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PEER RELATIONSHIPS: LINKS BETWEEN VICTIMIZATION, PARTICIPATION,
DEPRESSIVE SYMPTOMS AND ACHIEVEMENT IN THE CLASSROOM

by

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University of Nebraska, 2011

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This study examined the relationship between forms of victimization on participation, achievement, and depressive symptoms. Participation was hypothesized to mediate the link between victimization and achievement and internalizing symptoms such as depression. Two forms of victimization (overt and relational) were hypothesized to predict participation. Participation was also hypothesized to predict achievement and depression. Conducting a model estimation using structural equations modeling (SEM) showed that overt victimization had a significant negative relationship with participation, which means that for example, as overt victimization rates were higher, participation tended to be lower. These results also indicated that participation and achievement had a significant positive relationship, meaning that higher levels of participation may contribute to greater achievement.

Relational victimization was found to have a significant positive relationship with depression, suggesting that as relational victimization levels were higher, reports of depressive symptoms were likely to be higher as well. Finally, participation had a significant negative relationship with depressive symptoms. As participation levels were higher in this sample, reports of depression tended to be lower. Tests of moderation were done to examine potential gender and classroom level differences within the hypothesized model. These results indicated that overt victimization significantly

predicted participation for girls. Participation was also significantly linked to depression for girls, but not boys. Depression was significantly linked to relational victimization for both boys and girls. Paths from participation to achievement were significant for both boys and girls. Tests of mediation were also done using indirect effects. Results for indirect effects within the model for boys yielded all non-significant indirect effects. Overt victimization yielded a significant indirect effect on achievement for girls and paths from overt victimization to depression were also significant for girls, but not boys.

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and Achievement in the Classroom

Chapter I

Introduction

The school peer context is an environment that shapes children's adaptive behaviors. Early peer rejection and victimization, in particular, have been associated with school avoidance and a decrease in school participation. Depression, social dissatisfaction, and aggression are all adjustment patterns that may be affected by peer victimization and rejection.

In the classroom context there are many factors influencing peer relations and adjustment. Peer acceptance (frequently predictive of victimization) has been shown to predict students' achievement, but it is possible that other classroom environment factors hinder or foster victimization rates, psychological adjustment and achievement. The role of the teacher in the classroom may also be an important factor. Teachers may create specific classroom social environments and manage their student's interactions in unique ways (Wentzel, 1993). The potential lack of a positive teacher impact on the social environment may also contribute to increased victimization within the classroom and a subsequent tendency for students to be disengaged.

The objective of this study was to examine peer relationships and the factors (specifically victimization) that may influence participation and adjustment (achievement and internalizing symptoms). This study also examined the final structural model for classroom level effects that may contribute to adjustment over and above individual peer relationship aspects. While this particular model does not look at specific reasons for

potential differences by classroom, these may include possible effects the classroom has on victimization, potential links between peer relationships and teacher expectations, as well as potential effects for teacher expectations on classroom environment and engagement.

If classroom differences or different classroom environments (including teacher expectations) exist, victimization and engagement (and subsequent academic achievement) levels may also differ. If teacher expectations for students' supportive behaviors are higher and more positive for example, then classroom victimization levels may be lower, leading to fewer behavioral problems and higher levels of engagement. It is important to discuss why this relationship may be significant and to examine theory that may help explain the relationship.

Chapter II

Literature Review

Peer victimization.

The current model examined victimization within peer relationships as factors that may influence engagement and achievement as well as internalizing symptoms such as depression. The model also examined classroom level effects as well as gender effects as possible moderators of the hypothesized linkages. This model suggests that as victimization frequency increases participation will tend to decrease. Lower participation rates were hypothesized to contribute to lower levels of achievement and may lead to increases in internalizing symptoms such as depression.

According to Ladd, Kochenderfer, and Coleman (1997) there are three forms of peer relationships particularly relevant to students' classroom adjustment. These forms

include friendship, peer acceptance, and victimization. All three forms are hypothesized to contribute independently to children's early school adjustment. Friendship is defined as a voluntary dyadic relationship. These types of relations may offer a sense of security, inhibit negative emotional states, or promote adaptive behaviors such as engagement in the classroom and the degree to which children's relations with their peers are consensual is defined as peer acceptance. Peer acceptance deals with whether a child is liked or disliked by his/her peers and this relationship may determine how he/she interacts with his/her peer group. Peer acceptance can be thought of as an attitude that is predictive of victimization.

Finally, victimization, (the focus of the current study), is defined as a relationship between a child and his/her peers where he/she is the target of physical and/or verbal abuse. Victimization can be viewed as the physical or verbal behavioral representation of peer acceptance or rejection. This type of relationship in the school environment has been empirically demonstrated (see Ladd, Kochenderfer & Coleman, 1997; Crick & Ladd, 1993) to contribute to feelings of mistrust and fearfulness towards classmates. This 'in turn' may lead a child to avoid peer interactions or withdraw from school activities. All three forms of peer relationships in the study done by Ladd, Kochenderfer and Coleman (1997) were significant correlates of loneliness, school liking, and school avoidance. These findings were consistent with other current findings (Kochenderfer & Ladd, 1996, Prinstein, et.al., 2009).

