, natural disaster, or a dangerous situation during the school day”). These items sought to capture measurable aspects of a school’s culture that contribute to safe feelings at school. They included items about school norms and policies as well as a student’s individual experiences and feelings about safety.

Students categorized as defenders reported the highest levels of perceived school safety when compared to the all other participant roles, except outsiders. This result is consistent with previous research and may be due to their stronger sense of self-efficacy compared to peers (Nickerson et al., 2014; Poyhonen et al., 2010). If self-efficacy contributes to a sense of control over one’s social environment in both positive and negative interactions, then it is likely that defenders may feel safer because of their increased level of control. In addition, defenders have been shown to have higher sociometric status (Pouwels et al., 2016). Although sociometric status was not measured in this study, it may translate to a large social network and high social support which generates feelings of safety when acting against a bully (Pouwels et al., 2016). This sense of safety may also occur due to high feelings of adult support which have been well established in the case of defenders and other students who seek help for bullying (Eliot et al., 2010; Gini, 2006; Henry et al., 2000).

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Although the finding that outsiders felt high levels of safety, similar to those of defenders, closely aligns with some previous research, the literature on this topic is mixed. One study found that middle and high school students uninvolved with bullying had a more positive sense of perceived school climate and a higher sense of school safety compared to those who were involved with bullying as bullies or victims, possibly due to higher perceived adult support and less concern about retaliation (Goldweber et al., 2013). Other research has suggested that outsiders fear retribution from the bullies and therefore may feel less safe at school (Hazler, 1996; Oh & Hazler, 2009). Given the presence of universal positive behavioral supports, which emphasize and support positive teacher relationships with students in the schools sampled, it is possible that the students in the current sample perceived more intervention from adults, which contributed to higher feelings of safety and less responsibility for intervening themselves.

The current study replicated previous findings that bullies, victims, and bully-victims felt less safe at schools than outsiders or defenders. This finding is well documented in the literature in both middle and high school samples (Berkowitz & Benbenishty, 2012; Bradshaw et al., 2008; Furlong, Chung, Bates, & Morrison, 1995; Goldweber et al., 2013). Victims and bully-victims are highly victimized at school, which directly impacts their feelings of safety (Bradshaw et al., 2008; Furlong et al., 1995). This feeling of insecurity may also be related to the fact that victims and bully-victims typically have difficulty with social cognition (Boulton & Smith, 1994; Gini, 2006). Bully-victims, for example have been shown to inaccurately perceive that their peers intend to harm them and subsequently respond with inappropriate physical aggression (Unnever, 2005). If bully-victims and victims have a history of being victimized and are more likely to be sensitive to slights from peers or inaccurately judge the actions of others, they may be more likely to feel in danger while at school.

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Research Question 4

Hypothesis 5. It was expected that there would be a significant relationship between student attitudes towards interpersonal peer violence and perceptions of school climate. This significant relationship was found in the current sample suggesting that attitudes towards violence were predictive of overall perception of school climate. Although this relationship was a significant one, it only accounts for a small portion of the variance in perceptions of school climate. The relationship between attitudes towards interpersonal peer violence and school climate has not been specifically addressed in previous research. However, studies have shown that aggressive attitudes are predictive of aggressive behaviors, and students who are approving of violence are more likely to demonstrate behaviors that negatively impact a school's climate (Espelage et al., 2001; Huesmann & Guerra, 1997; Stoddard et al., 2015). In addition, schools with positive school climate report stronger attitudes against aggression, higher bystander intervention, and lower levels of peer victimization (Lee & Song, 2012; Low & Ryzin, 2014). By linking these previous findings, we find support for attitudes towards interpersonal peer violence impacting perceptions of school climate. The implications of this connection have not been heavily studied, although they support the continued use of interventions that target attitudes as a means of influencing behavior and thus overall school climate.

Hypothesis 6. Given the complex relationship between school climate, bullying participant roles, and aggressive attitudes, it was expected that student participant roles would moderate the relationship between perceptions of school climate and attitudes towards interpersonal peer violence. Moderation was used to account for the direction and relationship strength of attitudes and school climate across participant roles. The relationship between attitudes and school climate was significant and positive for all groups except for bully-victims,

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which was positive but not significant. Results from the moderation analysis included the finding that defenders demonstrated a stronger relationship between attitudes towards interpersonal peer violence and perceptions of school climate than those in other participant roles in comparison to the reference group, outsiders

Since this relationship between attitudes, climate, and participant roles is a novel study, it is difficult to know why this relationship is significantly stronger for defenders versus other roles. It is possible that these students, who have been demonstrated to have higher anti-bullying attitudes, higher perceptions of school climate, and higher levels of empathy are also extending their attitudes towards violence onto the whole school (Nickerson et al., 2008; Nickerson & Mele-Taylor, 2014). Research on empathy has suggested that those with higher empathy tend to rate positive traits as more important, which could also explain the stronger connection between personal attitudes and perceptions of school climate (Mehrabian, Young, & Sato, 1988). This empathy may strengthen the link between defenders' predisposition for anti-violence and their perceptions of school climate.

