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The Use of Latent Analysis to Further Understand Bullying, Victimization, and Moral
Disengagement

A dissertation submitted in partial satisfaction of the
requirements for the degree of Doctor of Philosophy in
Counseling, Clinical, and School Psychology

by

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Abstract

The Use of Latent Analysis to Further Understand Bullying, Victimization, and Moral

Disengagement

by

Rachel Stein

Even though bullying is a well-established concern within schools, there is little consensus about how to intervene (Jimerson, Swearer, & Espelage, 2010). Prior to implementing intervention schools need to understand students role in bullying (e.g., bully, victim, bully-victim, defender, outsider) to appropriately target the behaviors taking place. Despite an empirical history measuring students' roles within bullying (Espelage & Swearer, 2003; Salmivalli, 1996), as well as relevant correlates (e.g., gender, age), both the measurement and substantive implications of bullying participation have been debated. Some measurement methodologies (e.g., cut scores) used to create participation groups (Furlong, Sharkey, Felix, Tanigawa, & Greif Green, 2010; Swearer, Siebecker, Johnsen-Frerichs, & Wang, 2010) and have raised concerns about accurate group classification. To address concerns measuring bullying participation, the present study relied on latent class analysis. The findings show that bullying and victimization behaviors vary by degree of involvement (e.g., low, moderate, high). When bully and victim behaviors were considered in a simultaneous analysis, four classes emerged: outsiders, social-victims, victims, and bully-victims. Results suggest that most students who bully others also are victimized. The present study found that moral disengagement appears related to students' degree of participation in bullying and victimization. Students who fell into the bully-victim class had

the highest levels of moral disengagement, followed by students in the victim class, social-victim class, and outsider class. Thus, programs focused on increasing moral engagement (e.g., moral reasoning) may provide a fruitful direction for anti-bullying efforts. Gender was not found to impact class assignment for the types of bullying participation measured.

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The Use of Latent Analysis to Further Understand Bullying, Victimization, and Moral Disengagement

The impact of peer aggression and victimization in schools has been highlighted by media attention in recent years (Benbenishty & Astor, 2012). Of particular concern have been the consequences for victims of school violence, since victimization has been associated with an extensive array of negative outcomes (Diguardi & Theodore, 2006). While the term *school violence* refers to all aggressive acts and victimization within educational settings, particular interest has been focused on *school bullying*. Perhaps the most widely accepted definition of bullying is that set forth by Olweus (1991, 1994, 2010), which describes bullying as aggressive behavior that is repeated over time, in a relationship characterized by an imbalance of power. Encapsulated within this definition are multiple kinds of bullying behaviors: physical, relational, and verbal bullying. *Physical bullying* includes behaviors that have long been considered bullying (e.g., hitting, kicking), whereas *verbal bullying* uses words to hurt others and *relational bullying* involves social means (e.g., exclusion, teasing) to ostracize others (Demaray & Malecki, 2003).

Despite the widespread use of the definition of school bullying, many studies do not clearly measure all three elements (e.g., intentional aggressive behavior, repetition, and a power imbalance) of this construct. Rather, the definition of school bullying is often provided as a framework for understanding this set of social aggressions, without evaluating whether the behaviors are repeated or whether there is a power differential between the bully and victim, both core features of Olweus's definition of bullying (1991, 1994, 2010). This has created a body of scholarly work that often purports to look at school bullying while actually measuring broader constructs of aggression. In response to this posited concern, Espelage and colleagues (2013) recommended that this definition not become a limiting

factor when investigating children's peer aggression. While victimization encapsulates a range of behaviors, including bullying, the exact overlap is unclear. Further, victimization takes place within a framework of social ecology (e.g., teachers, peers) that are not incorporated into the definition of school bullying (Espelage et al., 2013). Although concerns about how to define and understand school bullying versus victimization persist, no consensus has been reached amongst researchers (Espelage et al., 2013). Therefore, the present study draws from research looking at both school bullying and victimization. However, it is important to note that while the present study provided participants with the definition of bullying, a common survey implementation practice (Espelage et al., 2013), the power differential between self reports of bullying and victimization was not explicitly examined.

Embedded within peer aggression and victimization are a variety of participants. Although historically bullying was considered something confined to the bullies and victims, contemporary literature suggests more complexity (Espelage & Swearer, 2003; Salmivalli, 1996). The literature proposes that it is important to understand not only the role of bullies and victims, but also of bully-victims, defenders, and outsiders (Summers & Demaray, 2009). *Bully* refers to students who intentionally perpetrate aggressive behaviors. *Victims* are students who are subjected to intentional aggressive behavior. *Bully-victims* are students who bully others and are also victimized themselves. *Defenders* are students who try to stop bullying behaviors from happening. *Outsiders* are students who remain uninvolved in perpetrating, being subjected to, or stopping bullying behaviors. In part, the need for greater understanding of all participants in bullying stems from increasing knowledge of the ecology of bullying: bullying relationships are established, influenced, and

maintained within the social environment where they are embedded (Swearer & Espelage, 2004). As a result, the negative impact of bullying reverberates throughout the school setting. In particular, when bullying is prevalent, it seems to have deleterious effects on overall school climate (Dupper & Meyer-Adams, 2002). With this in mind, research has begun to look more closely at all students involved in bullying, as well as the interaction between different bullying participants.

Some specific correlates are related to increased likelihood of taking on a specific role in bullying. For instance, poor social skills have been associated with increased victimization (Diguardi & Theodore, 2006). Extensive research has focused on how some students (e.g., individuals with disabilities, sexual minority youth) seem to be targeted for more victimization than their peers (Rivers, 2011). Whereas a great deal is known about the negative effects associated with being a victim of bullying, less is known about differences among students who are victimized.

Gini (2006) called for the need to have a more nuanced classification of bullying roles to help differentiate subtleties beyond bully, victim, bully-victim, defender, and outsider. Debate exists as how to best measure bullying participation (Crick & Bigbee, 1998; Olweus, 2010), as well as how to classify students within bullying participant roles (Espelage, Swearer, Vaillancourt, & Hymel, 2010). Classification is particularly uncertain since prior research has demonstrated that different grouping methods can result in selecting different subsets of students (Green, Felix, Sharkey, Furlong, & Kras, 2012; Sharkey et al., 2015). Methodology for determining how to group students includes: asking students what role they play in bullying, relying on normal curves to categorize extreme responders, or creating cutoff (e.g., responds affirmatively to three or more questions asking about bullying

behaviors) scores based around key questions. This has brought into question whether traditional methods of identifying students' participation create meaningful substantive categories of bullying participation or may be prone to misclassification (false positives and negatives; Nylund, 2007). Since everything from estimates of the prevalence of bullying to informing intervention strategies currently relies on group categorization, it is elemental that the resulting groups are an accurate reflection of the behaviors that take place. Therefore, to avoid the methodological challenges of cutoff scores, research has begun to push for other methods for creating bullying classification groups.

One question that has been posed when thinking about children who bully is whether they are morally deficient (Hymel, Schonert-Reichl, Bonanno, Vaillancourt, & Henderson, 2010). While there is a dearth of research considering the relation between moral engagement and bullying, moral engagement has been examined extensively in the aggression literature. Within the context of aggression, moral reasoning and social information processing (SIP), in particular, have been associated with aggression (Hymel et al., 2010). With this foundation, Hymel et al. (2010) called for research considering whether moral engagement is a differentiating factor between children who bully and children who do not.

This paper aims to expand the understanding of students who bully and students who are victims of bullying. First, theories of peer aggression and bullying provide a foundation for understanding bully and victim behaviors. Second, the paper explores what is currently known about the ecology of bullying and bullying participation. Third, trajectories of student involvement in bullying are briefly discussed. Fourth, moral engagement is considered as an important correlate to bullying behavior that may have implications for

bullying trajectories (Gini, 2011). Finally, this study used Latent Class Analysis (LCA) to form bullying participant categories. The purpose of this study is to better determine the bullying involvement of students through the use of a new classification method.

Additionally, the role of moral disengagement was explored as a possibly differentiating factor between students' bullying involvement. In this way, the present study informs the bullying literature through furthering the understanding of students' involvement in the ecology of bullying as bullies, victims, and bully-victims.

Theoretical Rationale

A number of theories and models have been proposed to explain bullying interactions. Many models draw from research studying aggression. Since bullying is often considered a specific type of aggression (Espelage & Swearer, 2003), aggression literature provides a basis for conceptualizing bullying behavior.

Attribution Theory and Social Information Processing. In working to understand bullying behaviors and relevant correlates, it is important to think about the social decision making that underlies aggressive social interactions. Prior to an act of aggression taking place, a student makes a decision, whether conscious or unconscious, to bully. Literature on moral judgment has looked extensively at social cognitions as they pertain to defensive aggression, where defensive aggression refers to a "hostile and assertive response to perceived threat or intentional frustration" (Dodge, 1980, p. 162). In order to act with defensive aggression, a person has to perceive stimuli as intentional and with a deliberate negative outcome. On the other hand, this is discrepant from instances where an individual perceives that another person accidentally does something that elicits a negative outcome (Dodge, 1980). Researchers have worked to develop and test theories to determine how

individuals decide that an action with a negative result is intentional or accidental. Research has considered how this type of social information is processed, and also how subsequent decisions are made, to try and better understand aggressive sequences of events.

Dodge (1980) studied how aggressive children process and act on information and established the *attribution theory* of aggression. Children were exposed to an act with a negative outcome and led to believe that it was either malicious, accidental, or the intent was left ambiguous. Whereas he found that almost all children react aggressively when they believe that intent was malicious, he also found that aggressive children were more likely to interpret ambiguous acts as aggressive. In other words, they seemed to have an aggressive attribution bias. A subsequent study found that boys who were aggressive not only had a *hostile attribution bias*, but were also more likely to expect continued subsequent aggression in social interactions and to mistrust their peers (Dodge, 1980).

Social Information Processing (SIP) builds off of attribution theory to help explain process, interpreting, and subsequent responses after social information is attained. Huesmann (1998) examined how aggressive behavior is linked to social information processing and observational learning. Huesmann proposed that a script or schema is acquired when a situation is encountered for the first time and then is retrieved for use in subsequent similar situations. When individuals are exposed to violent environments and interactions, their scripts for responding with aggression are more salient than proactive social approaches. In turn observing aggressive social responses create normative beliefs or establish ideas about what type of behavior is appropriate. This observational learning is based off of Bandura's (1996) idea that what a child witnesses and how they interpret what they see is an important part of learning. In turn, observational learning predicts how

children respond to a range of ensuing situations. Based off of Huesmann's work (1998), Crick and Dodge (1994) developed the Social Information Processing (SIP) model, articulating six steps that individuals rapidly cycle through when making social decisions: 1) encoding of social cues, 2) interpreting social cues, 3) clarifying social goals, 4) determining possible responses, 5) deciding on a response, and 6) carrying out the behavior. Individuals' choices throughout decision-making steps are also influenced by prior experiences, cognitive abilities, and speed of information processing. Children who have biases in their processing stages have been shown to have trouble with hostile attributions, trouble formulating response options and problem solving effectively, and a tendency to favor aggressive options (Dodge, 1991). When SIP has been applied to bullying, evidence has suggested that children who bully process information differently than children who do not. Bullies seem to interpret ambiguous social stimuli as more hostile than children who do not bully (Slee, 1993). There is also some evidence that students who are victimized tend to develop more hostile attribution biases than students who are not victimized (Digaurdi & Theodore, 2006). This evidence has implications for trajectories of bully and victim behavior. Specifically, students who are victimized and develop a hostile attribution bias may be more likely to act in retaliatory ways, and become bully-victims or reactive victims rather than passive victims.

Findings from aggression literature have been extrapolated to help understand bullying interactions, which are most often considered hostile acts of aggression (Dodge, 1991; Espelage & Swearer, 2003; Summers & Demaray, 2009). Within aggression literature, reactive and proactive aggression have been explored as distinct and valid conceptualizations of aggression (Dodge, 1991). That is, the literature has differentiated

between people who react in aggressive ways after being provoked (reactive victims) as opposed to others who just act in aggressive ways. Further, both reactive and proactive aggression can be understood in terms of either *instrumental* or *hostile intent*. Instrumental intent characterizes aggressive acts that are a means to an end goal, such as a child who pushes to get a toy. Hostile aggression consists of acts where the primary goal is to hurt another person. For example, a child who hits another student in order to watch them cry is engaging in hostile aggression (Dodge, 1991). Whether aggression is provoked or happens unsolicited is important because of the implications for bullying, since students who bully can either be acting in a reactive or proactive manner.

Social Learning Theory. Bandura's social learning theory dictates that aggression is incrementally learned through social modeling of others and reinforced by perceived external rewards (Dodge, 1991). For instance, children watch their parents' social interactions over time and adopt similar patterns. Thus, a child who comes from a home with coercive discipline is reinforced in a way that motivates aggressive behavior and aggressive problem solving (Jimerson, Hart, & Renshaw, 2012). In turn, this influences how that same child problem solves in other contexts encountered, such as school. An extension of social learning theory is the social developmental model, which adds to Bandura's ideas by articulating that during certain transitional times in life (e.g., moving from elementary to middle school) factors may have more or less salience than during other time periods (Jimerson et al., 2012). For instance, peer relationships may have an added weight during the transition from elementary to middle school and during this time a child may more rapidly learn from their peers than their parents. Thus, according to social

learning theory, not only are things learned through watching others, but also the salience of different types of stimuli may influence this process.

Transactional Social-Ecological Perspective. Attribution theory, social information processing, and social learning theory all provide insight into how children understand and respond to social information. They are all interlinked: social learning theory considers the learning process, social information processing theory considers the steps in reaching conclusions using social information, and attribution theory explains the types of conclusions children draw about social information. Transactional social-ecological theories work to understand all contributing elements simultaneously, including more proximal (e.g., classroom, parents) and distal influences (e.g., legal mandates, media) so as not to neglect any relevant and important factors that may help explain a situation. Time and time related factors (e.g., child development) are also incorporated into a transactional social-ecological model.

Social-ecological theory, originally put forth as a theoretical approach by Bronfenbrenner (2001), offers the perspective that multiple environments influence an individual. Sameroff (2009) added a transactional piece that articulates that the environment and individual simultaneously and reciprocally influence each other. This is important when thinking about children, and in particular bullying, due to the complex processes that are taking place. For example, a child's moral reasoning may be developing at the same time they are learning about being assertive and during the same time period that they watched a violent movie. Each of processes may contribute to how a child understands and reacts to provocation from a classmate. Additionally, how this provocation and subsequent reaction affects the child will also contribute to their moral reasoning and interpretation of what it

means to be assertive. Considering any one element without some understanding of the other elements neglects important contributions.

Fontaine and Dodge (2009) considered aggressive behavior from a transactional lens to empirically consider the reciprocity of multiple important factors. Initially, they conceptualized the idea that at every step in a decision process there is more than one possible course of action and set of possible outcomes, which contributes to how future situations are navigated. Considering what options are likely to be successful as well as what the individual considers “right” or “wrong” quickly narrows outcome possibilities. Individuals use this information to rapidly make social decisions that arise.

A transactional approach explains the complexity of bullying behaviors. Although some research has tried to use models such as Dodge’s work with aggressive children to frame bullying behavior, the resulting models fall short of considering more than the aggressor/victim or bully/victim dyad. (Gini, 2006). For instance, some argue that bullying is an improper way to reach an appropriate instrumental goal, such as popularity, which is not readily explained by Dodge’s model of aggression. Children’s’ aggressive behaviors and their attributional cognitions, do not take place in isolation. Rather, children make attributional decisions in consideration of their prior learning (e.g., values, morals), environmental information, and previous relevant experiences. In this way, children’s complex social cognitions precede their behavior (Arensis & Lemerise, 2004).

Summary of Theoretical Approaches. Attribution and social information processing models, social learning theory, and a transaction ecological lens all have something to offer towards understanding aggression and bullying behaviors. A transactional ecological approach is advantageous because it is able to draw from all theories

to capture the complexity of bullying behaviors. In particular, transactional ecological theory is able to encapsulate and build on the ideas of attribution and social information processing as well as social learning theories. Ultimately, a transactional ecological approach to bullying is important because it allows for consideration of the many influences in a child's life and also incorporates the child's own agency into understanding their behaviors and interactions (Sameroff, 2009).

The Social Ecology of Bullying

Ecological models purport that human experiences cannot be understood without thinking about the individual, their context, and the interplay between both the individual and context (Swearer et al., 2012). Ecological theory, along with research, supports that bullying and victimization can be conceptualized as the mutual interplay between an individual, a peer group, school, family, community, and broader societal influences. Research suggests that considering all students who are involved in bullying, as well as the context (e.g., school environment) where bullying takes place, is a valid approach to understanding this interplay (Espelage et al., 2012). Nonetheless, scholarship has focused extensively on victims and bullies, but has spent less time thinking about other students' involvement in bullying. More recently an increase in literature focusing on a whole range students' participation in bullying has emerged.