There are two distinct forms of peer victimization (see Crick & Grotpeter, 1996; Klomek, Marrocco, Kleinman, Schonfeld & Gould, 2008). These include overt (also referred to as direct) victimization and relational (also referred to as indirect)

victimization. Overt acts of victimization are meant to physically harm another person or give verbal intention to harm someone. Kicking or hitting would be forms of overt victimization. Relational victimization is a type of victimization that intends to cause damage to friendships or other relationships. Social isolation and exclusion are examples of relational victimization.

Ladd (2003), in a review, discussed children's social behavior and relationships and examined potential links to adjustment. In this review, he described children's aggressive behaviors as linked to later maladjustment. Victimized individuals tend to have more adjustment difficulties and show more signs of depression. Early peer rejection and associated victimization can play a role in developing negative school attitudes and underachievement. These immediate adjustment problems may also be linked to future maladjustment (Ladd, Kochenderfer, & Coleman, 1997).

Ladd (2003) presented a Child by Environment model to describe children's adjustment patterns. This model, which is a central conceptual support for the current study, suggested that predictors of children's adjustment develop not only within the child but also within the child's relational environment (e.g. aggressiveness, shyness, etc.). This model also suggested that along with children's behavioral styles, exposure to enduring relationship adversity such as peer rejection and victimization and negative teacher relationships tend to be associated with maladjustment. Children's behavioral styles will not only tend to affect the types of relationships developed with peers but with teachers as well. These behavioral styles, relationships and environments that are created can lead to differences in expectations and instruction that may vary by teacher or classroom and thus may also lead to group differences in engagement, achievement and

overall adjustment. The following sections will examine peer victimization and potential links to the outcomes (achievement and depression) in the current study as well as links with classroom participation. The final two sections will look at the relationship between possible classroom level effects that may exist as well as possible gender differences.

Victimization: links to achievement.

Schwartz, Nakamoto, Toblin, and Gorman (2005) examined the relationship between victimization and children's academic functioning. Their hypothesis was that victimization by peers would be associated with a decrease in academic functioning over time. The authors predicted that increased victimization would result in impaired concentration, negative self-concept, loss of energy, and have harmful effects on academic functioning.

Participants were recruited from two elementary schools in Los Angeles. The sample consisted of 240 low income third and fourth graders. The authors focused on physical and verbal forms of overt/direct victimization. These types of victimization are likely to directly cause damage to victims' well-being. Children completed peer nominations of overt and relational victimization. Teachers completed the Social Behavior Rating Scale (see Schwartz, Chang, & Farver, 2001) that assessed overt and relational victimization rates. Academic adjustment was assessed using the SAT results and GPAs at the end of the school year.

Frequent victimization by peers was associated with poor academic functioning as was demonstrated through links to lower grade point averages and SAT scores. Victimization in the first year of testing was also shown to be negatively associated with later academic functioning. This suggests that children who are affected by victimization

may have difficulties sustaining academic progress over time. These results imply that experiences with peer victimization may lead to future academic difficulties through disruptions in the learning process. Students who fall behind in class because they are preoccupied with victimization by peers may have trouble overcoming academic difficulties and without intervention or a change in their learning environment may not be able to overcome the potential lasting effects victimization may have on later adjustment and achievement (Schwartz et al., 2005).

Woods and Wolke (2004) assessed the relationship between direct and relational bullying and SAT test results and teacher assessments. Their objective was to examine variables that predict SAT results and teacher assessments and determine whether SAT results and teacher assessment results contribute to the prediction of being involved in direct and/or relational bullying. The sample consisted of 74 classes in 34 different schools. There were a total of 1016 children involved. The children were assessed at two time points with ages ranging from six to seven at time one and eight to nine at time two. Forty nine percent of the population was male and fifty one percent female. Because the current study focused on victimization in general, it is important to compare and contrast bullying (as used in the Woods & Wolke (2004) study) and victimization.

According to Ladd, Kochenderfer, and Coleman (1997) victimization is defined as a relationship between a child and his/her peers where he/she is the target of physical and/or verbal abuse. Bullying, as explained by Woods and Wolke (2004), can be defined as intentional, repeated acts of physical, verbal and relational abuse. A power difference is prevalent where bullying occurs (Bradshaw, C.P., Sawyer, A.L., & O'Brennan, L.M., 2007). Bullying is therefore a subcategory of victimization. This is relevant because

bullying and victimization constructs include many of the same behaviors.

Woods and Wolke (2004) conducted a bullying interview to investigate friendships and peer relationships. This interview was done using the Olweus (1993) Bullying Questionnaire. From these responses, eight total groups were created: physical bullies, physical victims, physical bully/victims, and physical neutrals. The same four groups were created with relational bullying. Adolescents were asked questions that addressed relational and physical bullying behaviors. The Strengths and Difficulties Questionnaire (Goodman, 1997) was given to parents to look at hyperactivity, emotional symptoms, and prosocial behavior. These were used to calculate a difficulties behavior score (Woods and Wolke, 2004). A health questionnaire (Wolke, Woods, Bloomfield, et al., 2001) was also computed to assess the physical health and emotional health of the child. Curriculum assessments consisted of the SAT and were used to evaluate student's performance. At the end of the school year teacher assessments were used to evaluate changes in a student's performance compared to SAT results.