Summary

It is well established that males and females demonstrate both different attitudes towards violence (Osterman et al, 1998; Wang et al, 2009). The current study reinforced these findings by demonstrating that males and females also demonstrate differences in attitudes towards nonviolent problem solving, as measured by the ATIPVS. It was anticipated based on previous studies that there would also be differences across genders in the distribution of students in participant roles (Carlyle & Steinman, 2007; Pouwels et al., 2016; Salmivalli et al., 1996). However, no differences were found; males and females were evenly distributed across roles.

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Literature also exists suggesting differences between bullying participant roles when measuring aggressive attitudes (Bjorkqvist, 2017; Crapanzano et al., 2011; Maccoby, 1998; Salmivalli & Voeten, 2004). The current study extended this finding and demonstrated that students in different participant roles also expressed different attitudes towards nonviolent problems solving, as measured by the ATIPVS.

Previous research has examined differences between bullying participant roles in perceptions of school climate as a whole as well as related domains (Goldweber et al., 2013; Nickerson et al., 2014; Stein, Dukes, & Warren, 2007). However, none have simultaneously addressed all three core elements of school climate as defined by the Department of Education: school engagement, school environment, and school safety. The current study investigated these domains and found significant differences between participant roles.

Finally, research has identified a strong relationship between aggressive attitudes and aggressive behaviors (Huessmann & Guerra, 1997; Stoddard et al., 2015). However, no existing research has examined differences in the strength of this relationship while accounting for bullying participant role as was done in the current study.

Implications for Practice

The results of the current study provide data that have implications for both systems level and individual level considerations and suggested that students in different participant roles demonstrate variable attitudes towards interpersonal peer violence. These differences point to attitudes as a potential point of intervention especially as they may translate into differences in aggressive behaviors. Past research has demonstrated that personal beliefs about violence predict high rates of proactive aggression, suggesting that working to change beliefs about violence may be useful in changing the behavior of bullies and bully-victims (Frey et al., 2016). This supports

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the continued use of interventions that aim to change personal beliefs about violence as a means of altering behavior and therefore students' participant roles. Interventions that indirectly target attitudes by teaching how to take the perspective of others and feel empathy have been shown to decrease aggressive attitudes (Gini, 2004). In addition, interventions such as Second Step, that directly target attitudes towards violence by increasing prosocial beliefs and social/emotional skills have been shown to be effective in reducing aggressive behaviors and bullying (Schoiack, Edstrom, Frey, & Beland, 2002).

The current results on gender differences in attitudes towards violence replicated the finding that males and females demonstrate significantly different attitudes towards interpersonal peer violence. This may explain why males and females demonstrate different patterns of aggressive behaviors (Bjorkqvist, 2018). Future interventions that seek to change student attitudes towards interpersonal peer violence may wish to consider these gender differences and account for the social climate in which students are reared with specific attention paid to cultural norms. For example, males and females are subjected to different cultural norms surrounding both problem-solving and violence (Maccoby, 1998; Richardson & Hammock, 2006). It may also be helpful to consider students' adherence to gender roles rather than biological sex when targeting aggressive attitudes and behaviors (Richardson & Hammock, 2006). Using interventions that are not gender specific will allow the clinician the flexibility to investigate how gender norms may be impacting behavior and problem-solving strategies. For example, modular interventions that utilize evidence based cognitive behavioral therapy may give clinicians the flexibility to address the specific behaviors observed in a given student as well as the cognitive and cultural bases for these behaviors (Chorpita & Weisz, 2009). Such approaches may be useful for teaching victims and bully-victims both how to cope with victimization and how to actively

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address it in a pro-social way. Combining sensitivity toward gender and gender norms with other approaches that target antisocial and aggressive behaviors may also be beneficial. For example, Aggression Replacement Training (ART) is an intervention that can be tailored to be a whole-school or small group format. It targets moral reasoning, anger control, and social skills and may be useful in addressing the lower nonviolent problem-solving skills observed in aggressive students and victims (Roth & Striepling-Goldstein, 2003).