Bullies

Beale (2001) classified bullies into four subtypes: physical, verbal, relational, and reactive. Individuals who rely on physical bullying use physical action. This may include actions against others (e.g., hitting, kicking) or against property. By its overt nature, physical bullying is the hardest type of bullying to conceal. Physical bullying is most

closely aligned with the types of interactions that were classically studied as part of the aggression literature. Individuals who verbally bully use words to engage in behaviors such as name calling, using insulting comments, or teasing to hurt other students. Verbal bullying requires little time and is easily hidden, making it an especially common form of bullying. Individuals who participate in relational bullying use social means to bully others. This may include rejecting or including a peer, or spreading rumors. Relational bullying often uses verbal means and therefore may overlap with verbal bullying. Individuals who are reactive bullies are a group of students that have also been called bully-victims or proactive victims. Bully-victims may act in ways that are consistent with being a bully or a victim depending on the circumstance. Children who reactively bully may act impulsively in response to the actions of others, which they may interpret as aggressive. Amongst adolescents, bullying seems to overlap with sexual harassment, with the most frequently reported bullying behaviors all having sexual connotations: homophobic remarks/name calling, sexual comments, jokes, gestures, looks, and rating or making comments about sexual body parts (Felix & Greif Green, 2010).

Prevalence. The prevalence of bullying has been widely examined (Crick & Grotpeter, 1995; Nansel et al., 2001) although the exact numbers vary from study to study. Perhaps one of the most widely referenced studies looking at the prevalence of bullying is Nansel's (2001) study by the National Institute of Child Health and Human Development studied bullying both in and out of school amongst a representative sample of students across the United States. They surveyed 15,686 students in grades 6 through 10 and found that 29.9% of students sampled had been victims or bullies. Of this 29.9% of students involved in bullying, 17% were classified as victims and 19% were classified as bullies.

When gender was considered, the researchers found that 53% of boys sampled and 37% of girls sampled had participated in bullying during the prior school year. Nansel and colleagues (2001) studied bullying prevalence generally; research focused specifically on bullying within schools has found that 8-20% of students report that they bully others frequently (Demaray & Malecki, 2003). Although the exact numbers have varied, research has consistently shown that bullying is common (Espelage & Swearer, 2003).

Negative Correlates. Students who perpetuate bullying behavior have been shown to have more trouble with psychosocial adjustment than their uninvolved peers (Nansel et al., 2001). In particular, bullying has been linked to mental health concerns such as depression and suicidal ideation (Summers & Demaray, 2009). Misconduct, both at school and at home, has also been associated with bullying behaviors (Summers & Demaray, 2009). School functioning is also affected by bullying behavior. Students who bully struggle in the school environment, often enjoy school less than their peers, and are less well liked by teachers (Haynie et al., 2001). Additionally, navigating social relationships through the use of bullying interactions creates problematic patterns that fail to teach children how to use adaptive and appropriate methods to deal with peer conflict and frustration (Haynie et al., 2001).

Over the long term, there are a number of consequences associated with bullying behaviors. For example, some research has suggested that children who bully are more likely to later become involved with crime and alcohol abuse (Haynie et al., 2001). In support of this research, children who bully in elementary school have also been shown to be more likely to be convicted of crimes in young adulthood and have criminal records by thirty years old (Haynie et al., 2001).

Characteristics. The category of “students who bully,” consists of a heterogeneous group of students. However, there are some commonalities that seem to make a student more likely to bully. Generally students who bully are more aggressive and often physically stronger or bigger than the children they victimize (Pellegrini, Bartini, & Brooks, 1999). A number of studies have reported that boys are more likely to engage in bullying behaviors than girls, however, this may be related to the types of bullying considered and the forms of measurement that are used (Demaray & Malecki, 2003; Felix & Greif-Green, 2010). More specifically, evidence suggests that boys perpetuate higher rates of physical bullying, whereas girls are more likely to be involved in verbal and relational forms of bullying. Interestingly, children who bully often have high levels of peer and social support, particularly when compared to students who are victims or bully-victims (Demaray & Malecki, 2003).

Bullies seem to have a different kind of peer interaction style than many of their peers. Students who bully are frequently more aggressive and domineering than their peers who don't bully (Haynie et al., 2001). Students who bully also seem to have fewer insecurities or anxieties than other students and tend to exhibit more externalizing behavior problems (Haynie et al., 2001). Self-reports have even indicated that children who bully perceive that they are impulsive and lack self-control (Haynie et al., 2001). The popularity of bullies has been debated in the literature; with some suggesting that bullies are popular and have power through their social capital (Pellegrini et al., 1999). Other research has suggested that bullies are unpopular with their peers, although they may have a more social status than students who are victimized (Haynie et al., 2001).

Environmental and social considerations such as parents' use of physical discipline, lack of supervision, maladaptive peer influences, and the safety of one's environment have all been associated with increased bullying behavior (Demaray & Malecki, 2003). This is consistent with research showing that children involved in bullying endorse having less parental support than their uninvolved peers (Demaray & Malecki, 2003). Regardless, social environments are an important influence in children's lives and certain elements are likely linked to an increased propensity to bully others.

Bullying behaviors seem to be fairly stable overtime, although bullying follows a developmental trajectory that seems to peak in middle school and declines into later adolescence (Robers, Kemp, Truman, & Snyder, 2012). However, research has shown that students who bully when they are younger are more likely to bully when they are older, even though the overall rate of bullying decreases (Summers & Demaray, 2009). One predictor of how a child behaves in a bullying situation seems to be how peers respond (Salmivalli et al., 1998). Children who bully tend to associate with other children who bully, which also seems to further perpetuate the acceptability of this kind of behavior (Salmivalli et al., 1998).

Research has questioned whether students who bully believe that bullying others is acceptable, perhaps due to inadequate understanding of others' thoughts and feelings. Literature studying the cognitions of children who bully has generally concluded that children who bully have typical levels of social intelligence (Gini, Pozzoli, & Hauser, 2011), suggesting that the reason they bully is not due to a lack of understanding others. Students who bully also seem to have adequate theory of mind, or ability to ascertain how others may have discrete thoughts and feelings from themselves (Gini et al., 2011). Additionally,

evidence suggests that students who bully have average levels of Machiavellianism, the tendency to use amoral means to accomplish a desired outcome (Gini et al., 2011). Taken together this suggests that students who bully understand how what they are doing will impact others and continue to engage in aggressive behaviors anyway. Understanding whether students who bully have deficits or adequate skills in these areas has important implications for approaching intervention. Evidence indicating that students who bully are capable of understanding others implies that intervention efforts should reinforce the importance of a school climate that does not permit or tolerate such behaviors.

Bully-Victims

Although conceptually researchers have acknowledged that some students who are victimized act reactively while others act passively, considering bully-victims as a discrete category in the ecology of bullying is relatively new in bullying research. Haynie and colleagues (2001) studied bullying and victimization and found that bully-victims emerged as a unique group differentiated from students who only bullied others or were only victimized. Evidence suggests that students who are bully-victims may have the most negative outcomes of all students involved in bullying, demonstrating the need for further understanding the bully-victim role in bullying ecology (Haynie et al., 2001).

Prevalence. Demaray and Malecki (2003) found that students who were both bullies and victims reported higher rates of bullying and victimization than students who were only bullies or victims. Haynie et al. (2001) sampled students for their bullying and victimizing behaviors. They found that of the 301 students who reported that they bully others with some regularity (more than three times during the year), 53% also reported that they were victimized three or more times during the past year. Pellegrini et al. (1999) investigated

bullying roles and found that 5% of students sampled were aggressive victims, or children who were both victimized and also aggressive towards others.

Negative Correlates. Bully-victims have been found to have poorer psychosocial adjustment, specifically higher levels of neuroticism and psychoticism than noninvolved students (Demaray & Malecki, 2003). Being a bully-victim has also been associated with higher levels of aggression, even when compared to other children who bully (Haynie et al., 2001). Further, bully-victims score higher on measures of externalizing behaviors, hyperactivity, and depressive symptoms. Socially, bully-victims have been found to have lower social acceptance and self worth than their peers (Haynie et al., 2001). Academically, bully-victims have lower scores when examining measures of scholastic competence (Haynie et al., 2001).

Characteristics. Identifying characteristics of students who are bully-victims has not been extensively conducted within the literature. Olweus (1994) identified students who are bully-victims as tending towards being anxious and reactive towards others. He further described bully-victims as hyperactive, having trouble with concentration, and a tendency to irk the children around them. Given their role as both victims and bullies it is not surprising that others also have a negative reaction to them (Olweus, 1994), since neither acting as a bully or being victimized is likely to curry favor with other students. Students who are bully-victims have been shown to perceive lower levels of social support from both their parents and peers than other children (Demaray & Malecki, 2003). Despite the known negative correlates that are associated with being a bully-victim, more information is needed to further determine characteristics related to this group of students.

Bystanders/Outsiders

Along with a more ecological understanding of bullying interactions, research has begun to acknowledge that most children are neither bullies nor victims but rather fall into a category referred to as bystanders, outsiders, or uninvolved students (Pellegrini, 1999). All three terms are used within the literature to describe children who are not directly involved in bullying. Children who are bystanders, outsiders, or uninvolved do not instigate bullying, nor are they the victims of bullying. Whereas children in this category do not choose to defend victims of bullying, they are not completely uninvolved, due to being part of the ecology of the school context. Included in this group are students who may either be completely uninvolved or assist the bully through their lack of action to stop the victimization. This may come in the form of outright approval (e.g., laughing), verbal responses (e.g., egging on a fight), or pretending it is not taking place and not aiding the victims (Poyhonen, Juvonen, & Salmavalli, 2012). This group of children may or may not know that bullying is taking place, but they do not act in a way that either perpetrates or prevents bullying behaviors. With this realization there has been a call for increased research looking at this large group of children and how their presence may contribute to bullying ecology (Espelage & Swearer, 2003; Summers & Demaray, 2009).

Prevalence. Determining the prevalence of bystanders or outsiders in the bullying ecology is a difficult task, and to date little research has addressed this question directly. Hawkins, Pepler and Craig (2001) used naturalistic observations and found that amongst 1st-6th graders, peers (other than the bully or victim) were present for 88% of bullying incidents observed. They further determined that students only intervened in 29% of the 306 bullying episodes that they recorded, suggesting the students intervene infrequently, despite being present, and are more often bystanders.

Salmivalli and colleagues (1996) examined bullying participant roles among a sample of 573 sixth grade students. They found that 6.8% of children sampled were assistants to the bully and 19.5% of children sampled were reinforcers to the bully. Additionally, girls were overrepresented amongst outsiders when compared to boys (Salmivalli, Lappalainen, & Lagerspetz, 1998). Arguably some students who are uninvolved in bullying or remain on the edge of bullying participation may not be captured, because detecting the absence of behavior is difficult, requiring more clarification of how many students truly are bystanders.

Negative Correlates. Salmivalli et al. (1996) found that female students who reinforced or assisted with the bullying behavior of others had lower social acceptance and higher social rejection among their peers. Alternatively, male students who reinforced bullying behavior had high social acceptance and low social rejection. Male students who assisted with bullying behavior had comparable levels of social rejection and acceptance as compared to their peers.

Characteristics. Different characteristics seem to be associated with the various kinds of bystander behavior. In particular, students who are passive or completely uninvolved in bullying situations may lack the skills, such as sense of personal responsibility and self-reliance, to intervene (Poyhonen et al., 2012). Alternatively, students who act in ways to support or encourage the bully have more of a hostile attribution bias or tendency for aggression related cognitions (Poyhonen et al., 2012). Some research has tried to examine the stability of bystander participation in bullying, finding several differences in the stability of bystander participation in bullying by gender have emerged. In particular, boys

who are assistants and reinforcers of bullies (sometimes considered a subset of the bystander group) seem to maintain their roles as assistances or reinforcers over time. Girls who were bystanders in bullying at one time point did not necessarily continue to be bystanders at a later time point and seemed to adopt this role more on a situational basis (Salivalli et al., 1998).

Defenders

Salmivalli et al. (1996) described defenders as students who tried to aide a victim by supporting, consoling, or intervening. Although some students do act in ways to defend their peers, research suggests that prosocial and helping behaviors are not common (Rigby & Slee, 1993). Current research efforts are focused on trying to determine what personal correlates allow students to act in defending ways, to try and cultivate and increase prosocial behaviors.

Prevalence. Pepler and Craig (1995) found that of the bullying instances they studied, other students defended, intervened, or stood up on behalf of the victim only 13% of the time. This is not surprising since literature has typically suggested that students rarely act in ways to defend their peers against bullying (Rigby & Slee, 1993). However, other studies have found higher rates of defending behavior. Specifically, Sutton, Smith, & Swettenham (1999) used a combination of peer and self nomination to look at defending and found that 20% of students sampled had defended others against bullying. Nickerson, Mele, and Princiotta (2008) found even higher numbers, suggesting that 52% of students studied reported defending victimized classmates against bullying behavior. In sum, the prevalence of defending behavior is difficult to determine. One consideration is that students likely do

not have equal opportunities to engage in defending behavior. Nonetheless, this is an area that requires future clarification.

Negative Correlates. The literature does not suggest that acting as a defender has negative correlates. Some research suggests that students who anticipate defending behavior will help reduce bullying, but also have concerns about their peer status, are more likely to remain passive or assist the bully (Poyhonen et al., 2012). . However, students who actually take action to defend others from bullying do not seem to experience a decrease in social status (Poyhonen et al., 2012). Research supports defenders of victims as having a high level of social status amongst their peers (Poyhonen et al., 2012). Children who defend seem to have good theory of mind and low levels of moral disengagement (Gini et al., 2011). Defenders also seem to have a strong sense of responsibility, good social self-efficacy, and high levels of empathy for others (Gini et al., 2011).

Characteristics. When compared to other students, research suggests that students who are defenders of the victim have the highest social status of all children involved in bullying situations (Salmivalli, 1996). Although it is not clear if this social capital allows children to behave in prosocial ways or behaving in prosocial ways increases children's social capital, literature has found a correlation between higher social status and prosocial behavior (Coie, Dodge, & Kupersmidt, 1990).

Victims

Dioguardi & Theodore (2006) articulated that there are two primary kinds of victims: aggressive and non-aggressive victims. Non-aggressive victims or passive victims are students who have a more passive or submissive personality and response style. They seem to make up the majority of children who are bullied. Additionally, children who are

victimized are more likely to be anxious, sensitive, insecure, and cautious children. This type of response pattern has been previously described in the bullying literature as a submissive reaction pattern. Having a submissive and nonreactive response pattern makes students easy targets for victimization. Additionally, students who are victimized seem to readily recognize their aggressors as having more power than they do, making them quick to concede to the perception of greater power than their own.

As previously described, a subclass of victims is aggressive victims, also known as bully-victims, who tend to act in reactive and aggressive ways when victimized (Dioguardi & Theodore, 2006; Pellegrini et al., 1999). Bully-victims seem to be more impulsive, having lower frustration tolerance, and more behavior problems than many of their peers. Perhaps due to more impulsivity, behavior problems, and lower tolerance for frustration, aggressive victims seem to be at the most elevated risk for peer social rejection, aggressive attributional styles, and misinterpretation of others' social cues (Dioguardi & Theodore, 2006).

Prevalence. As with bullying generally, there is some discrepancy regarding the percentage of children who are victims of bullying. Prior studies suggest that anywhere from 7-23% of children are victimized by their peers (Alasker, 1993; Olweus, 1991). Nansel and colleagues (2001) found that 11% of males and 6% of females reported that they were bullied weekly. Passive victims have been found to make up 10% of school aged children; whereas Pellegrini et al., (1999) found that 5% of their sample was comprised of aggressive victims. When considering gender, Nansel et al. (2001) found that 10% of males and 7% of females reported being bullied sometimes and 26% of males and 22% of females reported being bullied once or twice. However, other research has not found significant

gender differences for victimization, particularly when considering different types of victimization (e.g., relational, physical; Summers & Demaray, 2009). Consistent with bullying more generally, victimization seems to increase through middle school and then decrease with age. Specifically, Nansel et al. (2001) found that 13% of students in the sixth grade reported being victimized weekly, whereas only 5% reported weekly victimization in the 10th grade. Scholarship has also focused on the prevalence of different forms of victimization. Hanish and Guerra (2000) found that about ten percent of students are subject to repeated or severe victimization, whereas a higher number of students experience lower level of victimization.

Negative Correlates. Being a victim of bullying has been associated with a number of negative psychosocial outcomes (Haynie et al., 2001). Among the negative correlates that have been noted are: increased loneliness, depression, low self esteem, less happy in school than peers, unfavorable attitudes towards school, and more school avoidance (Kochenderfer & Ladd, 1997). Peer victimization has been shown to be predictive of disruptive behavior, problems with attention, immature social behaviors (Hanish & Guerra, 2000), school avoidance (Kochenderfer & Ladd, 1996), mental health problems (e.g., depression, anxiety, withdrawal, submissiveness; Boivin, Hymel, & Bukowski, 1995; Crick & Bigbee, 1998), social anxiety (Crick & Bigbee, 1998), loneliness (Crick & Bigbee, 1998), and low self esteem (Grills & Ollendick, 2002). Also, peer victimization has been connected with subsequent attributional biases, such as beliefs that an individual deserves negative outcomes and consequences (Diguardi & Theodore, 2006).