For the purpose of the current study, the bullying results were not of particular interest, but rather the results for those who had been bullied/victimized were of most interest. Woods' and Wolke's (2004) results showed that overt victims did not differ from neutral children on measures of academic ability, however, relational victimization, in contrast, predicted lower academic achievement. Although there was no significant relationship between achievement and overt victimization, the link was significant between relational victimization and achievement. The authors suggest that the relationship between peer victimization and achievement was possibly not direct but may have been mediated by other factors/processes (Woods & Wolke, 2004). Other

mediating factors between victimization and achievement could include, but are not limited to, classroom participation, classroom environment, and teacher expectations. Children in a classroom with a higher likelihood of victimization tended to display greater adjustment difficulties (see section below for discussion of potential classroom differences in the current study). Adjustment difficulties have been demonstrated to lead to lower achievement and a lack of engagement.

Kochenderfer and Ladd (1996) examined competing models that looked at whether peer victimization was a cause or consequence of school maladjustment. The objective of this study was to determine if peer victimization was a precursor of school maladjustment, whether the effects were limited to the period of victimization and whether stable peer victimization experiences are the cause or consequence of adjustment difficulties. The sample in this study consisted of 200 kindergartners in the Midwestern United States. The students were evaluated during the fall and spring semesters of kindergarten. Self reports were used to measure perceptions of peers and the extent to which the child had experienced aggression, school attitudes and involvement, and loneliness at school. Achievement was measured using the Metropolitan Readiness Test.

Results of this study indicated that 20.5% of the sample reported moderate to high levels of victimization in both the fall and spring of kindergarten. Less than 9% of those victimized were shown to be stably victimized. For the Fall Only Victim group, feelings of loneliness decreased over time as victimization decreased. The Fall Only Victim group was still, however, found to be more avoidant of school in the spring than the non-victim group. For the Spring Only Victim group, school adjustment difficulties emerged as peer victimization increased. Children who were exposed to higher levels of

victimization throughout kindergarten evidenced significant increases in feelings of loneliness from fall to spring and a decrease in school liking. Findings supported the idea that victimization is an antecedent of loneliness and school avoidance. The length of children's victimization experience was related to the level of school adjustment problems. These findings demonstrated that victimization may negatively impact adjustment, especially if it is a stable part of a student's life (Kochenderfer & Ladd, 1996).

Ladd, Kochenderfer and Coleman (1997) presented a study of classroom peer acceptance and victimization as well as other systems that may contribute to school adjustment. The objective of this study was to look at the importance of relationships in classroom adjustment. Three types of relationships were examined: friendship, peer acceptance, and peer victimization.

The sample consisted of 200 children from 16 kindergarten classrooms (same sample as 1996 study, above). Peer victimization was measured by having children report the extent to which they experienced aggression from peers: physical aggression, direct verbal aggression and indirect verbal aggression. School affect was measured by gathering information on children's loneliness and social dissatisfaction. Other measures included school liking and avoidance, as well as academic readiness.

The results of this study suggested that different peer relationships may have greater or lesser adaptive significance depending on which adjustment outcome is being examined. Peer victimization was the only relationship type that positively predicted loneliness, and also accounted for significant variation in school liking. Out of all relationship types, peer victimization was also the only measure that was consistently

associated with school avoidance (Ladd, Kochenderfer, & Coleman, 1997).

Victimization forms are often measured using a single variable. Much of the research on the relationship between victimization and achievement looks at victimization in general and there is little research that looks specifically at different forms of victimization and the relationship between each form and achievement. Woods' and Wolkes' (2004) findings showed that different forms of victimization (relational and direct) can have different relationships with achievement outcomes. The current study will be beneficial in that it will also look at victimization as existing in both overt and relational forms. Results such as those of Woods and Wolke (2004), suggest that there is a need to look at effects from different forms of victimization. The current study will contribute to what is known about how different types of victimization may independently affect achievement and adjustment outcomes.

Victimization: links to internalizing symptoms.

Prinstein, Boergers, and Vernberg (2001) examined relational and overt victimization and coexisting depressive symptoms. Overt and relational victimization were measured using the Peer Experiences Questionnaire (Vernberg et al., 1999). Depressive symptoms were measured using The Center for Epidemiological Studies-Depression (CES-D) scale where participants used a Likert-type response scale to indicate how often they have experienced each depressive symptom.

The results from this study showed that relational aggression explained a significant proportion of variance in girls' internalizing outcomes (depression, loneliness). Results also demonstrated that adolescents who were the targets of their peers victimization, particularly relational victimization, reported higher levels of

internalizing symptoms when compared with others in the sample. In this study, this finding emerged for both boys and girls. Overt victimization was also associated with higher levels of depressive symptoms for boys, but not for girls. Those who were victimized by both forms of victimization (overt and relational) had higher levels of depression than those individuals that only experienced one form of victimization (Prinstein, Boergers, & Vernberg, 2001).