The result that students with lower nonviolent problem-solving attitudes also had lower perceptions of school climate is an interesting one. On the one hand, many of these students were bullies, bully-victims, assistants, and reinforcers and therefore may demonstrate a predisposition for retaliation and anti-social behavior, which have been linked to negative psycho-social outcomes (Bradshaw, O'Brennan, & Sawyer, 2008; Unnever, 2005). It also may suggest that one of the reasons why students who are involved in bullying have such negative psycho-social outcomes is not only due to the individual factors that have lead them to be bullies such as exposure to violence and higher aggressive attitudes, but the fact that they do not experience their school's climates as positive. Little research has investigated this idea on an individual level but some studies have shown that increasing positive school climate corresponds with decreases in bullying and increases in school achievement (Wang, Berry, & Swearer, 2013; Wilson, 2004). Continued efforts to create positive school norms and model school-specific strengths in ways that engage students in aggressive roles may be useful. For example, strengthening implementation of whole-school positive behavior supports (i.e. student-teacher relationships, emphasis on mental health, explicit positive behavior expectations) as well as implementing both small group interventions that target aggressive students while using positive behavior supports

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as a guiding theory may increase students' perceptions of their schools' positive aspects (Bradshaw, 2013; Cunningham et al., 2019; Wang et al., 2013).

Students in aggressive roles demonstrated significantly lower perceptions of school engagement compared to defenders and outsiders. While it is possible that these students choose not to participate at school because they dislike aspects of their school's environment, it is also possible that these students were not allowed to participate in after school clubs or activities as a result of their aggressive behaviors, thus further preventing them from having a sense of school belonging or participation (Wilson, 2004). Given the relationship between school belonging and positive mental health outcomes (Lee & Song, 2012; Low & van Ryzin, 2014), it may be useful for efforts to be made to establish and maintain school-based ties with these students, especially those who are bully-victims and thus may suffer the negative outcomes of belonging in both the bully and the victim groups. For example, one of the most well-known bullying intervention programs, the Olweus Bullying Prevention Program (Olweus, 1994; Olweus & Limber, 2010), emphasizes creating a school environment characterized by adult involvement that balances both warmth and positive interest with limitations and boundaries. Research has found that teacher support and strong relationships with teachers can mitigate the aggressive behaviors observed in bullying as well as the detrimental effects of being a bully (Flaspohler et al., 2009; Wang et al., 2015). Other, smaller scale interventions that actively work to establish one-on-one connections between students and teachers such as daily behavior report cards and check-in, check-out (CICO) have proven to be effective in reducing aggressive behaviors (Filter et al., 2007). This may be because it places teachers in a strong relational position to have supervisory oversight and interfere in bullying, administer positive discipline within the context of a relationship, and offer behavioral alternatives to violence (Flaspohler et al., 2009; Wang et al., 2015).

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The overall finding that increases in attitudes towards nonviolent problem solving predict increases in perceptions of school climate across participant roles is encouraging. It suggests that changing attitudes should correlate with changes in school climate perception even in students, such as bully-victims, who have low perceptions of school climate. As previously mentioned, this finding emphasizes the importance of targeting attitudes as a means of changing behaviors and therefore climate. In addition, the current result, coupled with the result that defenders demonstrate higher scores on all aspects of school climate and previous research that defenders are more empathic and prosocial, further highlights defenders as a behavioral and social ideal for all students. Research on supportive school climate has found that higher levels of helping behaviors, such as those observed in defenders, were associated with higher levels of supportive school climate (Connolly & Corcoran, 2016). It may be useful to target defender-specific qualities such as help-seeking, self-efficacy, and attitudes approving of nonviolent problem solving in order to impact overall school climate change (Sutton & Smith, 1999). This supports the use of interventions that create school norms where defending behaviors such as helping victims are expected (Polanin, Espelage, & Pigott, 2012). Such interventions that seek to empower students and increase the number of prosocial defenders in a school have been shown to be a useful means of increasing bystander intervention and targeting bullying at both the peer- and whole-school level (Crapanzano et al., 2011; Polanin et al., 2012). For example, interventions that increase awareness of intervention by peers, encourage responding promptly, and motivate discretionary reporting such as Steps to Respect and the KiVa Antibullying Program have been shown to impact both bystander intervention and bullying prevalence (Cunningham et al., 2019; Jiminez-Barbero et al., 2016; Polanin et al., 2012). In addition, Stop, Walk, Talk is a school-wide program that has been shown to be effective at reducing aggressive

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behaviors at school by integrating Positive Behavior Supports and directly encouraging more defending behavior (Ross, Horner & Higbee, 2013). Overall, school-wide interventions that utilize Positive Behavioral Supports have been suggested to foster the development of a supportive school climate in ways that encourage help-seeking behavior, such as those observed in defenders (Bradshaw, 2013).

Study Limitations

This sample was taken in a small, mountain town in the western United States. Results should be interpreted with caution when generalizing to other regions or to the larger population of middle school students, especially in different demographic areas such as urban cities, areas with more diverse representations of socio-economic status, and areas with a higher ratio of racial and ethnic diversity. Similarly, the schools where the samples were taken served populations that had similar incomes and socioeconomic statuses. These schools had many afterschool activities, extra-curricular activities, and other community events that students were able to be involved in. In another region, these types of opportunities for school engagement and school participation may not be available, which could have impacted the degree to which all students were able to be engaged at school.