Some research has shown that both passive and reactive victims have higher levels of anxiety than bullies (Swearer, Song, Cary, Eagle, & Mickelson, 2001). Hanish and Guerra

(2002) tracked victimized elementary school students, a subset of students from a larger sample, over a two-year period. They created eight distinct groups using a cluster analysis: externalizing, internalizing, symptomatic, popular, disliked, absent, low achieving, and high achieving. Peer victimization was correlated with aggressive behavior, inattention, delinquency, anxiety, depression, rejection, and low popularity at both time points, suggesting that there are both immediate and sustaining associations with victimization. Aggressive behavior, classroom inattention, delinquency, peer rejection, and mental health symptoms (i.e., anxiety and depression) were all correlated with short and long term victimization, further demonstrating the sustained impact of being the victim of bullying.

Mental health symptoms have frequently been linked to bullying involvement, particularly for students who are victimized. Slee (1995) conducted a study looking at depressive symptomology and found that both bullies and victims experienced symptoms associated with depression. However, some have called his research into question because he did not consider bully-victims. Swearer et al. (2001) studied depression and anxiety across students. They found that bully-victims exhibit the most depressive symptoms. When looking at anxiety symptoms, Swearer and Colleagues (2001) found similar signs of anxiety among bully-victims and victims, but they did not find that the bullies responded in a way that was consistent with feelings of anxiety.

Children who are victimized also struggle with insecurities and self esteem more than other children (Haynie et al., 2001) and also are often cautious, increasingly sensitive, and tend to be quiet. In comparison to students who are not victimized, children who are victimized seem to be more withdrawn, worried, and afraid of new situations (Haynie et al., 2001). Socially, students who are victims report having fewer good friends than their non-

victimized peers (Haynie et al., 2001). This is consistent with evidence that students who are victimized seem to struggle to recognize emotions and theory of mind in their peer interactions (Gini, 2006). Some evidence also suggests that victims are afraid of being negatively evaluated by their peers (Haynie et al., 2001). Given the many social challenges that victims of bullying may face, it is not surprising that being a victim of bullying has also been related to school avoidance behaviors (Haynie et al., 2001).

Research has examined victimization longitudinally to try and determine the short and long term correlates of victimization. Olweus (1992) used longitudinal methodology and determined that victimization came before associated negative correlates. Similarly, Kochenderfer and Ladd (1996a) found that children who were victimized in kindergarten later felt lonely, had more negative attitudes, and avoided school when compared to their peers. Longitudinal methodology has also been used to establish whether or not victimization is stable overtime. Some studies have suggested that victimization is stable overtime, however this seems to be related to the magnitude of victimization and associated consequences (Kochenderfer & Ladd, 1996a). That is, students who experience the most severe victimization also seem to be the most likely to continue to experience victimization (Kochenderfer & Ladd, 1996a). Furthermore, students who are victimized seem to have an increased incidence of depression and low self esteem into young adulthood when compared to non-victimized peers (Haynie et al., 2001).

Characteristics. Some factors seem to place students at increased risk for peer victimization. A number of considerations have been associated with the probability, intensity, and duration of victimization. In particular, students who are viewed as deliberately provocative or act in ways that increase aggression (e.g., being overly

aggressive, being socially insecure) seem to be likely targets for bullying. Students with a prior history of submitting to peers and aggressors or who are socially insecure also are especially likely to be bullied (Diguardi & Theodore, 2006). Similarly, some research has suggested that students with submissive behavioral profiles or angry reactive aggression seem to have more hostile attribution biases (Diguardi & Theodore, 2006). Since aggression is seen more frequently amongst boys, this may also partially explain why multiple studies have found that boys report being the victims of bullying more frequently than girls (Demaray & Malecki, 2003)

Particular characteristics that set students apart from others also seem to result in increased experiences of victimization. For instance, 33% of special education students report being bullied (DioGuardi & Theodore, 2006). Students who do not conform to heterosexual norms also seem to experience more bullying; research has suggested that as many as 33% of homosexual students are victimized for their sexual orientation (Rivers, 2011). Gender atypical students are also at increased risk for being victimized, particularly gender atypical boys (Felix & Greif Green, 2010). Temperament has also been implicated in increased victimization. Specifically, students who are passive or have what has been called a “weak temperament” seem more likely to be victimized than their peers (Rivers, 2011). Although the research is still inconclusive regarding the specific covariates that may place a child at increased risk for victimization, there do seem to be some social and interpersonal patterns amongst this group of students.

Socially, victimized children often struggle more than their non-victimized counterparts. Research has shown that children who are victimized are often less well-liked, have less social capital, are less popular amongst their peers (Crick & Bigbee, 1998; Hanish

& Guerra, 2000; Lagerspetz et al., 1982), have fewer friends (Hodgins, Boivin, Vitaro, & Bukowski, 1999), and have lower self esteem (Egan & Perry, 1998). Further, victims are overrepresented when looking at social categories of children who have been rejected by their peers. Despite social correlates, research has suggested that nonaggressive victims do seem to have friends (Pellegrini et al., 1999), providing evidence that victims are a heterogeneous group in terms of their social functioning. Nonetheless, victims often seem to struggle with a variety of social skills. Specifically, social problem solving, assertiveness, and emotional regulation have all been implicated as areas of difficulty for children who are victims of bullying (Gini et al., 2011). Additionally, children who are victimized may have more trouble with theory of mind tasks than many of their peers (Gini et al., 2011).

Summary of the Ecology of Bullying. Each of the different types of bullying participation has been associated with varied levels of prevalence, negative correlates, and characteristics. The prevalence, negative correlates, and characteristics that are associated with each role in bullying are important to inform intervention efforts, both to prevent and remediate bullying situations. Nonetheless, bullying roles are not fixed. Rather, some categories have been shown to have fluidity (e.g., victims and bully-victims) with specific children having more of a propensity than others to fall into certain roles (Salmivalli et al., 1998). Additionally, bullying roles are not fixed over time and may shift with developmental and environmental changes. Considering a full spectrum of bullying participants is a relatively new area of literature and continued knowledge is needed to further inform anti-bullying efforts as they pertain across the spectrum of involvement.

Measuring Bullying

Research looking at bullying is rife with varied opinions about appropriate measurement and classification of bullying behaviors. Despite the fact that accurate classification is needed for greater understanding of bullying participation as well as intervention planning, there is much disagreement about appropriate measurement of bullying. Commonly seen methods for measuring bullying include self-report surveys, teacher or peer nomination, and observational methods. This is further nuanced by how bullying is defined, the time period when it is measured, and whether the questions asked appropriately classify students' bullying participation (Furlong, Sharkey, Felix, Tanigawa, & Greif Green, 2010). Both practical and psychometric considerations are important when thinking about measurement methods. Debate surrounding appropriate bullying classification and measurement is also complicated by concerns over how scholars operationalize bullying behaviors. For instance, some researchers have argued that a definition or behavioral descriptors to ground the term "bullying" should be presented to participants when using self-reports measures to reduce bias and underreporting (Sharkey et al., 2015). In sum, when thinking about measurement considerations, creating accurate and substantively meaningful bullying participation groups is challenging.

Peer and teacher nominations. Peer and teacher nomination methodology asks students and teachers to identify a certain number of students who fit into a descriptive category of the bullying ecology. For instance, students and teachers might be asked to list three students who "are often left out" or who "bully other kids." The results are usually tallied across students and teachers, or both when relevant, to determine the students who are most endorsed as falling into a certain bullying participation category.

Although this type of peer and teacher nomination has been a mainstay in bullying research, it is inherently problematic. First, it poses legal and ethical concerns (e.g., using student names, asking teachers to identify students who are victimized; Espelage & Swearer, 2003). Second, it becomes logistically difficult in secondary schools, because peer groups become diffused and teachers spend less time with their students. Since bullying peaks during the middle school years, logistical challenges may make nomination methodology difficult during the time when determining bullying participation is most relevant. Third, nomination strategies are biased towards more overt forms of bullying. Peers and teachers may not have knowledge of more subtle forms of bullying behavior, which is likely reflected in their nominations. Finally, the use of peer nominations includes students who are frequently endorsed as part of a particular bullying role. However, this does not consider the complete ecology of bullying, which encompasses the involvement of all students, not just the students who are most involved.

Observational Measures. Observing student behavior and peer interactions is another method that has been used to study bullying. This method can include videotaping students within their naturalistic school setting or having a trained observer recording behavioral data. Despite some benefits of collecting observational data (e.g., naturalistic setting, complete spectrum of behavior; Espelage & Swearer, 2003), this method is not as commonly used as other types of methodologies, due to some drawbacks. Legal and ethical challenges arise when using observational methods of data collection, particularly when videotaping students (Espelage & Swearer, 2003). For instance, many bullying behaviors take place in locker rooms where the use of videotaping would be an invasion of privacy. A number of additional drawbacks of observational methods include: many bullying behaviors

are subtle, facilitated by certain circumstances, or do not take place in the presence of adults. Moreover, observational methods require large amounts of observational data in order to accurately assess bullying (Espelage & Swearer, 2003).

Self-Report Measures. Self-report measures for bullying include survey instruments and are often preferred due to their ease of implementation. Oftentimes self-report methodology involves asking students about their involvement in bullying behaviors, including subscales asking about different types of bullying behavior such as bullying, victimization, or defending. Once data have been collected, students are classified using a variety of methods. One method is to generate a sum score for each subscale or for the survey as a whole and then classify students who are amongst the top portion of responders as a member of that group. For example, the top quartile of sums for items measuring bullying may be used to generate the group of students who are considered bullies. Another option is the criterion method where a scoring scheme is used which requires students to meet definitional or behavioral criteria for a participation group (e.g., victim, bully, both, or none).

Survey data are often used due to logistical advantages of this method. The administration of surveys can easily be given to large groups, or at multiple time points to monitor change. Self-report survey data also provide researchers with insight regarding individual experiences of bullying, which may include subtler forms of bullying that are not apparent to outsiders. While self-report surveys are not without their critics, research has shown that attitudes and beliefs surrounding aggression are highly related to behaviors (Vaillancourt & Hymel, 2004). Additionally, survey data typically does not encounter many of the legal and ethical challenges associated with other types of data collection, since

information can be collected anonymously or through the use of assigned ID numbers rather than names. One of the challenges associated with the use of survey data is that students who respond to questions in thoughtless or dishonest ways, which can skew results (Furlong et al., 2010).

Bullying Participation Groups. Currently there is no consistent set of criteria used to classify students into bullying groups, though four groups are frequently seen within the literature: students who are victims, students who bully, students who are bully-victims, and students who are outsiders (Furlong et al., 2010). More recent literature has also begun to look at students who defend others against bullying. Concerns have been raised about the practice of using one or two survey items as sufficient means to group students into categories, often with little regard about whether the items used are substantively similar. For instance, a student may be grouped into the bully category regardless of whether they are a student who engages in occasional verbal bullying or frequent physical bullying. This raises the question of whether previous classification schemes have accurately identified students who bully, or, instead, have been grouping disparate students together.

Latent Analysis to Understand Bullying

A relatively new approach to establishing bullying participant groups is through the use of latent class analysis. This has been called for in the literature (Bovaird, 2010) as a different way of measuring bullying that does not rely on traditional methods. In particular, latent analysis allows for research to consider both the observed elements of bullying (e.g., hitting another student) as well as indirect components of bullying (e.g., frequency of involvement; Bovaird, 2010). Previous methodology has particularly been plagued by how best to determine bullying participation groupings. Some studies have relied on group

classification by evaluating student endorsement of specific indicator questions (Felix, Sharkey, Greif Green, Furlong, and Tanigawa, 2011). Cutoff scores are also often used and debated as a method for group classification (Furlong et al., 2010). Inherent in both methods is determining how many questions a student has to answer affirmatively for them to meet a sufficient experience level to be counted in a particular group. For instance, is indicating one victimization experience sufficient to be in the group of students who are victimized? Is endorsing two questions enough? Determining guidelines often requires some level of subjectivity to help group students. In contrast to traditional bullying analyses, latent approaches use an iterative process to look at underlying patterns of individual responses to establish groupings (Bradshaw, Waasdorp, O'Brennan, 2013; Nylund, 2007). This approach to classification offers several advantages. Latent Class Analysis (LCA) is supported as a method for identifying important differences between groups of students without the need for cut scores (Bradshaw et al., 2013; Nylund, 2007), which provides for all combinations of individual responses and reduces the likelihood of assigning students to classes that are not meaningful. LCA is often considered a person centered approach, because it models similarities and differences of individual respondents to try and capture population heterogeneity (Masyn, 2013). Despite some of the potential advantages of using LCA to consider students' participation in bullying, only a handful of studies to date have used this method.

Literature using latent class analysis has focused more on peer aggression rather than meeting the definition of bullying. Since bullying is encapsulated within peer aggression, the research using both constructs is intertwined. Therefore the aggression literature offers some insight about the use of latent class analysis to better understand bullying. Nylund,

Nishina, Bellmore, & Graham (2007) used latent class analysis to suggest that students victimization experiences are divided by frequency (victimized, sometimes victimized, and not victimized). Furthermore, Nylund and colleagues (2007) were able to replicate this pattern across the middle school years. They found, consistent with prior literature that the volume of victimization decreased during this developmental period. Bradshaw et al., (2013) extended this work by using a latent approach to better understand types of victimization experiences. They found an association between increased experiences of victimization and internalizing problems. While the group of students who experienced the most global victimization was disproportionately boys, relational aggression appeared related to increased risk for girls. Additionally, their findings suggested some inconsistency in experiences of victimization, both developmentally and when considering gender, which may not always be apparent when using observed variable analytic approaches.

Patterns and Trajectories of Bullying and Victimization

Most children who engage in aggressive behavior seem to act this way only some of the time. Research examining children who bully “occasionally” or “sometimes” suggest that anywhere from 7-64% of children (depending on measurement methodology) admit to bullying infrequently (Hymel, Schonert-Reichl, Bonanno, Vaillancourt, & Henderson, 2010; Slee, 1993); whereas a subset of children indicate that they bully others regularly. When asked about bullying behaviors on a weekly basis, prevalence seems to be between 1-10% of students (Hymel et al., 2010). Just as there seems to be variation in the frequency with which children bully others, there are also indications that not all children who bully continue to do so. Gini et al., (2013) found that only about ten percent of aggressive children sustained their aggressive behavior. In contrast, Salmivalli et al. (1998) found an

increase in the percentage of students who were bullies over a two-year period. This inconsistency suggests that whether a child continues to bully overtime is not straightforward to evaluate and is likely influenced by many factors.

Similar to the way that some children bully others only temporarily, while others continue to bully, victimization is also varied over time. How children respond to being bullied seems to suggest whether or not they are likely to be bullied again in the future. Children who are victimized and draw negative conclusions about themselves (e.g., no one wants to be my friend because I must not be a very good friend) are on a trajectory that may result in internalizing problems (e.g., depression; Crick and Bigbee, 1998) and continued victimization. Alternatively, children who attribute their victimization to their peers (e.g., there are no nice kids at my school) seem more apt to develop behavior problems (e.g., impulsivity; Crick and Bigbee, 1998). Both responses may be linked to future subsequent victimization. Literature suggests that victim status sometimes continues for multiple years (Salmivalli et al., 1998). Additionally, there is some evidence that the number of victims declines faster than the number of bullies, suggesting that chronically victimized students may experience an increased intensity of victimization over time (Salmivalli et al., 1998).

Salmivalli et al., (1998) conducted a study to investigate bullying participant roles (bullies, victims, assistants, reinforcers to the bully, defenders of the victim, and outsiders). They found that out of 573 sixth grade students, 8.2% were bullies, 11.7% victims, 6.8% assistants to the bully, 19.5% were reinforcers to the bully, 17.3% were defenders of the victim, 23.7% were outsiders, and 12.7% had no clear participation role. In addition to establishing role classifications they completed a two-year follow up to examine the stability of bullying participation roles. Two years after the initial study they sampled 189 students

from the original group and compared the results of this subsample in sixth grade to the same students in eighth grade, looking at both individual and aggregate change. They found that amongst this subsample the percentage of students who were victimized dropped from 10.5% in sixth grade to 4.7% in eighth grade. At the same time they found that the percentage of students who bullied others increased from 7.9% in sixth grade to 9.9% in eighth grade. Assistants to the bully also increased from 6.3% in sixth grade to 12.6% in eighth grade. Students classified as defenders also increased (17.3% in sixth grade, 20.4% in eighth grade) as well as the group of students who are outsiders (25.7% in sixth grade, 29.8% in eighth grade). Although it is difficult to determine all of the possible reasons why shifts in participation role may take place, it suggests that bullying participation is not completely stable over time. Although some students likely continue to fall into the same bullying participation category, others may shift overtime.

Of particular interest are ways to cultivate defending behaviors. In order to successfully increase defending behavior through intervention, research has looked for characteristics of students who defend to try and inform interventions to increase defending and prosocial behaviors. Research has determined some differences between students who defend and students who engage in bystander behaviors. For instance, students who defend have believe that they have more social self-efficacy and better coping strategies than bystanders (Pozzoli, Gini, & Vieno, 2012). Peer pressure to intervene in bullying situations has also been related to stopping bullying (Pozzoli et al., 2012). Some literature has also found an association between being victimized and defending behavior (Pozzoli et al., 2012), which may be related to the ability to empathize and understand the perspective of students who are victimized. Classroom environments, such as the attitudes of teachers and

fellow students, are also associated with increased defending behaviors (Pozzoli et al., 2012). In sum, there is strong evidence that creating an environment that promotes defending is one way to increase defending behaviors.