The results of this study are important because they assessed both forms of victimization rather than a single victimization construct. These results showed that overt and relational victimization can have different effects on those being victimized. It is important to study the link between victimization and internalizing symptoms overall, but with few findings on the role of multiple forms of victimization and links to the development of internalizing symptoms, future research would benefit from further examination of how each form of victimization may contribute independently to internalizing symptoms. These results also demonstrate how links from victimization to depression tend to differ for males and females.

Other studies examining internalizing symptoms commonly found that peer rejection (typically associated with victimization) was associated with later internalizing disorders (Lochman & Wayland, 1994). Peer rejection and aggression were associated with an increase in internalizing symptoms over time. Some evidence has shown that boys who are chronically rejected were especially susceptible to these symptoms (Burks, Dodge, & Price, 1995). In a study done by Ladd and Burgess (1999), peer rejection in childhood was associated with loneliness up to three years later. These sets of findings demonstrate how peer rejection and associated victimization may have a significant effect

on psychological adjustment and the development of internalizing symptoms.

Understanding the relationship between specific peer experiences and later adjustment is very important and psychological adjustment and potential differences between relational and overt victimization and internalizing problems are one piece of the puzzle that must be understood in order to fully understand the peer experiences (Prinstein, et.al., 2009).

The findings cited throughout this section have demonstrated the relationship between victimization and internalizing symptoms. As with many other outcomes studied in relation to victimization, much of the research on internalizing symptoms has been done using victimization in general terms. The Prinstein, et. al. (2001) findings demonstrated that relational and direct forms of victimization may be associated with different levels of internalizing symptoms and males and females also tend to differ in how they respond to these different forms of victimization and the levels of internalizing symptoms associated with that particular form of victimization. The current study will further contribute to sets of findings such as those by Prinstein, et. al.(2001), by examining both overt and relational forms of victimization and there potentially different relationships with internalizing symptoms along with testing for potential gender group differences.

Victimization: links to classroom participation.

Participation is typically considered a form of classroom engagement. Support for this link can be found in many studies that demonstrate how victimized children are at greater risk for school adjustment problems. These adjustment problems include, but are not limited to less frequent participation in classroom activities and lower levels of motivation to achieve in school (Ladd, Birch, & Buhs, 1999; Ladd & Burgess, 1999).

Iyer, Kochenderfer, Eisenberg and Thompson (2010) examined peer victimization and potential links to school engagement. Peer victimization is seen as a stressor on students' emotional and cognitive resources that interferes with his/her ability to engage in the demands of school (Ladd and Kochenderfer, 1996). This study hypothesized that victimized children are so preoccupied with victimization, that they have difficulty focusing on school tasks and tend to lack the effortful control (ability to focus attention) to engage in school activities.

This was a longitudinal study where children age six to ten were followed across three time periods. Effortful control was measured using teacher reports. Victimization was assessed using self reports, peer reports, and teacher reports (MSPVI; Ladd & Kochenderfer-Ladd, 2002). Reports were gathered on verbal victimization, relational victimization, physical victimization, and general victimization. Questions pertaining to each victimization type were rated high or low on a Likert type scale (high meaning I experience this form of victimization often and low meaning I never experience this form of victimization). School engagement was measured using teacher ratings of students' independent and enthusiastic participation along with self reports of school avoidance.

Peer victimization was associated with school disengagement at all time points. These results support the current study's hypothesis that higher levels of victimization will lead to lower levels of engagement. Although effortful control was not the focus of the current study, victimization in this study was shown to be negatively associated with effortful control and suggests further aspects of associated processes. A student's inability to demonstrate effective effortful control due to high levels of victimization reduces the student's ability to engage in classroom activities. The type and intensity of

victimization occurring may reduce the students ability to focus and engage in academic tasks (Iyer, Kochenderfer, Eisenberg & Thompson, 2010). One potential limitation to this study is that although students reported on four forms of victimization, scores on all four were averaged to create a single composite victimization score. The study conducted here will contribute to the victimization and links to participation literature by assessing different forms of victimization (overt and relational), in order to understand the potential differences in effects that forms of victimization may have on classroom participation.

Peer rejection, typically associated with victimization, has shown been shown in previous research to lead to more negative peer interactions and higher levels of peer maltreatment. Rejected children also tend to become marginalized from classroom peer activities. This occurs because as children are viewed as rejected or primed for maltreatment, peers tend to not associate with them. This tends to lead to disengagement from classroom activities as a way to avoid further maltreatment. This disengagement impacts learning and in turn impacts achievement (see Buhs & Ladd, 2001). These findings also support the current hypothesis that higher levels of victimization within the classroom may contribute to lower levels of engagement and therefore lower achievement in the classroom.

Children who experience positive relationships with their peers, in contrast, tend to be more engaged and in turn excel at academic tasks which would support the idea that lower levels of victimization may be associated with higher levels of participation. Wentzel (2009) wrote a review that looked at previous research on how students' social competence with peers is related to academic motivation and accomplishments.

Wentzel (2009) discussed some key studies in peer relationships and participation and academic achievement. Research shows that rejected children tend to experience more academic difficulties than popular children. Peer acceptance has also been related to motivation and satisfaction with school. We know that peer relationships promote positive outcomes in achievement, but how? Ongoing social interactions teach children how to become accepted and competent members of social networks. Supportive relationships are also likely to motivate children to adopt the goals and values of their friends as their own and become more engaged. Children who do not experience those supportive relationships may be experiencing higher levels of victimization and therefore this may be contributing to lower levels of classroom participation and lower achievement.