The current research was also limited by exclusively examining students' self-reported perceptions and behaviors. Self-report methodology allowed data to be collected directly from participants and provided an opportunity for students to report based on their own experience. It has also been demonstrated to be a valid and useful means of collecting data on the PRQ, especially when using surveys and questionnaires (Bushard, 2013; Chan, 2009). However, it is unknown whether reported perceptions on the survey items accurately reflected actual events within the school or measurable internal states and it is possible that self-perceptions differed

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from peer-perceptions of behavior, which could have skewed results. Past studies have used both peer report measures and self-report measures and have found a high correlation between both on the PRQ (Salmivalli et al., 1996). Obtaining and analyzing data from other students, teachers, and staff, or from different data sources (i.e., discipline records, attendance) would have assisted in validating the responses of the study participants and would have more closely followed the procedure used by the creators of the Participant Role Questionnaire (Salmivalli et al., 1996). Despite this benefit, concerns with confidentiality, ethical constraints, and feasibility prevented such measures to be taken, especially given the large sample size.

Due to a clerical error, scoring for the Attitudes Towards Interpersonal Peer Violence scale was somewhat limited. All scores that were a 3 or 4 were collapsed and scored as a “3.” This reduction in variability may have artificially skewed the results by restricting the range. This reduction in sensitivity likely caused the analyses to have less power. Although statistically significant results were found, it is likely that the extent of the differences and the observed effect sizes in the data were somewhat limited.

In terms of the examination of gender differences in the current study, it has been suggested that differences in violent behaviors between genders may reflect differences between gender roles more than differences in biological sex (Richardson & Hammock, 2006). The current study did not investigate adherence to traditional gender roles which may have lead to the low observed effect size, despite the significant result in differences between genders in attitudes toward interpersonal peer violence. Further research may wish to better capture students’ adherents to gender roles or investigate the relationship between attitudes towards violence and presence on the gender spectrum.

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The similarities observed in the current study between outsiders and defenders may suggest that a more specific measurement tool is necessary to determine which specific problem-solving strategies defenders use and what differentiates them from students who choose not to be involved in bullying. Other research has suggested that peer influence is a differentiating factor when comparing defenders and outsiders (Pozzoli & Gini, 2010). Although not gathered in this study, qualitative data investigating students' motivations for remaining outside of bullying in the current sample would have been useful for answering this question. Indeed, previous qualitative research efforts have found that the reasons students opt to defend are multifactorial and include both internal and external influences (Forsberg et al., 2014). The results of another qualitative study suggested that defending behavior is multiphasic and includes assessment of the severity of the bullying, the risk of being confronted by the bully, and whether or not the defender has previously intervened (Chen, Chang, & Cheng, 2016).

Future Directions

The importance of school climate has been investigated at length both in this study and in the current research on schools. Interventions designed to positively enhance school climate have been suggested and implemented in order to bolster student outcomes and promote higher student achievement, better mental health, and enhanced school safety. Given the current status of school shootings and violence in schools, there has never been more emphasis set on the creation of safe and welcoming spaces for children of all ages.

Given the higher levels of school engagement for students who are defenders, school engagement may be an important target for intervention and further research. It may be possible to increase the frequency of defending against bullying by providing opportunities for students to connect with school personnel, other students, and the overall school culture. Similarly, by

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changing attitudes it may be possible to shift the behaviors of assistants, reinforcers, bullies, and bully-victims, all of whom typically demonstrate lower school engagement. A future study that includes a longitudinal component may be an interesting way to determine if a student's participant role is dynamic and could be changed by increasing school engagement or participation in school activities. Similarly, retroactive reports of students who identify as bullies in elementary school could be analyzed to determine if they shifted to a different role and why such a shift did or did not occur. Results from such studies could highlight what factors in school climate, if any, had the greatest impact in creating behavioral change.

Although there is a wealth of current research on bullying and schools, most of it has been dedicated to investigating the behaviors of bullies and victims. Less research has been devoted to investigating other aggressive roles such as reinforcers and assistants, especially in the context of school climate. Further research on why students behave in ways that characterize them as reinforcers or assistants rather than as bullies may be useful in determining what prevents them from filling the bullying role but keeps them engaged in the perpetuating bullying. Classroom norms and student popularity and aggression have both been implicated in changing students' behaviors and in determining peer groups and may be an important avenue for this research (Salmivalli & Voeten, 2004). Specific research that targets assistants and reinforcers in the context of these factors may provide useful information for determining what makes them different from bullies and what factors cause them to choose to follow a bully's lead and perpetuate the bullying cycle. Knowledge of such factors would give educators more insight into how to prevent students from filling roles that support bullies.