Patterns and trajectories of bullying ecology are important because they help inform intervention efforts. For instance, intervention efforts for a child who has consistently been bullied may need to be different than intervention efforts for a child who is victimized and bullies others. Additionally, understanding correlates and personal characteristics associated with bullying roles provides direction for intervention. For instance, understanding what makes students more likely to intervene in bullying rather than perpetrate bullying behaviors can guide the formation of successful anti-bullying efforts. Interventions have increasingly focused on why some children act as defenders of victims and looked towards how to cultivate prosocial behaviors (Gini, 2006).

Moral Disengagement

Throughout childhood, children learn social messages that expose them to the expected moral standards (Bandura, Babaranelli, Caprara, & Pastorelil, 1996). Social messages provide a framework to help individuals self regulate and guide their actions based on what they have learned is morally acceptable. Social cognitive theory articulates that three mechanisms guide this process: self-monitoring, judging, and self-reaction. Through such processes, individuals build self-awareness and can begin to control their actions (Bandura et al., 1996). *Moral disengagement* refers to the discrepancy between an individual's beliefs about morality and their immoral behavior (Hymel et al., 2010; Obermann, 2011). When thinking about bullying, considering the role of moral disengagement is important because it has been linked to increased aggressiveness towards

others (Obermann, 2011). Perhaps the most accepted theory of moral development is the *domain model of moral development*, which articulates that individuals develop cognitive structures to differentiate right and wrong (e.g., fairness, deliberate harm) across domains (e.g., societal convention, personal interests) as they progress through development (Arsenio & Lemerise, 2004).

Bandura and colleagues (1996) articulated specific mechanisms by which individuals are able to morally disengage and thus act in less morally acceptable ways. *Displacement of responsibility* is when individuals think of their behaviors as coming from the desires or motivations of others and therefore relieve themselves of direct responsibility. *Diffusion of responsibility* is when group decision-making allows individuals to attribute responsibility to the group rather than themselves. *Disregarding or distorting consequences* is when an individual minimizes, explains, or downplays the negative effects of their actions, thus lessening responsibility. It is easier to explain morally inappropriate actions when children affected by the negative outcomes are less well liked or from a group that is given lesser status. The most extreme form of this is *dehumanization*, wherein individuals justify their morally reprehensible actions by thinking of children who are affected negatively as not deserving the rights and respect typically attributed to all people. *Attribution of blame* is a moral disengagement technique by which individuals think of themselves as blameless victims of provocation or coercion.

Theories of moral development have largely emerged separately from the Social Information Processing (SIP) Model that was proposed by Dodge and Colleagues, although they share a core understanding of thinking about intentional harm and victimization (Arsenio & Lemerise, 2004). As demonstrated by SIP, how children interpret the social

actions of others is crucial to their subsequent behavior patterns (Arenzio & Lemerise, 2004). Moral developmental theories are defined by how children interpret the intentions of others. SIP theory builds this analysis of the situation into the model by acknowledging that it is one of the steps that children go through when making moral decisions (Arenzio & Lemerise, 2004). That is, children use a self-regulatory process to make decisions that are congruent with their self-worth (Gini et al., 2013). Thus, children who engage in aggressive acts seem to be readily able to ascribe hostile intent to others and therefore justify aggressive actions as acceptable in light of future anticipated aggression from peers (Crick & Dodge, 1994). Social cognitive domain theory considers aggressive reasoning, but adds that any act involving intentional harm, such as bullying, is mediated by moral reasoning (Gini, 2006).

Some evidence has shown that children who bully do understand moral conventions, such as the difference between right and wrong, but do not understand why moral dictates are important (Gini et al., 2011). Furthermore, Gini et al. (2011) studied moral disengagement and bullying and found that children who bully performed as well as others on tasks designed to assess moral competence. Yet, even though children who bully seem to know the difference between right and wrong, they may not apply that understanding in real world situations. Perhaps morally disengaged children are unable to generalize this knowledge or lack the emotional regulation to resist aggressive problem solving approaches; another possibility is that morally disengaged children understand moral distinctions but do not care (Gini et al., 2011). Scholarly literature has not demonstrated why children bully, but the work by Gini et al. (2011) suggests that it is not due to an inability to understand moral principles, but rather a disengagement of moral values and actions. Furthermore, the association between levels of moral disengagement and aggression seems to be closely

related, with more morally disengaged individuals participating in the highest levels of peer aggression (Hymel et al., 2010).

According to Bandura, moral engagement can be thought of as an important factor when considering moral ideals versus behavior (Gini, 2006). Furthermore behavioral regulation has been linked to moral emotions and moral development. Thus, it is important to try and understand the mechanisms that guide processes of moral engagement (Gini, 2006). Historically social information process and domain theories of moral development largely operated in separate spheres, however, more recently work has been done towards integrating both theoretical approaches. Arsenio and Lemerise (2004) integrated social information processing and moral development to create a theory that incorporates both approaches.

Moral Disengagement and Bullying

Obermann (2011) articulated two reasons why it is particularly important to think about moral disengagement as it pertains to bullying. First, the power differential that is inherent in the definition of bullying results in more immorality than aggressive acts between individuals of more equal status. Second, bullying is more frequently measured through methods of self-report. Self-report measures are supported and advocated for due to the ability to more readily control how bullying is defined and understood (Benbenishty & Astor, 2012). Despite some critiques, self report measures are justified as an appropriate way to measure bullying (Benbenishty & Astor, 2012) and has been found to converge with peer nominated reports of bullying (Obermann, 2011), self-report measures are subject to social desirability and other social influences of moral engagement. When looking specifically at moral disengagement, self, and peer nominated bullying participation,

Obermann (2011) found that students who self identified as bullies and students who were peer nominated as bullies had comparable levels of moral disengagement. Additionally, students who indicated that they were involved in bullying either as bullies or bully-victims had higher levels of moral disengagement than their peers who were not directly involved in bullying.

Models of aggression, such as Dodge's (1980) model, are informative for thinking about bullying, but do not offer complete explanations. Dodge's model is predicated on the assumption that social aggression stems from social skills deficits. However research suggests that some children who bully have social skills beyond what is assumed in Dodge's social deficit model (Gini, 2006). This has led to an alternate possibility that bullying is a maladaptive route to an adaptive outcome, such as increased social status (Gini, 2006). Children who bully do not seem to have trouble with the early steps of social information processing (hostile attributions in ambiguous situations), but they do seem to have trouble later in the steps of social information processing. In particular, they appear to value instrumental goals more than other types of goals and also to favor aggressive responses (Gini et al., 2011). Studies have found that students who bully have strong social cognition skills, but may evaluate the pros and cons of their aggressive actions in a way that leads them to conclude bullying is an acceptable means to their end. This has led some to conclude that social skills can be used for either good or bad purposes and bullying prevention efforts should focus on the values that guide student's decision making (Gini, 2006). Ultimately, studies have provided a number of substantive links between moral disengagement and bullying behavior (Hymel et al., 2010).

Moral Disengagement and Children's' Bullying Participation Roles

The differences between reactive and proactive aggression has been a topic of interest (Arsenio & Lemerise, 2004). Children who act in ways that are proactively aggressive are distinct from children who are reactively aggressive because proactive aggression requires a different moral conceptualization (and possibly disengagement) than reactive aggression (Arsenio & Lemerise, 2004). When considering bullying this seems to be parallel to the distinctions between children who bully, children who are victims, or children who are bully-victims. Specifically, children who are victims are experiencing aggression but choose not to act; children who are bully-victims experience aggression and choose to aggress towards others; and children who are bullies act in proactively aggressive ways. The literature suggests that what separates aggressive children is whether they choose to go against moral dictates. Conceptually it seems as though a child's level of moral disengagement may help differentiate between groups and provide some explanation about how they choose to act.

Current Study

The current study used Latent Class Analysis (LCA) to further explore the nuances of bullying participation roles. LCA is a specific type of mixture model that provides a representation of the data based on a finite distribution of variables and a finite population distribution of latent (unobserved) groups (Masyn, 2013). Specifically, LCA allows for the examination of response patterns without the use of arbitrary cutoff points (Nylund, 2007). In this study, LCA was used to examine students' involvement in victimization, bullying behavior, and bully-victims' participation in bullying ecology. Through LCA, the current study used a statistically sound method to advance understanding of bully, victim, and bully-victim groups. Furthermore, moral disengagement and gender were considered as auxiliary

variables. This study responds to the calls by Bovaird (2010) to use latent analysis to better understand bullying as well as the Oberman (2011) suggestion that additional insights are needed about students bullying involvement and moral disengagement.

Research Questions and Hypotheses

The following research questions and hypotheses guided this study.

1. **Question one.** Do students' victim behaviors emerge as one latent class?
 - a. It is hypothesized that students' involvement in victimization is varied and therefore supported by multiple classes. The literature looking at passive versus reactive victims suggests that victims are a heterogeneous group.
2. **Question two.** Does students' bullying perpetration behaviors emerge as one latent class?
 - a. It is hypothesized, based on findings from the literature, that students' involvement in bullying is heterogeneous.
3. **Question three.** Do students classified as bully-victims emerge as a distinct class?
 - a. It is hypothesized, based off of the literature indicating that bully-victims are a distinct category of participants in bullying ecology.
4. **Question four.** Is moral disengagement related to latent class? In other words, does being morally disengaged influence latent class assignment?
 - a. It is hypothesized that students who are morally disengaged will be more likely to be involved in bullying ecology. More specifically, students who are morally disengaged are more likely to perpetrate bullying behaviors.
5. **Question five.** Does gender influence latent class assignment?
 - a. It is hypothesized that there is variation in bullying participation by gender.

Methods and Results

This chapter begins by discussing the methodological background for this study and then progresses to consideration of the model building process used to obtain the best fitting model of the Bullying Participant Role Scale (BPRS; Summers & Demaray, 2009) subscales that were examined. Latent Class Analysis (LCA) was used to look at the pattern of responses for the BPRS. This section combines the traditional Methods and Results sections in order to consider the results within the context of the methodological steps that were taken. In this chapter intermediate models are considered as part of the iterative model building process, as well as a discussion of the final models that were selected. Finally, moral disengagement and gender are discussed as included auxiliary variables.

Participants

Participants in this study consisted of 791 junior high school students attending a school located on the central coast of California. Specifically, 39.4% ($n = 312$) of students were 7th graders and 60.6% ($n = 479$) were 8th graders. When broken down by gender, 48.5% ($n = 384$) of students identified as male and 51.5% ($n = 407$) of students identified as female. The racial identity of the sample was as follows: 40.5% of students indicated that they were Hispanic/Latino, 41.5% of students indicated that they were White, 8.8% of students indicated that they were Multi Racial, 7.1% of students indicated that they were Asian, and 1.5% of students indicated that they were African-American.

Data Collection Procedures

The present study used a non-experimental survey design to look at students bullying participation and moral disengagement. Data for this study were collected at the beginning of an intervention program, but before the intervention started. All students were given a

slip of paper with instructions and a URL to complete the survey using SurveyMonkey Inc. (2015). This was done as part of assigned homework during a one-week period during the fall term. At the completion of the survey students were asked to print the final message to bring as verification that they had completed the assignment. For students without access to a home computer the library computers were available for survey use before school, after school, and during lunch.

Measures

Two psychometrically tested surveys were used to look at bullying participant roles and moral disengagement.

Bully Participant Role Scale (BPRS; Summers & Demaray, 2009). The BPRS was created to find a psychometrically valid method that relied on a self-report, rather than peer nomination, measure to identify students' bully participant roles. Summers and Demaray (2009) reviewed the Participant Role Questionnaire (Salmivalli et al., 1996) and the Revised Olweus Bully-victim Questionnaire (Olweus, 1996), as well as the corresponding factor structures, to initially generate 48 items for the BPRS. Item level analysis was conducted, followed by an exploratory factor analysis to examine the BPRS measure. Two items were dropped for poor wording and two were dropped because they did not load onto the factor structure, resulting in four 12 item subscales: bully, victim, defender, and outsider. A combination of the bully and victim subscales can also be used to identify students who fall into the bully-victim participation category. For the purpose of this study the bully and victim subscales were used to look at students bullying participation as bullies, victims, and bully-victims.

Each subscale asked students to indicate the frequency that they engaged in specific behaviors during the past month. A 5-point Likert scale was used for the response options (*never, 1-2 times, 3-4 times, 5-6 times, and 7 or more times*). Questions ask about bullying behaviors (e.g., I have ignored another student) and victimization behaviors (e.g., I have been pushed or shoved). In order to examine construct validity, Summers and Demaray (2009) compared the BPRS to the Child and Adolescent Social Support Scale (Malecki, Demaray, & Elliot, 2000) and the SRS Safe Schools Survey (Skiba, Simmons, Peterson, McKelvey, Forde, & Gallini, 2004). This comparison resulted in low item correlation, demonstrating that the BPRS is measuring distinct constructs. This provides some evidence of construct validity. In addition, the BPRS was examined for reliability, with alpha coefficients ranging from .87 to .93 for the subscales (Summers, & Demaray, 2009).

Mechanisms of Moral Disengagement (Bandura, 1995). The Mechanisms of Moral Disengagement Scale (MDS) is a widely accepted scale of moral disengagement (Gini, Pozzoli, & Hymel, 2013) that uses 32 items to examine the cognitive mechanisms that are usually associated with individuals' regulation and justification of violent or aggressive behaviors. Item responses follow a three-point Likert scale (*disagree, not sure, and agree*) to assess mechanisms of moral disengagement. Specifically, the scale measures individuals' moral justification, euphemistic labeling, advantageous comparison, displacement and diffusion of responsibility, distortion of consequences, dehumanization, and attribution of blame for different forms of transgressive conduct. Examples of the types of questions included in this scale include, "It is alright to fight to protect your friends" and "A kid who only suggests breaking rules should not be blamed if other kids go ahead and do it."

Psychometrically the MDS has been shown to have high levels of internal consistency ($\alpha = .82$ and $.86$; Bandura et al., 1996). In support of validity, Gini et al. (2013) found children who endorse mechanisms of moral disengagement are more likely to engage in general aggression and peer bullying. Validity continues to be examined, since there are currently few other accepted measures used to look at moral disengagement; however, Bandura and others have replicated the relation between moral disengagement and childhood aggression (Bandura et al., 1996). A factor analysis conducted using the Mechanisms of Moral Disengagement Scale showed that all items loaded onto a single factor, which explained 16.2% of the total variance when predicting moral disengagement (Bandura et al., 1996). Structural equation modeling indicated that moral disengagement was related to aggression via mediated pathways of prosocial behavior, guilt, and propensity for aggression. In the context of this study Bandura and colleagues (1996) Mechanisms of Moral Disengagement scale is used to help understand the role of moral disengagement with the context of bullying participation roles.

Analysis

This section of the dissertation document will describe the modeling process that was used to ultimately select the best fitting model. The BPRS data were run multiple times to find the most parsimonious and statistically sound representation of the data. Each step is described in depth, as well as the results. These steps led to determining which model best represents the BPRS data both in terms of substantive meaning and results that are statistically sound.

Three Step Mixture Modeling (LCA) with Auxiliary Variables

This study aimed to investigate underlying typologies of bullying participation roles using the BPRS. Further, the role of moral disengagement and gender were investigated. Analysis was completed using the three-step process mixture modeling with the inclusion of auxiliary variables using MPlus version 7.1 (Muthén & Muthén, 1998-2012, see Figure 4). The three-step procedure is a new approach to including covariates in mixture models (Nylund-Gibson, Grimm, Quirk, & Furlong, 2014). First, the class enumeration process allowed for the selection of a best fitting model to represent the data. Second, the Three-Step method in Mplus (Muthén & Muthén, 1998-2012; Nylund-Gibson, Grimm, Quirk, & Furlong, 2014) was used to examine the role of auxiliary variables. This process, as the name suggests, follows a three-step procedure for creating a mixture model with auxiliary variables, versus a One-Step approach. The One-Step approach creates a joint model using both the latent class model and distal outcomes in a single step, possibly confounding the results (Asparouhov & Muthén, 2014). Arguments for the use of three-step approach include better performance than the One-Step method in terms of handling bias, good coverage, mean squared error, and susceptibility to the influence of entropy (Asparouhov & Muthén, 2014). Using the Mplus Three-Step syntax allows this iterative process to take place in one command. Specifically, after the unconditional modeling process is complete, the following Mplus sequence is used: (a) an unconditional model with the auxiliary variables included is run, (b) a mixture model, with one indicator, is specified using the model class assignment from step one with fixed threshold values, (c) the fixed values are used to specify a mixture model which is then compared to step one to ensure that the class sizes match (Nylund-Gibson et al., 2014). These steps allow for identification of the best fitting overall model as well as consideration of relevant auxiliary variables.

Data screening. Before beginning the class enumeration and subsequent three-step mixture modeling process, data were examined to explore multivariate assumptions. Initially there were 791 participants sampled. However, 81 students did not complete both the BPRS and MD scales used in the analysis. Therefore, 710 students were included in the modeling procedure. The Full Information Maximum Likelihood (FIML) estimation technique used by LCA accounts for incomplete or randomly missing data and has been found to be an accurate approach to account for missing data (Nylund et al., 2007). In addition to ensuring that MPlus considered missing data, other data screening methods were employed.