While Wentzel (2009) discussed how students' beliefs about their academic ability influence their level of engagement. Healthy, positive peer relationships allow individuals greater availability of resources and chances for assistance. Although not the focus of the current study, it may be the case that those who are victimized do not have the same peer resources and support needed to properly engage in classroom activities. The current study will contribute to findings on victimization and participation by looking at two forms of victimization (overt and relational) and how each of these forms may affect participation independently. The majority of studies done on participation examine the relationship between victimization in general and participation, rather than examining multiple forms of victimization. This is one potential area of growth for this research field.

Positive relationships with peers are likely to contribute to more positive school

engagement and adjustment. As hypothesized in the current study, lower levels of victimization may lead to higher levels of engagement and achievement as well as lower levels of depression. Classrooms that focus on developing more supportive peer relations may have students that engage in more positive interactions (less victimization) with peers and hold more positive orientations toward academic outcomes (higher engagement and achievement). Although not tested directly in this study, the following research will demonstrate how these types of environments may lessen victimization and why this is so important.

Classroom/teacher level effects as potential moderators.

Evidence suggests that factors such as teacher/classroom level effects may also affect achievement, internalizing symptoms, and classroom participation. While the following studies examined the role of the teacher/classroom directly, the current study only examined these possible relations indirectly by investigating possible classroom group-level differences within the hypothesized model.

Gazelle (2006) examined the moderating effects of class climate and peer relations among first graders. This study examined classroom emotional climate and its ability to moderate the relationship between children experiencing negative peer interactions/relations and depressive symptoms. Participants were 1,364 children from a National Institute of Child Health and Human Development (NICHD) study of Early Child Care. Classroom climate and the presence of victimization were rated by observers, and depressive symptoms were assessed by teachers using a version of the Child Behavior Checklist (CBCL) Depression scale (see Clarke, Lewinsohn, Hops, & Seeley, 1992). Classroom climate was measured using an observation system during

winter to early spring of the first grade year. Positive climate was characterized by having a degree of pleasant conversation and laughter in the classroom with a teacher demonstrating positive affect toward the children. Negative climate measured the degree in which the environment was hostile and the teacher would yell. Finally, effective classroom management measured the degree to which children followed rules and needed few reminders from the teacher.

Children who experienced more negative peer relations and poor emotional adjustment developed less adaptive outcomes when the classroom environment included lots of disruption, conflict or disorganization. This study suggested that a negative classroom climate was shown to be detrimental to children in general. In a classroom experiencing a lot of chaos or disruption, peer adversity (including victimization) may not be as obvious, which could lead to less teacher intervention and therefore more negative outcomes. It may be the case that in a classroom with a negative emotional climate, the opportunity for victimization is greater due to less teacher intervention or other factors. This could potentially lead to lack of engagement and/or greater levels of depressive symptoms (Gazelle, 2006).

It is important to look at how these different climates and expectations of teachers affect students and how; overall, a positive classroom environment with lower levels of victimization tends to support children's engagement and adjustment (Gazelle, 2006). Wentzel (1993) discussed classroom rules and social behavior as an independent predictor of academic performance. If classroom rules are designed to promote positive interactions and discourage antisocial behaviors (such as victimization), there would be a direct relationship between these positive participation patterns and academic

achievement. These findings give reason to believe that teachers are likely to have several pathways or avenues of effects on classroom participation and peer interactions (such as victimization levels) within the classroom and that these classroom differences may impact adjustment.

Kochenderfer-Ladd and Pelletier (2008) looked at specific teacher views and beliefs about bullying and victimization and how this is related to classroom adjustment. Many students may feel as if teachers are unaware of the bullying that takes place in their classroom. Evidence has suggested that if teachers intervene in a timely and consistent manner that they can be effective in preventing peer victimization (Craig, et al., 2000).

The sample in the Kochenderfer-Ladd and Pelletier (2008) study included teachers and their students from four elementary schools (34 teachers and 363 students). Teachers' views on victimization were organized into three categories of belief; assertive, normative and avoidant beliefs. Those teachers with assertive views thought that children who stand up for themselves will not be victimized. Normative beliefs were characterized by the belief that peer victimization is normal or a part of growing up. An avoidant style endorsed the belief that children who avoid bullies or victimizers will not be victimized. Teachers' strategies for managing classroom bullying were also measured. These strategies included punishment, advocating assertion, advocating independence, involving parents, advocating avoidance and separating the students.

Results indicated that separating students appeared to be the most effective management strategy and was linked with lower levels of peer victimization. Advocating avoidance was linked with higher levels of victimization. Children who sought out and received adult support reported lower levels of peer victimization. This finding

reinforces the notion that a teacher's role in the classroom can be very beneficial in both supporting participation and lowering the levels of victimization in the classroom. There may be other methods of classroom management, but in this study it was demonstrated the importance of a positive and well managed classroom environment in shaping a classroom where victimization does not prohibit children from achieving (Kochenderfer-Ladd & Pelletier, 2008). This kind of environment is one where the teacher is aware of victimization and acts on it.