The current study demonstrated lower attitudes towards nonviolent problem solving in the bully-victim group. Although previous research has demonstrated that bully-victims are a

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unique group, and show similarities to both bullies and victims, more research needs to be done on what characterizes this unique group of students. For example, bully-victims are more likely to display both reactive and proactive aggression, but students who are only bullies or only victims are more likely to demonstrate either one or the other (Bradshaw et al., 2008; Salmivalli & Nieminen, 2002). It is possible that students who are bully-victims may be modeling both the proactive and reactive problem-solving attitudes that they observe in their bullying peers (i.e. being violent towards others) without considering their experiences of being victimized. Future research investigating the qualitative reasoning for bully-victims' behavior choices and the etiology of their actions may be useful in developing new interventions that target proactive and reactive aggression in these students.

The current findings lead to some interesting questions about where research may continue and how bullying interventions might be formulated more effectively. Studies have emphasized the importance of targeting school climate as a means of reducing aggressive peer groups, increasing student willingness to seek intervention, and supporting high academic achievement. The current study presents findings that support these goals and describes the characteristics of different bullying roles in a new sample.

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Appendix A

PARENTAL CONSENT FOR SURVEY PARTICIPATION

Dear Parent,

You are being asked to give permission for your child to take part in a research study that will help us learn about students' attitudes towards violence, their roles in bullying, and how they feel about their schools. We are trying to figure out how these things might be connected so that we can try and prevent bullying.

If you agree, your child will be given a short questionnaire during school on November 9, 2018. Your child will be asked about their actions and opinions about violence as well as their experiences in their school. No personally identifying information will be connected to your child's responses and all records will be kept confidential and will not be released without your consent except as required by law. Your child's signed assent form, as well as this parental permission form, will be stored in a locked cabinet separate from the data.

Your decision to allow your child to take part in this research study is entirely voluntary. You may refuse to allow your child to take part in this study or you may withdraw your child from the study at any time without penalty or loss of the benefits to which you or your child are normally entitled.

Although there is no anticipated discomfort for those contributing to this study, answering the questions may cause your child to have some mild uncomfortable feelings or thoughts about bullying. If he/she feels uncomfortable at any point and wishes to stop completing the survey, he/she may do so at any time. By participating in this study, your child will be helping us find out ways to prevent violence and bullying from happening at schools.

If you would like your child to participate in the study, please sign and return this letter to your child's homeroom teacher

Statement of Permission:

I have read the above description of this research study. I have been informed of the risks and benefits involved, and all my questions have been answered to my satisfaction.

Furthermore, I have been assured that any future questions I may have will also be answered by a member of the research team. I voluntarily agree to have my child take part in this study. I understand that I will receive a copy of this permission form.

Printed Name of Your Child

Child's Grade and Homeroom Teacher

Printed Name of Parent or Legally Authorized Representative

Signature of Parent or Legally Authorized Representative

Date

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Appendix B

MINOR'S ASSENT FOR SURVEY PARTICIPATION

Title: School Climate and Attitudes Towards Peer Harassment

Why am I here?

We are asking you to take part in a research study because we are trying to learn more about bullying at school. We are inviting you to be in the study because in order to get the best information about bullying at school, we need to ask the experts! To us, you are the experts on bullying and what it feels like to be at your school.

Why are you doing this study?

We are doing this study to help learn about students' attitudes towards violence, their roles in bullying, and how they feel about their schools. We are trying to figure out how these things might be connected so that we can try and prevent bullying.

What will happen to me?

After you read these two pages, let us know if you still want to participate. If you do, you will be given a survey to fill out. Your name will not be on the survey and there will be no way for anyone to know what your answers are. Just be honest!

Will the study hurt?

No, the study should not hurt but it may cause you to have some uncomfortable thoughts or feelings. If you wish to stop completing the survey, you may at any time. Just raise your hand and tell your teacher.

Will the study help me?

By participating in this study, you are helping us find out ways to prevent violence and bullying from happening at schools.

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What if I have any questions?

You can ask any questions that you have about the study. If you have a question later that you didn't think of now, you can ask your teacher and they will contact me for an answer.

Do my parents [guardians] know about this?

This study was explained to your parents [guardians] and they said that you could be in it.

Do I have to be in the study?

You do not have to be in the study. No one will be upset if you don't want to do this. If you don't want to be in this study, you just have to tell me. You can say yes now and change your mind later. It's up to you.

Writing your name on this page means that that you agree to be in the study, and know what will happen to you. If you decide to quit the study all you have to do is tell your teacher or the person in charge.