Prior to beginning data analysis two “truth” questions embedded within the survey were examined. The truth questions asked students whether they were telling the truth on the survey, to help eliminate mischievous or careless responses. Students who responded to the truth questions in a way that suggested dishonest, mischievous, or careless responses were not included in the modeling process. This procedure was in accordance with the suggestion made by Cornell and colleagues (2014) to include truth questions and improve the accuracy of student response data. Therefore, examining the truth questions was a step that was taken to increase the integrity of the dataset and try to eliminate erroneous results.

Data were examined to look at normality. Specifically, histograms and cutoff scores were assessed for skew and kurtosis. The cutoff value to determine skewness was 2.0 and 7.0 for kurtosis in accordance with the recommendations by Curran and colleagues (1996). Skewness and kurtosis were at acceptable levels for all of the items used in the final analysis, except for some elevated skewness (skewness = 2.17, $SE = .09$) for the item “I

have told lies about another student.” However, due to imprecise guidelines for data when values are close to the recommended cutoffs, this item was not transformed.

Reliability was explored for the modified BPRS model. Internal consistency was adequate for the revised 9-item scale ($\alpha = .86$). Table 5 shows the sample means, standard deviations, and correlation values for the items included in the final LCA analysis.

Table 6 shows the sample size and proportion endorsed by participant response type for each item. For instance, 73% of the sample endorsed never having “been threatened by others,” whereas 4% of respondents said that they have “been threatened by others” seven or more times. Several patterns are important to consider. First, the majority of students endorsed “never” participating in bullying across all items. However, a subset of students responded in a pattern consistent with participation in bullying behaviors. Second, more students indicated that they have been bullied than have perpetrated acts of bullying, or in other words more students suggested that they have been victimized than have bullied others. Third, there were some categories with a small number of respondents. For example, 1% of students indicated that they had “Told lies about another student,” seven or more times. Some responses were infrequently endorsed, but the higher levels of endorsement for verbal forms of bullying are consistent with other studies.

Table 7 shows the means and standard deviations for the items from Bullying Participant Role Scale that were included in the final selected model. Overall the means are slightly higher for the victimization items than for the bullying items. This implies more students experience victimization than perpetrate bullying. However, the victimization items also have larger standard deviations, suggesting a greater distribution of responses.

When examining the descriptive statistics there are some useful patterns to consider. First, across all items the majority of students endorse no involvement with bullying behaviors. While a percentage of students endorsed some bullying involvement, only a small group of students endorsed frequent bullying involvement. Second both item means and item endorsement suggests that students are more frequently the victims of bullying behaviors than the instigators. In sum the resulting patterns are consistent with anticipated bullying patterns and indicate that the modeling process can proceed.

Prior analysis examining bullying ecology has largely relied on the use of cutoff scores to create participant groups (Nylund, 2007). The present study used an iterative LCA process to establish a more nuanced understanding of the participants in bullying. As previously mentioned, LCA is a type of mixture modeling which uses a combination of individual student responses of observed variables to reveal patterns and create latent groupings (Muthén & Muthén, 1998-2012). Specifically, a series of LCA models were run looking at student experiences with victimization, bullying behaviors, and bully-victim behaviors, establishing whether they are homogeneous or heterogeneous groups. Further, after completing initial modeling, moral disengagement and gender were run as auxiliary analyses to see whether they were related to classifications of bullying involvement.

Modeling Process

First the data were run using all of the items in the original BPRS scale. Although this provided an initial way to represent the BPRS data in a model, it was inherently problematic. Because of the number of items in the scale there was the risk of the models not converging on a single identified model. Additionally, the number of parameters estimated for the size of the sample resulted in an analysis that was lacking power. The lack

of power is related to the ratio of “known” parameters to “unknown” parameters being estimated in the model, subsequent models reduced this ratio to produce more sound models. Nonetheless, this was used as a starting point for the modeling process. Results are shown in Figures 1, 2, and 3. Figure 1 shows the three-profile model using the victim subscale items. The resulting ordered profiles suggest that most students are rarely victimized (Class 1, 77.06% of students), some students are sometimes victimized (Class 2, 18.35% of students), and a small group is frequently victimized (Class 3, 4.59% of students). Similarly, Figure 2 shows the estimated model for the bully subscale items, which also resulted in ordered profiles. Specifically, Figure 2 suggests that students who bully fall into three profiles: students who rarely bully (Class 1, 81.2% of students), students who sometimes bully (Class 2, 15.44%), and students who bully others regularly (Class 3, 3.4%). Figure 3 shows the estimated profiles when considering both the bully and victim subscales. This indicates that there is a group of students who are rarely involved in either bully or victim behaviors (Class 1, 77.8% of students), a group of students who are victimized by others and only bully others limitedly (Class 2, 16.1% of students), and a group of students who are involved as both bullies and victims (Class 3, 6%) of students. In other words, results indicate that there are students who are outsiders (not directly involved in bullying behaviors), students who are victims, and students who are bully-victims. No separate bully group emerged based on this analysis. Implications of this finding are discussed later in light of the subsequent models.

Interpreting the Initial Models. Despite the interesting implications of the initial models, which considered all of the BPRS bully, victim, and bully-victim items, some statistical concerns were raised about this analysis. First of all, running Likert scale items as

continuous variables presents some analytic problems (Kline, 2011), as well as the large number of parameters estimated (12 for the bully and victim analyses, 24 for the bully-victim analysis) which caused some of the higher order models not to converge.

Additionally, estimating models with so many parameters results in reduced analytic power. Therefore, the analysis was reconsidered to think about how to reduce the number of estimated parameters and increase the power of the analysis.

In order to decrease the number of estimated parameters and increase the analytic power, the second set of models was run using categorical response options. The BPRS scale relies on five Likert style answer choices. Although Likert-scale items are used in modeling both as continuous and categorical variables, many argue that treating Likert scales categorical variables is more appropriate. Therefore, making the response options categorical is supported in the literature (Kline, 2011). However, due to the large number of parameters that needed be estimated, the models were not a good representation of the data. Specifically, many of the models did not converge (also called non-identification) because of the number of parameters estimated relative to the sample size. Due to concerns that the models were not properly identified, additional strategies for modeling were considered. Additionally, the five response options for each survey item (e.g., None, 1-2 Times, 3-4 Times, 5-6 Times, 7 + Times) made interpreting the results in a meaningful way difficult, since it was hard to parse the differences between categories

Models that are not identified properly may be an example of trying to obtain more latent classes than data support (Masyn, 2013), which is sometimes remedied by reducing the number of estimated parameters, thereby increasing the number of “knowns” compared to “unknowns.” However, this needs to be done in a way that still produces meaningful

models. When considering how to best represent the data, scholars have questioned whether there are substantive differences between the five Likert response options, an issue that has been previously noted when using self-report bullying measures (Furlong et al., 2010). For instance, is there a meaningful difference in behavior between bullying two times per month or three times per month? Are students truly differentiating between subtleties of the answer choices? While never and 7+ represent the extreme ends of the scale, the middle items are less distinguishable. Because it is likely that respondents did not precisely consider the differences in response options, items were re-categorized into the following: Never, 1-6 Times, and 7+ times, thus reducing some of the uncertainty in terms of considering behavioral differences in response choices. This categorization was determined by thinking about the substantive differences between categories. Specifically, the categories were meant to capture the extreme responders (after filtering the truth items) and collapse the more ambiguous middle Likert options.

The Recoded Models. The results using the recoded response options are presented in Tables 1, 2, and 3. Due to the categorical response options, the results are difficult to represent graphically. Nonetheless, Tables 1, 2, and 3 suggest using the categorical response options replicated the patterns seen with continuous response options. Therefore it appears that the models with the reduced response options continued to produce similar patterns of response, and also improved the statistical indicators of the model. Table 1 shows that students who are victimized fall into the following ordered categories: students who are rarely or never victimized (Class 1, 34% of students), students who are occasionally victimized (Class 2, 38.33%), students who are sometimes victimized (Class 3, 19.7%), and students who are more frequently victimized (Class 4, 7.96%). Similarly, Table 2 suggests

that students who bully fall into ordered classes: students who never bully (Class 1, 57.36% of students), students who rarely bully (Class 2, 29.69% of students), students who sometimes bully (Class 3, 11.47% of students), and students who bully others (Class 4, 1.48% of students). Finally, Table 3 shows the estimated profiles for the bully-victim items. This model indicates that students fall into three profiles: students who are outsiders and not actively engaging in either bully or victim behaviors (Class 1, 45.07% of students), students who are sometimes victimized but do not bully others (Class 2, 39.41%), and students who are sometimes involved in both bully and victim behaviors (Class 3, 15.52%). Once again, no group of students who act as bullies but are not also victimized emerged from the analysis.

Interpreting the Recoded Models. Classifying the data so that there were categorical response choices improved the models, but there were still some problems with model non-identification. This suggested that the models could be improved even further through additional parameter reduction. In particular, the item redundancy within the scale was considered. Could the number of items be reduced to improve model fit and analytic power? A previously conducted Confirmatory Factor Analysis (CFA) indicated that items could be removed from the scale without impacting the scale integrity (C. Binmoeller, personal communication, February 11, 2015). Table 4 shows the factor loadings for the CFA, indicating which items are integral to the factor constructs that emerged. The final revised scale is included in the appendix and shows the retained items. Models were completed using the items identified through the CFA, which resulted in statistically and theoretically sound models. The statistically supported models were selected and are explored in-depth below.

Analysis of the Selected Models

Researchers disagree about some of the best practices (e.g., choice of fit statistics) in latent analysis, in part due to the need for a blend of statistical rigor and theoretical support. In this instance, a similar substantive pattern of results was found across all of the models described. Each of the analyses suggested that bullies and victims fall into ordered classes. In other words, the only variation found between students' participation as bullies or as victims is the extent they are engaging in bullying behaviors, ranging from to limitedly to extremely involved. When looking at the bully-victim analysis there was some nuance by the number of classes considered. However, generally a group of students acting as bully-victims emerged with the remaining students falling into ordered classes. This pattern replication, across all of the different variation of data modeling, suggests that the final model is not only statistically sound but also provides meaningful information about bullying participation roles.

Considering Model Fit. A variety of fit statistics are accepted as useful indicators of model fit. Frequently, class enumeration relies on the Bayesian Information Criterion (BIC; Schwartz, 1978) to decide model fit. The Lo-Mendall Rubin Test (LMRT), the Bayes Factor (BF; Masyn, 2013), the bootstrap likelihood ratio test (BLRT; Nylund et al., 2007), and the approximate correct model probability (cmP; Masyn, 2013) are also used to determine model fit. Each value can be calculated and a corresponding metric of interpretation is used to evaluate and compare models. However, there is no consensus regarding which fit statistics are the best indicators of strong model fit (Nylund, Asparouhov, & Muthén, 2007). In consideration of this problem, Nylund and colleagues (2007) conducted a Monte Carlo Simulation to compare the utility of a number of fit

statistics. They concluded that the BIC was the best representation of model fit. The BIC is often considered the most trusted and widespread fit statistic when completing the class enumeration process (Nylund et al., 2007). However, their study was not exhaustive, and did not look at all of the different fit parameters listed above. Therefore, the present study will discuss each of the fit statistics used to determine model fit, as well as the rationale for choosing that particular indicator. Entropy is also examined as a measure of overall group classification and specification error. Entropy is not intended to show model fit, rather it provides a value between 0 and 1, with a value of 1 perfect group classification (Masyn, 2013). In addition to examining statistical indicators describing the model and representing model fit, substantive meaning and model parsimony were also considered.

Table 8 shows the fit statistics for each of the three sets of models: bully subscale items, victim subscale items, and bully-victim subscale items. For each set of models the *BIC* was used as the initial guideline for determining model fit, which is indicated by a minimum value or an “elbow” (last large drop in BIC values; Nylund, 2007) in the line graph. As discussed in more depth below, the other fit indices supported the model that was selected using the BIC, providing support for the final models that were selected. In order to address all of the research questions posed in this study three separate modeling processes were completed. Therefore, each of model will be discussed separately before considering the implications of the models together.

Six different models were examined to represent the bully items. Based on the fit statistics presented in Table 8 the three-class solution is supported. The lowest BIC value was seen for the 3-class model ($BIC = 3763.13$). Similarly, the non-significant *p*-value of the LMRT 4-class model indicated that the adding a class to the 3-class model did not

significantly improve model fit, signifying that the 3-class model is better than the 4-class model. The BF and the cmP both help determine model fit by comparing whether one model is better than another. Specifically, the BF shows that the probability of the 3-class model being correct is much higher than the 2-class model. The cmP indicates that the chance of the 3-class model being the correct model is 100%. Entropy is also strong for the 3-class model, a metric of good group classification. Taken together, the fit indices are congruent in supporting the 3-class model to best represent the bully items.

The fit statistics for the victim models are similar to the fit statistics described for the models representing the bully items. The lowest BIC value is for the 3-class model (BIC = 4135.35). When examining the p -value for the LMRT the model was not significantly improved when adding a fourth class, implying that the 3-class model is a better choice. The largest BF value is for the 3-class model, suggesting that this is more likely to be an accurate representation of the items and the cmP value of .99 for the 3-class model also supports this finding.

Finally, the bully-victim items were examined to determine model fit. The lowest BIC value corresponded with the 4-class model (BIC = 7989.66). Looking at the p -value for the LMRT shows that the 5-class model does not improve the model as compared to the 4-class model, an indication that the 4-class model is a better choice. The 4-class model was also supported by the BF and cmP, indicating that as compared to other models, the 4-class is a better fitting option. Entropy for the 4-class model also suggests adequate levels of class differentiation. Therefore, the 4-class model was selected to represent the bully-victim items.

In conclusion, the model consideration process resulted in best fitting models for the bully, victim, and bully-victim items. The best-fitting models for the bully and victim items were the 3-class models. The 3-class models were supported by fit statistics and make substantive sense. When considering the bully-victim items simultaneously a 4-class model emerged as the best fitting model. Once the class enumeration process was complete, the models were examined to look at substantive interpretation.

Model Interpretation. Model interpretation is driven by a few important considerations including the class enumeration process described above, class distributions, patterns of response and theoretical support, and parsimony. Once fit statistics have been examined, it is essential to think about the practical meaning of the models. In other words, does the model posit a realistic description of the data being represented? Additionally, do the selected model(s) align with the theoretical understanding of the behavior(s) being modeled? The statistics alone are not able to fully explain the data; they are only meaningful if they help select a model that provides applicable insight about the constructs of interest. With this in mind the following section aims to provide substantive meaning to the models that were previously selected based on statistical fit.

Research question one hypothesized that students' experience of victimization is varied, rather than homogenous. The 3-class model examining the classes that emerged from the victim survey items confirm that hypothesis. Table 9 shows the model results of the three-class model for the victim items. As with the bully items described above the victimization items are essentially ordered classes, with each class describing degree of involvement rather than qualitative differences. Examining the patterns of response for Class 1 suggested that this group was consistent with students who are not victimized. The

class of students who are not victimized includes 52% of respondents, students who indicate that they are never or seldom victimized. Specific item probabilities show that overall this group of students almost never experiences any form of victimization, with slightly more students saying that they have been made fun of or had lies told about them than the other forms of victimization measured. Looking at the patterns of response for class 2 revealed that students endorse moderate levels of victimization. The moderate level of victimization group includes 40.8% of responding students. The students in this group have item probabilities that generally suggest about three quarters experience some victimization between one and six times per month, making them moderately victimized. However, the one exception was to the item “*I have been threatened by others*” which a smaller proportion of students in this group indicate is true for them. This is important to note because this is in contrast to Class 3. The pattern of response endorsed by class 3 suggests students who experience victimization. The victimization class is made of 7.2% of the students sampled and seems to describe the students who experience the most victimization. The majority of students in this class have item probability values, which are consistent with experiencing frequent victimization. This group is different from the moderately victimized class because they seem to experience a higher level of victimization across all items, which is not true of most students in the moderately victimized class.

Research question two posited that students’ involvement in bullying perpetration varied. Looking at the selected three-class model for the bully items addressed this question. The classes that are enumerated by this model appear to be ordered classes. In other words, the classes follow a similar pattern but vary by the degree of involvement that students endorse, rather than different types of involvement. Table 10 shows the conditional

probability values for students by class. In other words, the conditional probability values provide a mean probability for students endorsing each response option by class. Class 1 includes students who never or rarely endorse being an active perpetrator of bullying behaviors or the minimal bullying behavior class. For the minimal bullying behavior class, students least involved in bullying behaviors, most students indicated that they “never” engage in bullying behaviors. Seventy-two percent of students were in this class, meaning about two thirds of students never or rarely acknowledge perpetrating bullying behaviors. Students in class 2 endorse moderate levels of bullying involvement. The moderate bullying behavior class includes 26.2% of the students sampled. Students in the moderate bullying behavior class endorsed engaging in bullying behaviors 1-6 times per month. Over half the students in the moderate bullying behavior class indicated this level of involvement for all items. Interestingly, telling lies about another student was not acknowledged as a behavior that students engage in at the same level as the other items. Class 3 encompasses only 2% of the students sampled and is made up of respondents who indicate higher levels of bullying perpetration or bullying behavior. However, in the minimal bullying behavior class the proportion of students who endorsed the “never” response option was 85% or greater, the responses were more varied for the bullying behavior class. Within the bullying behavior class, about half of students said that they engaged in bullying behaviors seven or more times for most items. The exception was for the item “I have told lies about another student” which was endorsed by a third of students as something they had done seven or more times. Table 11 shows the four class latent model that was selected when examining both the bully and victim items. Research question three hypothesized that a bully-victim group would emerge from the analysis. The 4-class model looking at the bully-victim items

confirms the presence of a bully-victim group. Unlike the separate bully and victim models presented above, which resulted in ordered classes, this model suggests more substantive differences. Each class will be discussed separately before considering the model as a whole.