The type of beliefs teachers have about victimization, the classroom management strategies and the environment the teacher creates within the classroom may all foster or discourage victimization. If less victimization occurs the children in the classroom likely have more opportunity to engage and this may lead to higher achievement. This study demonstrated that how a teacher manages his/her classroom may influence the level of victimization that occurs within that classroom.

These findings, in general, demonstrate a direct relationship between the role of the teacher in the classroom and the level of victimization within the classroom. If the teacher influences victimization levels in this way, it may be true that engagement and social support also tend to increase in a classroom that promotes a positive environment such as this. Previous studies discussed have also shown that these types of teacher behaviors could lead to higher achievement and lower levels of internalizing problems.

Given the potential effects of victimization, the importance of the classroom environment appears to be central to understanding possible victimization effects on engagement and adjustment. The different forms of peer relationships discussed are developed where children a large amount of their time - the classroom setting. The

environment created by the teacher may partially contribute to the likelihood of victimization to occur in that particular setting and how it may affect engagement as well as achievement and internalizing symptoms.

The availability of the different types of relationships mentioned may also vary by classroom. Depending on the policies enforced in the classroom and other teacher behaviors, different teachers might be more or less likely to foster the development of different kinds of relationships. The likelihood of victimization may be different in one classroom versus another depending on the teaching strategy used (this includes instruction techniques), teacher preferences (what type of classroom management is being used), and overall classroom environment (is this a classroom that intervenes when victimization is present). The opportunity for engagement and positive relationship development could also vary by classroom and depending on the classroom environment; certain supportive peer relationships might be more likely to occur. All of these factors are related to potential classroom differences.

It could be hypothesized that a classroom with a negative environment (such as lack of instruction or order) may foster behaviors that increase the amount of victimization present in that particular classroom. Increased victimization has been shown to lower levels of engagement and lead to decreases in achievement. The increased amount of victimization in a classroom may also have potential to influence the likelihood of the development of internalizing symptoms. With the data gathered for the current study, there were no measures of classroom instruction, intervention or classroom environment, but the current analytic strategy will examine potential classroom level differences indirectly within the model estimated. It would be beneficial for future

research to examine these differences directly in order to determine which factors or processes within the classroom are contributing to these potential differences in the occurrence of victimization.

The preceding hypotheses and rationales have demonstrated how teachers and peers have the ability to significantly influence the socialization process. Results from the Kochenderfer-Ladd and Pelletier (2008) study indicated that teachers tend to believe bullying is more normative among boys and were more likely to advocate independent coping for boys. The authors maintained that it is possible that because teachers believe bullying is more normative for boys, they do not feel the need to intervene when a male student is being victimized. Results such as these emphasize the need for tests of potential classroom level differences and further examination of how these potential differences may differ not only by classroom, but by gender within the classroom.

Gender effects as potential moderators.

Research on peer relationships has suggested that behavior in the peer context may display gender differences in victimization, participation, and adjustment as well. Biological theories emphasize the role of hormones and how testosterone, for example, may contribute to the level of male behaviors such as higher activity levels or greater rough and tumble play. Cognitive theories, in contrast, emphasize gender role development. Typical behaviors of each gender are classified into schemas by children and children use these schemas as mental representations that guide behavior. Social learning theories also suggest that children develop an understanding of gender differences through modeling same sex others. These types of modeling behaviors are then positively or negatively reinforced depending on the importance and value placed on

that particular behavior by peers (Rose & Smith, 2009). Modeling may be especially important in the current study due to the importance of adults in the classroom and peers and how these two groups have the ability to shape the behaviors that are reinforced in that particular classroom. Biological, cognitive, and social aspects of gender differences all certainly may play a large role in how children respond to or engage in victimization behaviors and may affect later adjustment as well. Understanding these different theories and their relationship to gender may help to better interpret results using multiple forms of victimization and each forms link to participation and achievement and adjustment and how this relationship potentially differs by gender.

Overt aggressive behavior (physical and verbal) is perhaps more strongly associated with goals that are important for boys, concerning their power and position within their peer group (Crick, 1997). Girls on the other hand, are perhaps more likely to use relational forms of aggression as a means of achieving social goals and popularity (Crick, 1997). This is important in the current study, because it may be the case that the model fits differently depending on gender and victimization type.

Attar-Scwartz and Khoury-Kassabri (2008) examined overt and relational forms of victimization and potential links to gender. The authors hypothesized that boys would report higher levels of overt victimization and less relational victimization than girls. This hypothesis makes sense when considering what is known about biological, cognitive and social learning theories of gender. The findings of this study were part of a larger national survey of school violence conducted on children grades 4 to 11 throughout Israel. Victimization was measured using a self-report questionnaire. Students responded by describing how many times they were victimized in the last month. This

study separates victimization into three categories: verbal, physical and indirect (the current study combines verbal and physical forms of victimization into overt victimization and indirect victimization is termed relational victimization). The results of this study showed that only 72% of girls reported being verbally victimized while 82% of boys reported this form of overt victimization. Relational victimization was reported by 66% of girls in the sample and 58% of boys. The current study also examined these two forms of victimization and how each form was associated with participation, achievement and depression.