Name of Minor (printed)

Signature of Minor

Date

Signature of Researcher

Date

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Appendix C

TEACHERS ADMINISTRATION SCRIPT

Before handing out surveys to participating students, please say the following script:

Today you are being asked to take a survey to help us learn about your experiences at school.

A survey is different from a test. On a survey, you are asked for your opinion or point of view; there are no right or wrong answers and you will not be graded. For each question, you will read the question silently, choose the one answer that best explains your opinion. Your class's answers will be used to better understand what it's like to be a student here. While you are taking the survey, please do not talk to your classmates or share your answers or reactions to the survey items. We want to know your original opinions. You should have a book to read or some silent work for when you are finished.

Before we start, there are some important things for you to know: First, read each survey item carefully and think about the answer choice that you think fits best. You may only pick one answer per survey item. Second, please be honest and thoughtful, and take your time when you read and respond to each survey item. Remember that there are no right or wrong answers.

I will not see your individual answers but I can help you with words you don't understand. Just raise your hand if you have a question. If you prefer not to answer a survey item, please skip it.

Finally, if you feel uncomfortable at any point and would like to stop taking the survey, just raise your hand and give it back. Are there any questions before we begin?

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Appendix D

EDUCATION DEPARTMENT SCHOOL CLIMATE SURVEY (EDSCLS)

1. Are you male or female? Mark one response.

- Male
- Female

2. What grade are you currently in at this school? Mark one response.

- 6th grade
- 7th grade
- 8th grade

3. Which of the following grade groupings best describes the grade that you are currently in? Mark one response.

- 5th to 8th grade
- 9th to 12th grade

4. Are you of Hispanic or Latino origin? Mark one response.

- Yes
- No

5. What is your race? You may mark one or more races.

- White
- Black or African-American
- Asian
- American Indian or Alaska Native
- Native Hawaiian or Pacific Islander

**How strongly do you agree or disagree with the following statements about this school?
Mark One Response**

6. All students are treated the same, regardless of whether their parents are rich or poor.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

7. Boys and girls are treated equally well.

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- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

Throughout the survey, "This school" means activities happening in school buildings, on school grounds, on school buses, and at places that hold school-sponsored events or activities. Unless otherwise specified, this refers to normal school hours or to times when school activities/events were in session.

8. This school provides instructional materials (e.g., textbooks, handouts) that reflect my cultural background, ethnicity, and identity.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

9. Adults working at this school treat all students respectfully.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

10. People of different cultural backgrounds, races, or ethnicities get along well at this school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

11. Teachers understand my problems.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

12. Teachers are available when I need to talk with them.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

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13. It is easy to talk with teachers at this school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

14. My teachers care about me.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

15. **[High School Student Only]** At this school, there is a teacher or some other adult who students can go to if they need help because of sexual assault or dating violence.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

16. My teachers make me feel good about myself.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

17. Students respect one another.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

18. Students like one another.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

19. If I am absent, there is a teacher or some other adult at school that will notice my absence.

- Strongly Agree

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- Agree
- Disagree
- Strongly Disagree

20. I regularly attend school-sponsored events, such as school dances, sporting events, student performances, or other school activities.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

21. I regularly participate in extra-curricular activities offered through this school, such as, school clubs or organizations, musical groups, sports teams, student government, or any other extra-curricular activities.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

22. At this school, students have lots of chances to help decide things like class activities and rules.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

23. There are lots of chances for students at this school to get involved in sports, clubs, and other school activities outside of class.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

24. I have lots of chances to be part of class discussions or activities.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

25. I feel like I belong.

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- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

26. Students at this school get along well with each other.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

27. At this school, students talk about the importance of understanding their own feelings and the feelings of others. Ssafemo52

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

28. At this school, students work on listening to others to understand what they are trying to say.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

29. I am happy to be at this school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

30. I feel like I am part of this school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

31. I feel socially accepted.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

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32. I feel safe at this school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

33. I feel safe going to and from this school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

34. I sometimes stay home because I don't feel safe at this school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

35. Students at this school carry guns or knives to school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

36. Students at this school threaten to hurt other students.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

37. Students at this school steal money, electronics, or other valuable things while at school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

38. Students at this school damage or destroy other students' property.

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- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

39. Students at this school fight a lot.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

40. Students at this school are teased or picked on about their race or ethnicity.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

41. Students at this school are teased or picked on about their cultural background or religion.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

42. Students at this school are teased or picked on about their physical or mental disability.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

43. **[High School Student Only]** Students at this school are teased or picked on about their real or perceived sexual orientation.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

This question is about bullying. Bullying happens when one or more students tease, threaten, spread rumors about, hit, shove or hurt another student. It is not bullying when students of about the same strength or power argue or fight or tease each other in a friendly way. Bullies are usually stronger, or have more friends or more money, or some other power over the student

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being bullied. Usually, bullying happens over and over, or the student being bullied thinks it might happen over and over.