Class 1 includes 5.8% of student respondents and is made up of students who are victimized. Generally, class 1 consists of students who are victimized but do not bully. This is illustrated by the high item probabilities indicating that students experience victimization “7+ Times” per month. Despite indications that students are victimized by others, they overwhelmingly responded that they “never” engage in bullying behaviors towards others. A few items are of particular interest. First of all, student responses suggest that they are not threatened by others to the same degree with which they experience the other forms of victimization that were queried, which is consistent with the victim only model described above. Second of all, a similar number of students indicated that they had “*never*” thrown things as the students who said that they had thrown things at another student “*1-6 Times.*” When considering the entire ecology of bullying, this suggests that although class 1 is primarily students who are victimized, they are not immune to occasionally engaging in bullying types of behaviors. Similarly, a smaller group of students in this class indicated that they engage in some types of bullying behavior some of the time, though to a less degree than the students found in some of the other classes. Overall, this pattern suggests that the class of students who are victimized are students who experience victimization but rarely perpetrate bullying.

Class 2 includes 17% of respondents. This group of students endorses both bully and victim items. More specifically, the majority of students in this class indicated engaging in

all victim and bully behaviors “1-6 Times” per month. However, only half of students responded that others have threatened them, which is lower than the endorsements for other items. Similarly, fewer students said that they have said mean things about other students. This is interesting because they indicated that they have called another student bad names, talked about them behind their back, told lies or made fun of other students.

Thirty percent of responding students fell into Class 3, consisting of students who are victimized, but to a lesser degree than the victimization experienced by students in the victimized class. Furthermore, there seem to be some substantive differences in the type of victimization acknowledged by this group of students. Therefore, this class is referred to as the social-victims class. First of all, students in the social-victim class had patterns of response that are consistent with being threatened by others less frequently than students in the victimization class. Second of all, students in the victimization class experienced most forms of victimization seven or more times per month, students in the social-victims class indicate that they experience victimization one to six times per month. Third, students in the social-victims class said that they have been made fun of more than they endorsed other items. Taken together this suggests this group of students may experience more social-victimization than the students who experience more global victimization. It is also interesting to note that students in the victimization class did occasionally acknowledge bullying others this rarely appears to be true for the social-victim class.

Class 4 is made up of 47.10% of respondents. This group of students consistently endorsed never being part of bullying or experiencing victimization. Class 4 will subsequently be referred to as the group of students who are outsiders. Students in this group were slightly more apt to indicate that they had experienced some victimization than

had bullied others, but to a lower degree than students in other classes. It is easy to think of this group of students as “uninvolved” or “outsiders,” but it is necessary to consider them in light of the full ecology of bullying. Uninvolved students likely are aware that bullying is taking place, even if they don’t engage in it personally. Further, some students may actually perpetuate bullying through their inaction whereas others may stand up against bullying, which was not considered in the present analysis. Finally, all students are influenced by social desirability and it is possible that a subset of students in this group are downplaying their bullying involvement.

In sum, Table 11 presents a model of bully and victim involvement that is substantiated by both statistical validation and substantive meaning. Overall, the proportion of students involved in each category of bullying involvement is consistent with what has been previously seen in the bullying literature. While it is not surprising that classes of students who are outsiders, victims, and bully-victims all emerged from the analysis, it is surprising that there does not appear to be a class of students who bullies others but is not bullied themselves. Possible reasons for this, as well as implications, are considered in the discussion portion of this paper.

Auxiliary Analysis. Subsequent to the class enumeration process described previously two auxiliary variables were examined to determine their role in class assignment: moral disengagement and gender. The Three-Step approach was used to consider the role of moral disengagement in understanding bullying role participation, to address research question four. Specifically, this posited that students who were morally disengaged were more likely to be reactive victims, or students who were victimized but also bullied others. Table 12 shows the means and standard error for moral disengagement

by class. Bully-Victim class, had the highest mean level of moral disengagement and a moderate standard error ($M = 56.47$, $SE = 1.46$), suggesting some variability around this mean. The Victim class had the next highest level of moral disengagement and a large standard of error, implying variability from this mean ($M = 50.85$, $SE = 3.14$). Finally the Social-Victim class ($M = 45.20$, $SE = .55$) and the Outsiders class ($M = 44.30$, $SE = .63$) had similar means for the moral disengagement scale and relatively small standards of error, implying less variability around the mean values.

Table 13 shows Chi-Square values and significance for the comparative levels of moral disengagement between classes. Overall, moral disengagement is a significant indicator of class grouping ($\chi^2 = 66.57$, $p < .01$). Levels of moral disengagement also varied significantly for Bully-Victims as compared to Social-Victims ($\chi^2 = 49.29$, $p < .01$), with students in the Victim class having higher levels of moral disengagement than students in the Social-victims class. Students in the Victim Class also had significantly higher levels of moral disengagement than the Outsider class ($\chi^2 = 4.33$, $p < .05$). Finally the students in the Bully-Victim Class had higher levels of moral disengagement than the students in the Uninvolved Class ($\chi^2 = 51.12$, $p < .01$). It is important to note that the non-significant difference between the levels of moral disengagement for the students in the Victim Class as compared to the Bully-Victim Class. This is may be due to the relatively small number of students in each class, rather than a meaningful non-significant difference. Arguably, the six-point difference in the means between the two groups may indicate substantive differences that are not reflected in the statistical metric.

An auxiliary analysis was used to look at hypothesis five, whether gender influenced latent group membership. Table 14 and Table 15 show the results considering gender.

There were some slight variations in means and standard error by class (see Table 14), the values were not significantly different (see Table 15). Prior literature has suggested some differences in bullying roles by gender (Felix & Greif Green, 2010), this scale and corresponding analysis did not differentiate between relational versus physical aggression, which is often where bullying participation varies by gender (Felix & Greif Green, 2010).

Conclusion

This section included results from the modeling process looking at bullying participation involvement as well as the impact of moral disengagement and gender on role classification. Through this process each of the five proposed research questions were addressed. First of all, the analysis confirmed the hypothesis that victim behavior varied across students. Specifically, the degree to which students were victimized varied. Second of all, the heterogeneity of students' bullying perpetration was confirmed and was also shown to vary by degree of involvement. The third hypothesis that a bully-victim group would emerge was also confirmed by the analysis. Interestingly, a group of students who is victimized and bullies others was identified, no group of students who just act as bullies emerged. The fourth hypothesis, that moral disengagement influenced which latent group students were in was confirmed, though there was some variation between classes. Finally, the fifth hypothesis regarding gender differences between groups was not confirmed, no systematic group variation by gender was found.

Discussion of the Present Study

The present study used latent modeling to examine victimization experiences as well as the influence of moral disengagement and gender. Of the five proposed research questions that were investigated, four were supported. This section has three primary aims.

First, the chapter reviews the proposed research questions and hypotheses in order to conceptualize and substantiate the analytic findings. Second, this chapter considers prior literature as it pertains to the present questions. Finally, limitations of the present work, as well as proposed directions for future work, are discussed.

Interpretation of Findings

Four of the five proposed hypotheses were supported by the current analysis. The hypotheses looking at bullying participation role heterogeneity and the presence of a bully-victim class were supported. Additionally, moral disengagement was found to influence class assignment. However, the research question considering gender was not supported. Each question is examined in light of prior literature and potential implications.

Research Question One. It was hypothesized that students' victimization experiences vary (population heterogeneity). Prior literature has shown that although students are all part of the ecology of bullying, through their presence in environments where bullying takes place (Espelage et al., 2012), their degree of participation differs (Olweus, 1994). In the present study, as hypothesized, students' victimization experiences and aggression towards others was varied. In particular, the models that emerged as best representing students' involvement in victimization showed ordered classes. In other words, students' participation in perpetrating aggression and victimization varied systematically based on degree of involvement. Overall, when looking at aggression or victimization behaviors separately, it appears possible to differentiate students' based on whether they are relatively uninvolved, moderately involved, or actively involved in bullying behaviors.

Research Question Two. The aggression model broadly groups students into three latent classes, based on level of involvement, there were some differences based on item

level responses. For instance, the group of students least involved in perpetrating aggressive behaviors (Low Aggression Class) were slightly more likely to endorse that they have talked about other students behind their back than they were to endorse engaging in other kinds of aggressive behaviors. Nonetheless, students in the Low Bully Class largely identified that they did not engage in bullying behaviors across all items. Despite the overall model indicators suggesting good differentiation amongst classes, the degree of endorsement does appear to get somewhat weaker for students more involved in bullying behaviors. For example, half the students in the Moderate Bully Class indicated that they had told lies about another student, whereas half said that they had not. The High Bully Class had even more variability in their responses, though the overall pattern still suggests that this class of students is involved in a greater volume of aggressive behaviors regardless of some within-group individual variation.

There are a number of possible reasons for the heterogeneity amongst students' aggressive behaviors. First of all, self-reports of aggressive behavior may include under- or over- reports that are mediated by social desirability (Furlong et al., 2010). Students are aware that certain responses align with their expected behavior and are likely to provide what they think is a "correct" response. Therefore, even the students who acknowledge their aggressive behavior may be downplaying their participation. Second of all, literature suggests that students who are involved in the highest rates of aggression are a small group of students (Summers & Demaray, 2009). Therefore, the variation in the degree of endorsement for aggressive behaviors may reflect the reality that only a small group of students are perpetrating bullying behaviors at the highest level. Similarly, many students are willing to endorse "sometimes" engaging in bullying behavior, but fewer students may

be willing to acknowledge frequent involvement (Hymel et al., 2010), which is likely reflected in student responses.

The subset of victim items produced a three class ordered model, similar to what was found for student's aggression. This suggests that students fall into classes based on degree of victimization experiences. This is not surprising, given the literature suggesting that the prevalence of victimization ranges widely (Alaskar, 1993; Olweus, 1991) and is consistent with prior literature studying victimization experiences (Nylund, 2007). Furthermore, the literature has found that 5-10% of students report the highest rate of victimization, which is consistent with findings in the present study (Hanish & Guerra, 2000; Salmivalli et al., 1998). Interestingly, the strength of endorsement varied by item, across classes. Specifically, the item "I have been threatened by others," seemed to differentiate students, since this item varied by class. Overall this item was less frequently endorsed than the other items that focused more on relational and social forms of victimization.

Research Question Three. When the aggression and victimization items were considered together, a group of students who indicated that they were participating in both bully and victim (bully-victims) behaviors did emerge. This is consistent with prior literature and other forms of evaluating bullying role participation that have found a distinct Bully-Victim Class of students (Summers & Demaray, 2009). Additionally, two other classes of students responded to items in a manner that is consistent with victimization experiences, but little or no aggression. Three of the four classes of students experienced some victimization, no group of students responded to questions in a manner that is consistent with bullying others but not experiencing victimization. Recent literature has largely conceptualized bullying involvement into four categories: bullies, victims, bully-

victims, and outsiders (Furlong et al., 2010). However, present findings suggest that prior understandings of bullying groups may not accurately reflect students' participation in the ecology of bullying. In contrast the present study found the following classes: bully-victims, victims, social-victims, and outsiders.

There are a number of possible reasons why the findings in the present study diverge from the four bullying participation roles commonly found in the literature. Prior literature has often relied on methodology that identifies student groupings based off of extreme responses (e.g., classifying bullies based off of the top 10% of responders), rather than truly identifying students who meet the definition of each participant role. Not only is there question as to whether these classification schemes identify the correct group of students, but they also predetermine which percentage of students is in each participation group. As Furlong and colleagues (2010) point out in their discussion of bullying measurement, current classification schemes can place two students into the same group even when their reported behavior is divergent. Since the present analyses studied patterns of response from a latent perspective it may be able to provide a more holistic view of how students tend to respond, and are therefore grouped, to measures of bullying participation. Another consideration is the number of students who may fall into a traditional "bully" classification. Oftentimes literature has suggested that this group consists of a small number of students. Therefore, latent-modeling procedures may not identify this group, despite their existence. A possible limitation of latent modeling is its inability to detect real but low incidence experiences, since from a statistical perspective this can create unstable and poorly fitting models.

In contrast to the present study, prior literature has found some indication that a segment of students do act as bullies (Summers & Demaray, 2009). However, it is possible

that this is a small group of students that may not have emerged from the latent class analytic process. Alternatively, it is also possible that, as the present findings suggest, few students bully others without experiencing victimization themselves. This is important to consider, since it has implications for intervention. If students who bully are almost always also victimized then intervention efforts need to consider the overlap in participation roles. Future research should consider whether the classes from the present study are replicated, as well as, reconsidering appropriate intervention strategies.

Research Question Four. Moral engagement was examined as an important consideration when thinking about students' bullying behavior. Bandura argued "the relation between one's moral standards and actual behavior is mediated by moral disengagement" (Hymel et al., 2010, pg. 107). Current results support this idea, since bullying class assignment was influenced by level of moral disengagement. Students who were most active in bullying behaviors (students in the Bully-Victim class) had the highest level of moral disengagement. This is consistent with prior literature, which has found that moral disengagement does appear to predict involvement in bullying (Robson & Witenberg, 2013). While the relation between bullying perpetration and moral disengagement was replicated in the current study, the lack of a bully group is important to consider. In particular, students who act as bullies are often implicated as the students with the highest level of moral engagement. Though no group of bullies emerged from the present analysis, moral disengagement was still related to bullying involvement, since degree of involvement varied in conjunction with level of moral disengagement. This suggests that moral disengagement plays an important role in bullying participation, for both students who bully

and students who are victimized, though the level of disengagement appears related to degree of involvement in bullying behaviors.

Bullying is often split into two categories: proactive and reactive bullying (Hymel et al., 2010). Reactive bullies are children who respond to what they perceive as aggressive acts directed towards them (e.g., punching someone who called them a bad name), versus proactive bullies who bully to reach an instrumental goal (e.g., punching someone to get their iPod). However, the lack of a group of students who bully but do not experience victimization calls into question the idea of proactive victims. The students who emerged from the present analysis may be understood within the framework of reactive victims, since in addition to bullying others they were bullied themselves. This calls into question the prevalence and role of proactive bullying. In particular, this is important when thinking about student cognition and decision making related to their moral understanding as it pertains to bullying.

The ecology of bullying is a complex web of individual, social, and environmental factors. Moral disengagement appears to be one influential factor in understanding bullying participation. However, it is likely that other considerations (e.g., school climate, empathy) are also important indicators of whether students engage in bullying behaviors. Because of the complicated interplay of individuals, social frameworks, and environmental considerations the exact relationship between social-cognitive factors and bullying is not yet clear. This is consistent with other literature suggesting that the relationship between social-cognitive aggression and bullying is complex and not well understood (Hymel et al., 2010). Nonetheless, present results suggest that moral disengagement is an important element when thinking about bullying involvement and approaches to bullying intervention.

Research Question Five. Gender has often been implicated as an explanation for differences in the type and nature of bullying (Felix & Greif Green, 2010). However, gender was not found to influence bullying participation groups in the present study. One possible reason for this finding is that bullying participation was not differentiated by type (e.g., relational, physical), which is often found to vary by gender. Prior scholarship has suggested that gender differences in bullying depend on bullying measurement. (Demaray & Malecki, 2003; Felix & Greif-Green, 2010). Therefore, the lack of notable differences in class membership by gender in the present study may represent a measurement effect since types of bullying were not differentiated.

Limitations

The present study provides some insight regarding the challenges of bullying research in general and bullying measurement in particular. Overall, bullying intervention efforts do not always seem to be effective in reducing bullying behaviors. Merrell, Gueldner, Ross, & Isava (2008) conducted a Meta-analysis looking at bullying intervention programs. They concluded that the programs had an average effect that was too weak to be meaningful. Merrell et al., (2008) determined that bullying intervention programs may have utility in increasing knowledge, awareness, and student perceived efficacy, however the impact on behavior was more limited. This suggests the need for more effective and rigorous anti-bullying programs and intervention efforts to address bullying behaviors. However, measurement issues often confound bullying programs and their effectiveness, through unclear or misclassification of students.

Measurement issues are a challenge that impacts bullying related research (see Furlong et al., 2010). The current study relied on self-report measures to determine

students' bullying participation roles and level of moral disengagement. Scholars have debated the accuracy and utility of self-report data due to a number of potential response errors (e.g., telescoping, availability heuristic; Rosenblatt & Furlong, 1997). Also, it is important to consider that some students are extreme or mischievous responders, skewing the data. This study used truth questions to try and reduce the problem of extreme responders, however, it is still possible that they influenced the findings. There are various perspectives regarding whether self-report survey data represent a viable metric of behavior (Furlong et al., 2010; Olweus, 2010; Merrell, et al., 2008), despite widespread use and support. When considering social laden attitudes and behaviors, such as moral disengagement and bullying, self-report measures are subject to students misrepresenting themselves. Throughout the literature this problem persists, since there are few available measurement options that have accounted for the validity concerns inherent in bullying research.