Crick and Grotpeter (1995) found that in a study of third through sixth grade children, girls were more likely to be relationally aggressive than boys. Relational aggression was defined as aggressive behaviors that are aimed at harming another person's social relationships. Other studies such as Crick (1995) indicated that girls expressed that this type of aggression was more hurtful than boys expressed it to be. Recent research on gender differences in peer relationships suggests that gender segregation contributes to the development of gender typed interactions. The tendency to interact with same gender peers was found to predict increases in gender typed behaviors over time. For boys, greater exposure to same gender interactions, predicted higher levels of rough and tumble play and aggression over time (Martin & Fabes, 2001).

This is relevant to the current study because it may be that girls in the hypothesized model could be affected more by relational victimization and therefore would demonstrate lower levels of participation and achievement and higher levels of depression whereas boys may demonstrate the same linkages but with overt victimization. It is an objective of the current study to further investigate how different

forms of victimization and links to participation and achievement and adjustment outcomes potentially differ by gender.

Prinstein, Boergers, and Vernberg (2001) examined relational and overt forms of victimization and adolescents' coexisting adjustment outcomes including depression, loneliness, and externalizing behaviors. Their sample consisted of 566 adolescents, 55% of which were female, in grades 9-12. Results of this study demonstrated that relational aggression explained a significant proportion of variance in girls' externalizing behaviors and social-psychological adjustment. Relational victimization played a much larger role in internalizing outcomes for girls than boys. For boys, but not girls, overt victimization was associated with depressive symptoms and higher levels of loneliness. Boys that used relational victimization exclusively or along with overt victimization had higher levels of loneliness than relationally aggressive girls (Prinstein, Boergers, & Vernberg, 2001). The current model also addressed links from victimization to internalizing symptoms and tested for possible gender group differences.

The previous literature has shown how relational and overt victimization can influence participation, achievement, and depression. Looking at research on gender differences in peer relationships, boys and girls appear to have tendencies to interact in different ways largely due to the reinforcement of gender -typed behaviors. The reinforcement of many of these types of behaviors whether it is by teachers, parents, or peers, contributes to the types of victimization seen and the gender differences in victimization types. Prinstein, Boergers, and Vernberg (2001) also demonstrated how different forms of victimization also affect adjustment outcomes. The current study will look at links from overt and relational forms of victimization to participation,

achievement and depressive symptoms. Although actual gender differences were not measured, gender was examined to test for moderation within the hypothesized model.

The current study, hypotheses and model.

The hypothesized model (Figure 1) is presented below. First, paths were included to represent the hypothesis that as forms of victimization (in general) increase participation will tend to decrease. Lower participation rates were hypothesized to predict lower achievement (see (Iyer, Kochenderfer, Eisenberg & Thompson, 2010 & Kochenderfer & Ladd, 1996) and higher levels of internalizing symptoms such as depression.

Because there is evidence to suggest that victimization presents itself in two distinct forms, the victimization construct was represented by overt victimization and relational victimization variables (see Crick, & Grotpeter, 1996; Klomek, Marrocco, Kleinman, Schonfeld & Gould, 2008).

Hypothesized Structural Model



Figure 1. Hypothesized mediating processes within the model

On the basis of the preceding hypotheses and rationales, relationships were specified among the study variables. The path diagram for the hypothesized model (see Figure 1) was constructed as follows: First, paths were included from both forms of victimization to participation to represent the hypothesis that at higher levels of victimization, participation will tend to be lower. Next, paths from participation to depression and achievement were included to support the hypotheses that lower classroom engagement precipitates underachievement and maladjustment (see Kochenderfer & Ladd, 1996). Finally, paths were included from both victimization predictors to both outcomes (achievement and depression) to examine and control for the hypothesis that peer victimization may be a direct precursor of school maladjustment (see Wentzel, 2009). The hypothesized model was then termed the Full Mediated Model.

Victimization.

Because there is evidence that shows that victimization presents itself in two distinct forms, victimization in the current study has been operationalized into two distinct variables (overt and relational). Items tapping into exclusion (such as not letting another child join in an activity or ignoring another child) were also used in operationalizing the victimization variable as evidence shows that these types of interactions are an important aspect of relational victimization (see Buhs, McGinley & Toland, 2010).

Participation.

Evidence shows that children who are victimized tend to demonstrate lower levels of engagement (see Ladd, Herald-Brown, & Reiser, 2008). Research has shown that between grades five and seven, something is taking place in the development of this age

group that is influencing engagement, achievement and internalizing symptoms (see Yibing & Lerner 2011), which is why it is important to study these linkages for this age group, where this trend possibly emerges. The current study will examine the link between both forms of victimization and participation and investigate potential differences between victimization forms.

Adjustment outcomes.

Four indices of achievement were combined to operationalize a more representative, general achievement score. Due to school district constraints we could not obtain actual GPA, and instead a self-report of performance was used. Research has shown advantages and disadvantages of the use of self-report and self-report has been shown to open up avenues of research that would not be possible otherwise (Stone, A., Turkkan, J., Bachrach, C., Jobe, J., Kurtzman, H., & V. Cain, 2000). Cassady (2001) found the correlations between actual and self reported SAT scored to be 0.88, while a meta-analysis done by Kuncel, et. al. (2005) reported a correlation of 0.84 between actual and self-reported gpa from 91 different samples. These results demonstrated a relatively high level of reliability and validity with the use of self reports as achievement measures.