44. Students at this school are often bullied.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

45. Students at this school try to stop bullying.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

This question is about cyberbullying. Cyberbullying is bullying that takes place using electronic technology. Examples of cyberbullying include mean text messages or emails, rumors sent by email or posted on social networking sites, and embarrassing pictures, videos, websites, or fake profiles.

46. Students often spread mean rumors or lies about others at this school on the internet (i.e., Facebook™, email, and instant message).

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

**How strongly do you agree or disagree with the following statements about this school?
Mark One Response**

*Drugs means any substance, including those used to get “high” or increase performance in school or sports, other than alcohol or tobacco. Examples include marijuana, illegal drugs, inhalants, synthetic drugs used to get high (K-2, bath salts, white lightning), or over-the-counter medicine. This does not include medications prescribed by doctor or nurse for the person, but includes prescription drugs that are NOT prescribed to the person by his/her doctor.
“Alcohol” means a full or part of a drink of alcohol. Examples include beer, wine, mixed drink, shot of liquor, or any combination of these alcoholic drinks. This does not include alcohol that you may drink for religious purposes.*

47. Students use/try alcohol or drugs while at school or school-sponsored events.

- Strongly Agree

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- Agree
- Disagree
- Strongly Disagree

48. It is easy for students to use/try alcohol or drugs at school or school-sponsored events without getting caught.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

49. Students at this school think it is okay to smoke one or more packs of cigarettes a day.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

50. Students at this school think it is okay to get drunk.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

51. Students at this school think it is okay to try drugs.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

52. Students know what to do if there is an emergency, natural disaster (tornado, flood) or a dangerous situation (e.g. violent person on campus) during the school day.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

53. If students hear about a threat to school or student safety, they would report it to someone in authority.

- Strongly Agree
- Agree

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- Disagree
- Strongly Disagree

54. The bathrooms in this school are clean.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

55. The temperature in this school is comfortable all year round.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

56. The school grounds are kept clean.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

57. I think that students are proud of how this school looks on the outside.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

58. Broken things at this school get fixed quickly.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

59. My teachers praise me when I work hard in school.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

60. My teachers give me individual attention when I need it.

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- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

61. My teachers often connect what I am learning to life outside the classroom.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

62. The things I'm learning in school are important to me.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

63. My teachers expect me to do my best all the time.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

64. My teachers really care about me.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

65. I can talk to my teachers about problems I am having in class.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

66. I can talk to a teacher or other adult at this school about something that is bothering me.

- Strongly Agree
- Agree
- Disagree

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Strongly Disagree

67. Students at this school stop and think before doing anything when they get angry.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

68. Students at this school try to work out their disagreements with other students by talking to them.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

69. My teachers make it clear to me when I have misbehaved in class.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

70. Adults working at this school reward students for positive behavior.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

71. Adults working at this school help students develop strategies to understand and control their feelings and actions.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

72. School rules are applied equally to all students.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

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73. Discipline is fair.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

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Appendix E

PARTICIPANT ROLE QUESTIONNAIRE- SELF REPORT VERSION

Bullying can be defined as. . .

. . . one student is repeatedly exposed to harassment and attacks from one or several other students. Harassment and attacks may be, for example, shoving or hitting the other one, calling him/her names or making jokes about him/her, leaving him/her outside the group, taking his/her things, or any other behavior meant to hurt the other one. It is not bullying when two students with equal strength or equal power have a fight, or when someone is occasionally teased, but it is bullying, when the feelings of one and the same student are intentionally and repeatedly hurt.

When thinking about **your** behavior when bullying happens at school, please answer the following questions using these numbers: **0 = never, 1 = sometimes, 2 = often**

- | | <u>Please circle the best choice</u> | | |
|--|--------------------------------------|---|----|
| • How often do you start the bullying? | (0 | 1 | 2) |
| • How often do you assist the bully? | (0 | 1 | 2) |
| • How often do you tell the others to stop bullying? | (0 | 1 | 2) |
| • How often do you always find new ways of harassing the victim? | (0 | 1 | 2) |
| • How often do you join in the bullying when someone else has started it? | (0 | 1 | 2) |
| • How often do you not take sides with anyone? | (0 | 1 | 2) |
| • How often do you help the bully, maybe by catching the victim? | (0 | 1 | 2) |
| • How often do you come around to see (watch) the bullying situation? | (0 | 1 | 2) |
| • How often do you laugh at the bullying situation? | (0 | 1 | 2) |
| • How often do you stay outside the situation? | (0 | 1 | 2) |
| • How often do you make others join in the bullying? | (0 | 1 | 2) |
| • How often do you try to make others stop the bullying? | (0 | 1 | 2) |
| • How often do you encourage the bully by shouting or saying: "Show him/her!"? | (0 | 1 | 2) |

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- How often do you comfort the victim, maybe by encouraging the victim to tell the teacher about the bullying? (0 1 2)
- How often are you not really present in bullying situations? (0 1 2)

Think about the definition of bullying above. How often have you **been bullied at school in the past couple of months?