Of particular relevance to the current study is the question of what is the most valid method for measuring different types of bullying participation amongst students. This includes accurately differentiating between bullying, victimization, defending, and outsider behaviors. The present study relied on self-report measures to ascertain students' involvement, but including additional measures (e.g., teacher reports, behavioral observations) would allow for the intersection of multiple data sources to promote increased accuracy of student classification. Nonetheless, few measures currently exist which provide a rigorous and psychometrically supported method for bullying measurement (Rosenblatt & Furlong, 1997).

The specific scales used in the present study are also subject to scrutiny. Bandura's Mechanisms of Moral Disengagement scale (Bandura, 1995), though widely accepted, contains some items that may not truly capture moral disengagement, due to archaic wording and difficulty ascertaining construct validity. Nonetheless, no equivalent scale to assess moral disengagement amongst middle school students is currently available. Furthermore, the version of the Bullying Participation Role Scale used in the final model (Summers & Demaray, 2009) was modified from the original scale, which has psychometric implications. The items used were identified through a confirmatory factor analytic process, necessitating continued evaluation of its psychometric properties.

Effects of research design. The research design employed in the present study may have some inherent limitations that impact the results. For instance, the study took place in the context of a single middle school. Because the data were gathered from a single school it is possible that the use of convenience sampling may limit the generalizability of the results. Without the presence of a diverse selection of students from multiple schools and geographic areas it is not possible to know if elements of the present findings are unique to the group and context of students who participated in the study.

Implications for Research and Future Work

The preliminary findings from this study offer some interesting considerations for future work studying bullying participation roles. First of all, additional studies should continue to look at the utility of the modified Bullying Participant Role Scale as a valid and reliable method for assessing bullying participation. This includes further consideration of self-report issues and how they may impact students' responses. Second, the classes that emerged in the present study suggest that future research should carefully consider students'

bullying participation. In particular, scholars should consider whether there is a meaningful group of students who engage in bullying behaviors without experiencing victimization. The present results suggest that the group of students who perpetrate bullying but do not experience victimization is either extremely small or not a truly unique group of students. Not only does this have potentially important implications for practice and bullying intervention, but also needs to be considered when thinking about bullying measurement. Future studies should consider whether a group of true bullies, who are not also victimized, is present. Additionally, if a group of students who bully is identified, research should be careful to determine whether there are meaningful differences in their behavior as compared to students who are bully-victims. Finally, future studies need to think about whether the group of students who act as bullies is smaller than previously thought due to potential overlap with a group of students who may more accurately be described as bully-victims.

Future research looking at bullying measurement and group identification should continue to think about the ecology of bullying; in particular, whether bullying participation roles are discrete. Some research has suggested that bullying participation roles are actually highly correlated and more interchangeable than previously thought (Crapanzano, Frick, Childs, & Terranova, 2011). Bullying participation is often considered stable overtime, despite few studies that have focused specifically on participation roles (Crapanzano et al., 2011). Therefore, future research efforts determine if bullying participation roles are similar and different longitudinally.

The correlates and motivations associated with bullying behaviors are not well understood. Given the complexity of bullying behaviors it is likely that a multitude of considerations best explain why some children bully others. Yet, the present research

suggests that moral disengagement may play an important role. Therefore, future research should continue to look at moral disengagement and its implications for bullying perpetration. Related constructs (i.e., moral decision making) also merit further attention. Better understanding the characteristics of children who bully provides the platform towards creating more effective interventions to reduce school-based bullying behaviors.

Implications for Practice

The most effective way to combat and understand bullying is through the use of a multifaceted framework that considers individual, peer, school, and community contributions (Swearer & Espelage, 2004). Each level of intervention poses both challenges and opportunities for schools to reduce the impact of bullying behaviors. Research has shown that intervention approaches that only target the individual have limited effectiveness (Espelage & Swearer, 2004). The present study implies that one possible reason is that interventions that target bullies may not be appropriate for much of the student body. Because the present study found that no group of students was bullying others without experiencing victimization, this provides support for trying to consider the whole ecology of bullying in intervention efforts, rather than just the bully/victim dyad. Additionally, evidence points towards the important influence of moral disengagement in bullying as well as the consideration of the ecology of bullying participation roles.

At the individual level the way that students think and reason about bullying seems to be linked to how likely they are to engage in bullying behaviors. Individual factors such as propensity to morally disengage and perceptions of popularity have been associated with bullying behavior (Caravita, Gini, & Pozzoli, 2012). Prior literature has found that students who use a moral justification, the process of rationalizing otherwise unacceptable behaviors,

rely on personal rather than universal moral schemes (Robson & Witenberg, 2013). However, this is conflated with development, since moral decision making is embedded in cognitive abilities, so it is important that this be considered within a developmental context (Arsenio, 2002). Schools should focus on bullying prevention efforts that help increase skills related to moral reasoning and engagement within a developmental framework. Furthermore, this education needs to start early so that children can progress in their understanding as they advance developmentally (Arsenio, 2002). Nonetheless, moral functioning is essential to the changes that are part of adolescence. During this time period moral self-concept is incorporated into an increasingly complex social context, providing a vital platform for bolstering skills related to moral decision making (Paciello, Fida, Tramontano, Cole, & Cerniglia, 2013). Teaching students how to consider multiple perspectives in a situation, and evaluate the implications of their actions, creates a framework for moral considerations in problem solving. Further, teachers and schools can model using moral decision making skills to help students learn to incorporate more universal moral schemes into their thinking.

Moral reasoning and disengagement happen at the individual level, with the influence of environmental factors. Students' peer, classroom, and school interactions are highly influential in how students act, including whether they engage in bullying or prosocial behaviors (Espelage & Swearer, 2004). For example, students who feel as though their peers support them are more likely to engage in prosocial behaviors (Caravita et al., 2012). Schools and classrooms that teach and talk about moral decision-making and prosocial behavior send a clear message to students about the expectations. Further,

classroom norms are instrumental in helping support and promote defending behavior (Caravita et al., 2012).

Schools should consider the way that the school or classroom environment tolerates, allows, or fights bullying and social aggression. As demonstrated by the present results students' level of involvement in bullying varies, but the majority of students admit to at least occasional bullying participation. Teachers and schools who are responsive to bullying incidents and who create environments which work to combat bullying can help reduce the prevalence of bullying behaviors (Doll, Song, & Siemers, 2004). Additionally, when students feel accepted by their environment and perceive their school as supportive they are less likely to participate in bullying behaviors (Doll et al., 2004).

Combating bullying is challenging because of the complex nature of bullying behaviors. Yet, schools play an important role in reducing bullying. Schools can empower students with the social and moral reasoning skills to think about the implications of their social decisions. When schools create an environment that is warm, supportive, and responsive to preventing bullying they help students understand that bullying behaviors are not tolerated. Schools that are able to create a positive environment can help teach students about being respectful citizens who behave in prosocial ways.

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Table 1

LCA for the Victim Four Class Model with Categorical Response Options

	Class 1 (34%)			Class 2 (38.33%)			Class 3 (19.7%)			Class 4 (7.96%)		
	Never	1-6 Times	7+ Times	Never	1-6 Times	7+ Times	Never	1-6 Times	7+ Times	Never	1-6 Times	7+ Times
Been purposely left out of something	.89	.10	.01	.48	.51	.01	.18	.79	.04	.18	.48	.33
Been pushed or shoved	.87	.12	.01	.51	.45	.04	.07	.86	.07	.17	.44	.40
Been ignored	.87	.12	.01	.32	.67	.02	.07	.78	.15	.07	.32	.61
Been threatened by others	.98	.01	.00	.85	.15	.00	.31	.67	.01	.16	.44	.40
Been pushed around, punched, or slapped	.99	.01	.00	.75	.24	.01	.18	.79	.03	.22	.33	.45
Had something thrown at me	.92	.08	.01	.66	.33	.01	.15	.83	.02	.06	.54	.40
People have tried to make others dislike me	.95	.05	.00	.66	.33	.01	.22	.71	.08	.12	.44	.44
Been made fun of	.94	.06	.00	.42	.57	.01	.03	.89	.08	.03	.18	.78
People have told lies about me	.91	.09	.00	.52	.46	.02	.08	.86	.06	.05	.16	.79
Had things taken from me	.91	.09	.00	.59	.40	.01	.18	.79	.03	.04	.60	.36
Been called mean names	.95	.05	.00	.63	.37	.01	.10	.85	.05	.03	.15	.82
Been pinched or poked	.95	.05	.00	.70	.28	.02	.25	.72	.04	.22	.37	.41

Table 2

LCA for the Bully Four Class Model with Categorical Response Options

	Class 1 (57.36%)			Class 2 (29.69%)			Class 3 (11.47%)			Class 4 (1.48%)		
	Never	1-6 Times	7+ Times	Never	1-6 Times	7+ Times	Never	1-6 Times	7+ Times	Never	1-6 Times	7+ Times
Pushed, punched, or slapped	0.94	0.06	0.00	0.67	0.32	0.01	0.19	0.78	0.03	0.00	0.37	0.63
Thrown things at another student	0.94	0.05	0.01	0.56	0.44	0.00	0.13	0.79	0.08	0.09	0.00	0.91
Damaged or broken something that was anothers	0.95	0.05	0.00	0.83	0.17	0.00	0.43	0.56	0.01	0.09	0.64	0.27
Tripped another student on purpose	0.99	0.01	0.00	0.80	0.19	0.01	0.45	0.53	0.02	0.36	0.27	0.37
Bumped into another student on purpose	0.99	0.01	0.00	0.97	0.03	0.01	0.59	0.34	0.07	0.28	0.18	0.54
92 Called another student bad names	0.97	0.03	0.00	0.58	0.40	0.02	0.13	0.84	0.04	0.18	0.00	0.82
Ignored another student	0.67	0.32	0.01	0.24	0.71	0.05	0.05	0.71	0.25	0.00	0.28	0.73
Purposely left out another student	0.98	0.02	0.00	0.71	0.29	0.00	0.20	0.76	0.04	0.28	0.36	0.36
Talked about someone behind their back	0.90	0.10	0.00	0.49	0.49	0.02	0.17	0.79	0.05	0.09	0.36	0.54
Said bad things about another student	0.99	0.01	0.00	0.54	0.45	0.01	0.00	0.94	0.06	0.28	0.00	0.73
Told lies about another student	1.00	0.00	0.00	0.81	0.19	0.00	0.24	0.73	0.02	0.37	0.36	0.27
Made fun of another student	0.99	0.01	0.00	0.69	0.30	0.01	0.07	0.89	0.04	0.18	0.27	0.54

Table 3

LCA for the Bully-Victim Three Class Model with Categorical Response Options

	Class 1 (45.07%)			Class 2 (39.41%)			Class 3 (15.52%)		
	Never	1-6 Times	7+ Times	Never	1-6 Times	7+ Times	Never	1-6 Times	7+ Times
	Damaged or broken something that was anothers	.94	.06	.00	.83	.17	.00	.56	.41
Tripped another student on purpose	.98	.02	.00	.84	.16	.00	.55	.39	.06
Bumped into another student on purpose	.99	.01	.00	.97	.02	.00	.63	.26	.11
Pushed, punched, or slapped	.96	.04	.00	.70	.30	.00	.31	.60	.09
Thrown things at another student	.91	.07	.01	.68	.32	.00	.22	.65	.14
Called another student bad names	.94	.05	.01	.68	.32	.01	.32	.58	.10
Ignored another student	.67	.32	.01	.34	.62	.04	.10	.65	.25
Purposely left out another student	.97	.03	.00	.78	.22	.00	.33	.61	.06
Talked about someone behind their back	.90	.10	.00	.58	.41	.02	.26	.65	.09
Said bad things about another student	.98	.02	.00	.64	.35	.02	.21	.70	.09
Told lies about another student	.99	.01	.00	.84	.15	.01	.42	.56	.03
Made fun of another student	.97	.02	.01	.73	.27	.01	.31	.62	.07
Been threatened by others	.96	.04	.00	.69	.31	.01	.19	.61	.20
Been pushed around, punched, or slapped	.95	.05	.00	.58	.41	.01	.14	.60	.26
Had something thrown at me	.87	.13	.01	.50	.49	.01	.05	.74	.22
Been pushed or shoved	.80	.19	.01	.36	.59	.05	.08	.67	.25
Been pinched or poked	.92	.08	.00	.55	.43	.02	.15	.60	.25
Been purposely left out of something	.78	.21	.01	.40	.59	.01	.16	.64	.20
Been ignored	.73	.26	.01	.23	.70	.07	.07	.55	.38
People have tried to make others dislike me	.92	.08	.00	.47	.49	.04	.19	.57	.24
Been made fun of	.83	.17	.00	.26	.70	.05	.04	.56	.40
People have told lies about me	.84	.16	.00	.35	.61	.04	.06	.52	.42
Had things taken from me	.85	.16	.00	.46	.53	.01	.06	.74	.20
Been called mean names	.90	.10	.00	.43	.54	.03	.04	.54	.42

Table 4

Confirmatory Factor Analysis Factor Loadings by Item

Subscale	Items	Factor Loadings
Bully Subscale	I have ignored another student	.49
	I have pushed, punched, or slapped another student	.56
	I have tripped another student on purpose	.64
	I have purposely left out another student	.68
	I have made fun of another student	.77
	I have said bad things about another student	.74
	I have talked about someone behind their back	.63
	I have bumped into another student on purpose	.68
	I have told lies about another student	.69
	I have thrown things at another student	.69
I have called another student bad names	.74	
I have damaged or broken something that was another student's	.58	
Victim Subscale	I have been pushed or shoved	.70
	I have been threatened by others	.74
	I have been pinched or poked	.62
	People have tried to make others dislike me	.70
	I have been called mean names	.78
	I have been pushed around, punched, or slapped	.73
	I have had something thrown at me	.62
	I have had things taken from me	.63
	I have been ignored	.68
	People have told lies about me	.75
I have been made fun of	.82	
I have been purposely left out of something	.60	

	I pretended not to notice a situation that purposely left someone out	.68
	I ignored it when someone else pinched or poked another student	.66
	I ignored it when I saw someone breaking or damaging another student's things	.67
	I ignored it when someone else threw something at another student	.71
	I ignored it when I saw someone threatening another student	.74
	I have walked away when I saw someone else being picked on	.72
Outsider Subscale	I ignored it when someone else tricked another student	.68
	I pretended not to notice when rumors were being spread about other students	.46
	I pretended not to notice when things were taken or stolen from another student	.64
	I pretended not to notice when another student was being pushed, punched, or slapped	.66
	I ignored it when I saw someone making fun of another student	.69
	I ignored it when someone was calling another student bad names	.70
	I tried to include someone if they were being purposely left out	.54
	I tried to become friends with someone after they were picked on	.62
	When I saw someone being mean to others, I threatened to tell an adult if it didn't stop	.62
	I defended someone who was being pushed, punched, or slapped	.61
	I encouraged someone to tell an adult after they were picked on	.60
Defender Subscale	I tried to make people stop spreading rumors about others	.73
	I told someone that picking on others is mean and they should not do it	.72
	I defended someone who I thought was being tricked on purpose	.67
	I defended someone who was being called mean names	.71
	I tried to make someone feel better after they were picked on	.74
	I defended someone who had things purposely taken from them	.69
	I defended someone by telling people that a rumor is not true	.70

Table 5

Means, Standard Deviations, and Correlations for the Final Modeled Items

	BPRS23	BPRS31	BPRS33	BPRS37	BPRS4	BPRS13	BPRS43	BPRS45	BPRS47	MD	Grade	Gender
BPRS23												
BPRS31	.52**											
BPRS33	.51**	.59**										
BPRS37	.54**	.65**	.59**									
BPRS4	.27**	.27**	.26**	.51**								
BPRS14	.28**	.27**	.27**	.46**	.51**							
BPRS43	.31**	.37**	.37**	.38**	.46**	.52**						
BPRS45	.30**	.23**	.35**	.38**	.38**	.42**	.53**					
BPRS47	.27**	.28**	.32**	.44**	.44**	.52**	.60**	.59**				
MD	.20**	.14**	.20**	.37**	.37**	.42**	.33**	.35**	.42**			
Grade	.19**	0.06	.10**	.26**	.26**	.20**	.17**	.11**	.18**	.14**		
Gender	-0.01	0.06	.08*	.03	-.09**	-.10**	0.04	-.04	-.03	-.11**	-.07	
Mean	1.30	1.60	1.55	1.50	1.31	1.30	1.30	1.16	1.25	47.05	7.61	1.51
SD	0.53	0.63	0.64	0.64	0.52	0.50	0.50	0.39	0.47	11.46	0.49	0.50