- I haven't been bullied at school in the past couple of months
- It has only happened once or twice
- 2 or 3 times a month
- about once a week
- several times a week

Think about the definition of bullying above. How often do you **take part in bullying another students(s) in the past couple of months?

- I do not bully another student(s)
- It has only happened once or twice
- 2 or 3 times a month
- about once a week
- several times a week

Appendix F

ATTITUDES TOWARDS INTERPERSONAL PEER VIOLENCE

1. If I walked away from a fight, I'd be a coward ("chicken")
2. The best way to stop a fight before it starts is to stop the argument (problem) that caused it.
3. Anyone who won't fight is going to be "picked on" even more.
4. I don't need to fight because there are other ways to deal with being mad.
5. It's OK to hit someone who hits you first.
6. If my friends want to go someplace where a fight might happen, I find it easy to say I don't want to go with them.
7. When actions of others make me angry, I can usually deal with it without getting into a physical fight.
8. If a kid teases me or "disses" me, I usually cannot get them to stop unless I hit them.
9. If a kid at school hits me, it is harder to report them to a teacher or other adult than it is to just hit them back.
10. If I really want to, I can usually talk someone out of trying to fight with me.
11. My family would be mad at me if I got into a fight with another student, no matter what the reason.
12. If a student hits me first, my family would want me to hit them back.
13. I usually can tell when things are bothering me or getting on my nerves.
14. If things are bothering me or getting on my nerves, I do things to relax.

Disagree a lot = 1

Disagree a little= 2

Agree a little= 3

Agree a lot= 4

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Appendix G

Standardized Factor Loadings by Subdomain

Item	Engagement			Safety					Environment			
	Cultural & Linguistic Competence	Relationships	School Participation	Emotional Safety	Physical Safety	Bullying	Substance Abuse	Emergency Readiness	Physical Environment	Instructional Environment	Mental Health	Discipline
sengcl7	.447											
sengcl4	.648											
sengcl2	.607											
sengcl1	.549											
sengcl3	.362											
sengrel29		.590										
sengrel21		.353										
sengrel20		.538										
sengrel17		.746										
sengrel14		.724										
sengrel12		.690										
sengrel11		.621										
sengrel9		.721										
sengpar48			.609									
sengpar47			.457									
sengpar45			.285									
sengpar44			.403									
sengpar46			.585									
ssafemo57				.736								
ssafemo56				.804								
ssafemo53				.541								
ssafemo52				.461								
ssafemo54				.748								
ssafemo49				.486								
ssafemo18				.784								
ssafpsaf59					.639							

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ssafpsaf60					.572							
ssafpsaf63					.464							
ssafpsaf65					.587							
ssafpsaf67					.746							
ssafpsaf68					.629							
ssafpsaf69					.702							
ssafpsaf71					.655							
ssafbul83						.579						
ssafbul80						.337						
ssafbul73						.705						
ssafbul75						.784						
ssafbul74						.777						
ssafbul76						.690						
ssafsub94							.869					
ssafsub93							.852					
ssafsub91							.679					
ssafsub88							.780					
ssafsub92							.718					
ssaferm98								.878				
ssaferm97								.400				
senvpenv107									.651			
senvpenv106									.695			
senvpenv102									.544			
senvpenv100									.664			
senvpenv105									.721			
senvins121										.407		
senvins115										.570		
senvins113										.745		
senvins111										.750		
senvins114										.599		
senvmen137											.518	
senvmen134											.512	
senvmen132											.714	
senvmen130											.744	
senvmen133											.669	

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senvdis147c													.660
senvdis147													.704
senvdis143													.676
senvdis142													.361
senvdis146													.686

Confirmatory Factor Analysis Second Order Factor Loadings by Domain

Subdomain	School Engagement	School Safety	School Environment
Cultural & Linguistic Competence	.84		
Relationships	.96		
School Participation	.88		
Emotional Safety		.84	
Physical Safety		.90	
Bullying		.74	
Substance Abuse		.71	
Emergency Readiness		.56	
Physical Environment			.71
Instructional Environment			.88
Mental Health			.99
Discipline			.92

Goodness-of-Fit Indicators for the Department of Educational School Climate Survey (EDSCLS)

Df	Chi Square	Chi Square/df	CFI	RMSEA
2064	6854.49***	3.321	.79	.054
CFI=comparative fit index; RMSEA= root mean square error of approximation ***p<.001				

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