* $p < .05$, ** $p < .01$

Table 6

Size and proportion of item endorsement by item type and response option

Victim Items			
		n	Prop.
Been threatened by others	Never	543	.73
	1-6 Times	172	.23
	7+ Times	26	.04
Been made fun of	Never	358	.48
	1-6 Times	323	.44
	7+ Times	60	.08
People have told lies about me	Never	391	.53
	1-6 Times	290	.39
	7+ Times	60	.08
Been called mean names	Never	431	.58
	1-6 Times	252	.34
	7+ Times	58	.08
Bully Items			
		n	Prop.
Thrown things at another student	Never	548	.74
	1-6 Times	177	.24
	7+ Times	16	.02
Called another student bad names	Never	499	.67
	1-6 Times	227	.31
	7+ Times	15	.02
Said bad things about another student	Never	536	.72
	1-6 Times	189	.26
	7+ Times	16	.02
Told lies about another student	Never	625	.84
	1-6 Times	111	.15
	7+ Times	5	.01
Made fun of another student	Never	572	.77
	1-6 Times	156	.21
	7+ Times	13	.02

Table 7

Mean and standard deviation for BPRS items

Item	Mean	SD
Thrown things at another student	1.31	.52
Called another student bad names	1.28	.50
Told lies about another student	1.16	.39
Made fun of another student	1.25	.47
Been purposely left out of something	1.51	.58
Been threatened by others	1.30	.53
Been made fun of	1.60	.63
People have told lies about me	1.55	.64
Been called mean names	1.50	.64

Table 8

Fit statistics for the bully, victim, and bully-victim models

	Number of Classes	Log Likelihood	<i>BIC</i>	<i>ABIC</i>	<i>p</i> -value of LMRT	Entropy	<i>BF</i>	CMP
Bully Items								
	1	-2283.51	4633.10	4601.35	--	--	>.01	>.01
	2	-1819.51	3777.79	3711.11	.00	.88	>.01	>.01
	3	-1774.15	3759.76	3658.15	.00	.91	1.13E+05	1.00
	4	-1749.45	3783.04	3646.50	.01	.80	8.16E+11	>.01
	5	-1740.53	3837.90	3666.43	.06	.83	5.84E+12	>.01
	6	not replicated						
Victim Items								
	1	-2512.53	5077.92	5052.51	--	--	>.01	>.01
	2	-2128.38	4369.10	4315.12	.00	.87	>.01	>.01
	3	-1981.77	4135.35	4052.79	.00	.85	2.74E+08	1.00
	4	-1971.46	4174.21	4063.07	.08	.79	2.33E+11	>.01
	5	-1967.90	4226.56	4086.84	.03	.83	2.79E+11	>.01
	6	-1964.52	4279.27	4110.97	.95	.81	0.00	>.01
Bully-Victim Items								
	1	-4780.49	9679.92	9622.77	--	--	>.01	>.01
	2	-4034.30	8313.10	8195.61	.00	.87	>.01	>.01
	3	-3877.62	8125.28	7947.46	.01	.90	>.01	>.01
	4	-3747.03	7989.66	7751.51	.00	.84	4.90	.83
	5	-3685.84	7992.84	7694.35	.89	.84	1.69E+4	.17
	6	-3632.80	8012.31	7653.50	.71	.85	0.00	>.01

Table 9

Item endorsements and classes for the three-class victim items latent analysis.

		Not Victimized (52%)	Moderately Victimized (40.8%)	Victimized (7.2%)
I have been threatened by others	Never	.95	.53	.14
	1-6 Times	.04	.46	.44
	7 + Times	.00	.01	.42
I have been made fun of	Never	.83	.08	.02
	1-6 Times	.17	.87	.15
	7 + Times	.01	.05	.84
People have told lies about me	Never	.83	.20	.04
	1-6 Times	.18	.74	.16
	7 + Times	.00	.06	.80
I have been called mean names	Never	.90	.23	.01
	1-6 Times	.09	.75	.06
	7 + Times	.00	.02	.93

Table 10

Item endorsements and classes for the three-class bully items latent analysis.

		Minimal bullying Behavior (72%)	Moderate Bullying Behavior (26.2%)	Bullying Behavior (2%)
I have called another student bad names	Never	.90	.35	.14
	1-6 Times	.10	.64	.25
	7 + Times	.01	.02	.62
I have thrown things at another student	Never	.86	.21	.14
	1-6 Times	.14	.76	.41
	7 + Times	.00	.03	.45
I have said bad things about another student	Never	.95	.13	.17
	1-6 Times	.05	.84	.17
	7 + Times	.00	.03	.65
I have told lies about another student	Never	.98	.49	.32
	1-6 Times	.02	.51	.39
	7 + Times	.00	.00	.29
I have made fun of another student	Never	.96	.30	.11
	1-6 Times	.04	.69	.33
	7 + Times	.00	.01	.56

Table 11

Item endorsements and classes for the four-class bully-victim items latent analysis.

		Victimized (5.8%)	Bully- Victims (17%)	Social- victims (30%)	Outsiders (47.10%)
I have been threatened by others	Never	.12	.47	.66	.96
	1-6 Times	.40	.50	.35	.04
	7 + Times	.49	.03	.00	.00
I have been made fun of	Never	.02	.14	.16	.88
	1-6 Times	.08	.78	.80	.12
	7 + Times	.90	.08	.04	.01
People have told lies about me	Never	.04	.17	.32	.86
	1-6 Times	.11	.72	.64	.14
	7 + Times	.85	.11	.04	.00
I have been called mean names	Never	.00	.17	.38	.94
	1-6 Times	.00	.74	.60	.06
	7 + Times	1.00	.09	.01	.00
I have thrown things at another student	Never	.43	.23	.82	.87
	1-6 Times	.43	.70	.19	.12
	7 + Times	.14	.07	.00	.01
I have called another student bad names	Never	.48	.21	.83	.91
	1-6 Times	.39	.74	.17	.08
	7 + Times	.14	.05	.00	.01
I have said bad things about another student	Never	.57	.07	.78	.96
	2-6 Times	.27	.88	.22	.04
	7 + Times	.16	.05	.00	.01
I have told lies about another student	Never	.66	.35	.96	.98
	1-6 Times	.27	.63	.04	.02
	7 + Times	.07	.02	.00	.00
I have made fun of another student	Never	.63	.17	.87	.95
	1-6 Times	.22	.80	.13	.04
	7 + Times	.14	.04	.00	.01

Table 12

Mean and standard error values of moral disengagement by class

Class	Mean	Standard Error
Bully-Victims	56.47	1.46
Victims	50.85	3.14
Social-Victims	45.2	0.55
Outsiders	44.3	0.63

Table 13

Auxiliary analysis for moral disengagement

Class Comparisons	χ^2	<i>p</i> -value
Overall	66.57	.00**
Victims vs. Social-victims	3.18	.08
Bully-Victims vs. Social-victims	49.29	.00**
Social-Victims vs. Outsiders	1.13	.29
Victims vs. Bully-Victims	2.18	.14
Victims vs. Outsiders	4.33	.04*
Bully-Victims vs. Outsiders	51.12	.00**

* *p* < .05, ** *p* < .01

Table 14

Mean and standard error values of gender by class

Class	Mean	Standard Error
Victims	1.56	.08
Bully-victims	1.49	.05
Social-victims	1.55	.04
Outsiders	1.50	.03

Table 15

Auxiliary analysis for gender

Class	χ^2	<i>p</i> -value
Overall	1.65	.65
Victims vs. Social-victims	0.01	.91
Bully-Victims vs. Social-victims	0.92	.34
Social-Victims vs. Outsiders	1.10	.30
Victims vs. Bully-Victims	0.59	.44
Victims vs. Outsiders	0.60	.44
Bully-Victims vs. Outsiders	0.01	.91

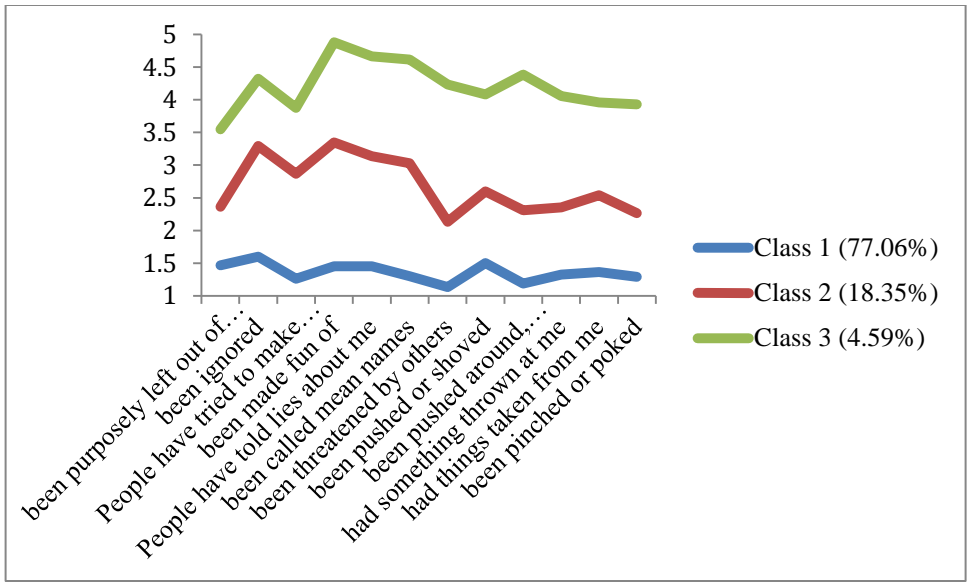


Figure 1. Victim Subscale Three Profile Model

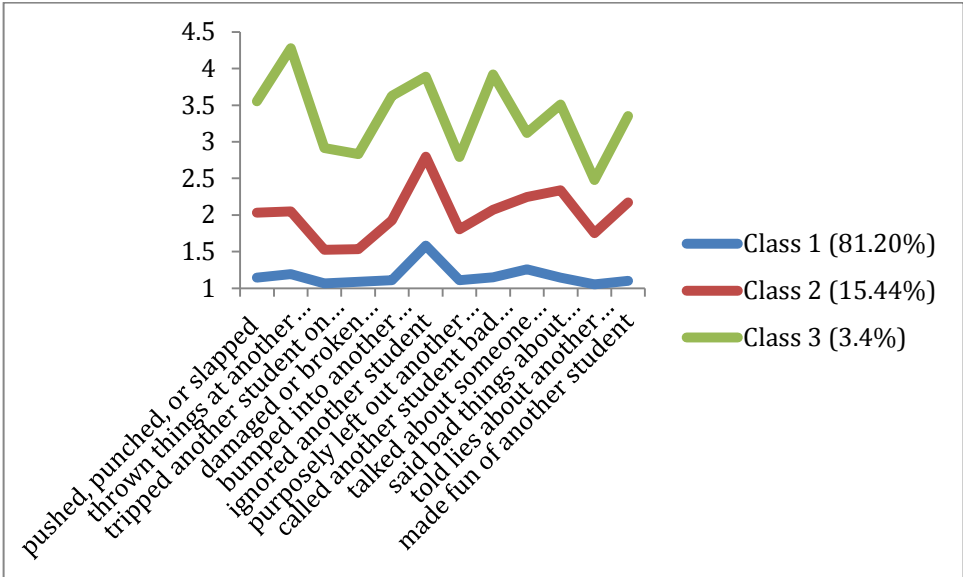


Figure 2. Bully Subscale Three Profile Model

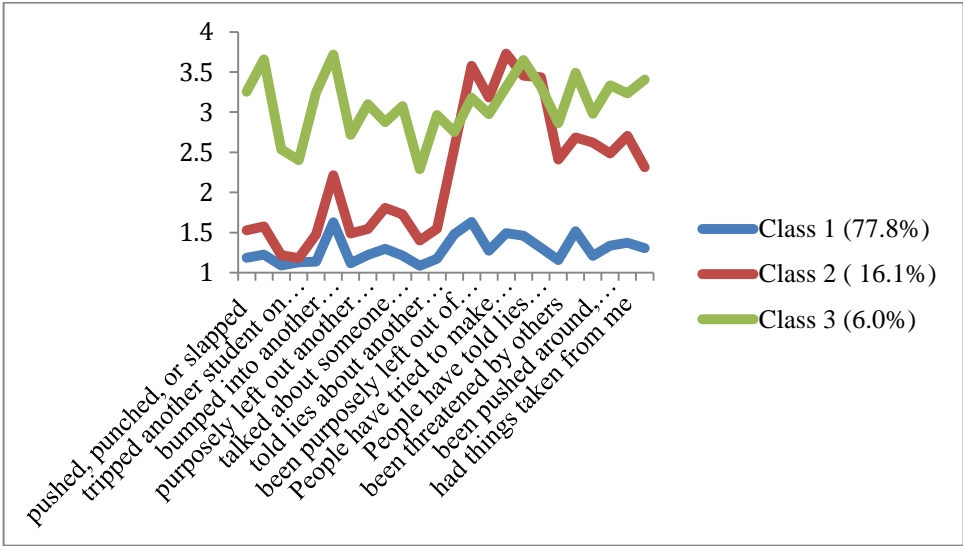


Figure 3. Bully-Victim Subscale Three Profile Model

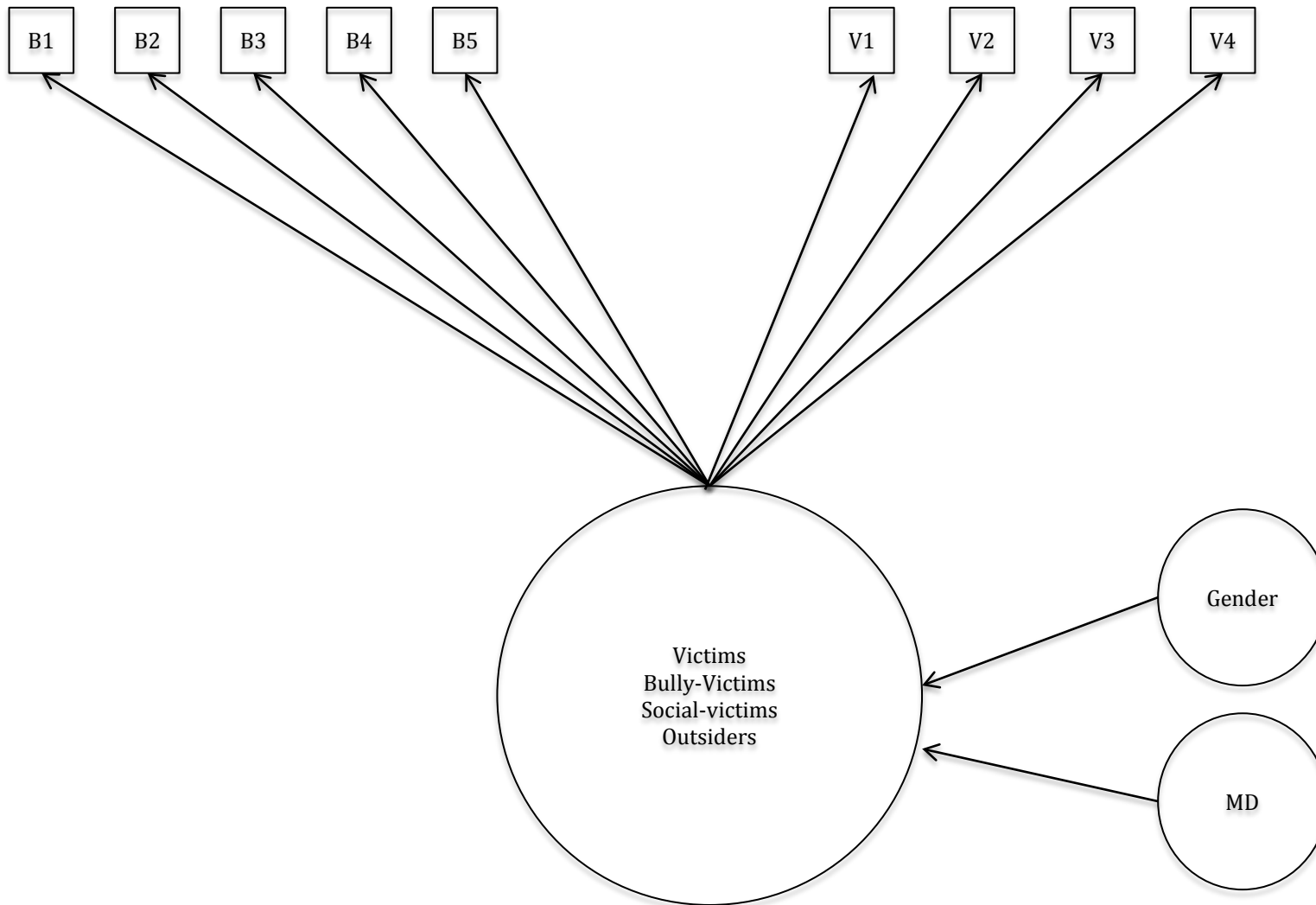


Figure 4. Path diagram for the bully-victim model with auxiliary variables

Appendix

Modified Bullying Participation Role Scale Based on the Confirmatory Factor Analysis

Bully Items	I have thrown things at another student
	I have called another student bad names
	I have said bad things about another student
	I have told lies about another student
	I have made fun of another student
Victim Items	I have been threatened by others
	I have been made fun of
	People have told lies about me
	I have been called mean names
Outsider Items	I ignored it when someone was calling another student bad names
	I ignored it when someone else threw something at another student
	I have walked away when I saw someone else being picked on
	I ignored it when I saw someone threatening another student
Defender Items	I defended someone who was being called mean names
	I tried to make someone feel better after they were picked on
	I tried to make people stop spreading rumors about others
	I told someone that picking on others is mean and they should not do it