Late childhood has been shown to be the highest risk period for depressive disorders (Kovacs & Devlin, 1998). Internalizing disorders co-occur with one another and the developmental transition that is taking place from middle to late childhood in the current sample is important to examine due to the high risk nature for one or multiple internalizing problems to emerge during this time period. This is why depressive symptoms were measured with this age group in order to look for the presence of these symptoms with the presence of victimization and lower levels of engagement.

Potential moderators: classroom and gender.

The potential moderators in this model are possible differences in the classroom environment as well as possible effects linked to gender differences. The environment provided by the teacher can either foster or reduce behaviors such as victimization. The studies discussed (Wentzel & Caldwell, 1993; Kochenderfer-Ladd & Pelletier, 2008) have demonstrated that a positive environment/teacher relationship can promote engagement and social support systems in the classroom or on the other hand a negative environment/teacher relationship can be detrimental to engagement and adjustment both academically and internally. All of these factors have been associated with outcomes such as underachievement and depression (see Gazelle, 2006). In the current study specific classroom environment differences were not tested, but possible classroom level differences could suggest a need to test these differences directly.

It is also important to look at gender because previous research has shown that victimization is experienced differently by males and females, for example girls are more likely to be relationally victimized than boys (Crick & Grotpeter, 1995). Girls have also been shown to be more affected by this type of victimization (Crick, 1997). Findings have demonstrated that relational victimization contributes to higher levels of internalizing symptoms and lower achievement for girls while overt victimization has been linked to higher levels of internalizing symptoms and lower achievement for boys (Prinstein, Boergers, & Vernberg, 2001).

Chapter III

Method

Participants.

The data used here were gathered from participants that were part of a larger longitudinal investigation of school adjustment and peer relationships across grades 4-7. This particular study includes only concurrent data drawn from the fifth grade time point for the sample. The fifth grade sample was used because of interest in students approaching the developmental transition to middle school and because this time point provided the largest number of classrooms with complete data available (N=21). The average classroom size was 16.24.

The sample was composed of a total of 377 participants, 201 of which were female. The mean age of the sample was ten. Fifty three percent of the sample was Hispanic (N=200) and forty one percent was Caucasian (N=158) other groups in the sample included 2% Asian American, 1% African American, and 1% Native American. Data was collected in two Midwestern public school districts (21 classrooms). Students completed questionnaires administered by the principal investigator and trained graduate students. Written, informed parental consent and youth assent was obtained from all participants.

Measures (See Table 1 for means, standard deviations, and correlations)

Victimization and exclusion.

Children completed a 27-item Self-report of Victimization and Exclusion (SVEX, Buhs, McGinley & Toland, 2010) measuring overt and relational victimization (including social exclusion). These items were drawn from established victimization self-reports

(see Crick & Grotpeter, 1995; Schwartz et al., 2005). The scale used here consisted of eight overt and ten relational items. Students used a five point frequency response scale regarding their victimization at school (1 = almost never, 3 = sometimes, 5 = almost always). Examples of items tapping overt victimization included: how often do the kids at school do the following: threaten to hurt you or beat you up, hit, kick or push you, and items tapping relational victimization included: tell other kids not to be your friend, say bad things about you, and leave you out of what they are doing? The relational victimization scale had a Cronbach's alpha of .91 and the overt victimization scale displayed an alpha of .93. (See Table 1 for all means and standard deviations; see appendices for actual measures)

Classroom participation.

To obtain the classroom participation variable, teachers completed items from the cooperative (4 items) and the autonomous participation (4 items) subscales of the Teacher Rating Scale of School Adjustment (TRSSA; Birch & Ladd, 1997). The two subscales were moderately correlated ($r = .71^{**}$) and therefore were summed to create a composite score for participation. These items were measured using a three point scale (0=doesn't apply, 1=applies sometimes, 2=certainly applies) and were averaged to create a score for each participant. Alpha for the combined participation subscales was .81.

Achievement.

A self report on performance was used to indicate achievement (Stone, A., Turkkan, J., Bachrach, C., Jobe, J., Kurtzman, H., & V. Cain, 2000). The achievement variable was composed of English, Math, History, and Science items. The alpha level for the four items (English, History, Math, Science) in this sample was .69.

Internalizing symptoms.

The Center for Epidemiological Studies- Depression measure (CES-D; Radloff, 1991) was used to indicate depressive symptoms (7 items). The CES-D included items such as “I felt depressed”. Alpha for this subscale was .71. The mean of these seven items was used to develop an internalizing score for each individual.

Chapter IV**Results****Analytical plan.**

Prior to structural equations modeling (SEM) analyses, bivariate correlations were calculated to determine whether relationships established conformed to expectations (see Table 1 for bivariate correlations, means, and standard deviations). After evaluating the relationships demonstrated by the bivariate correlations, the next step in creating the model was to test for mediation using a direct model: victimization types predicting outcomes via direct pathways. After testing the direct model, the Full Mediated Model was tested and Mplus software (Muthén & Muthén, 2005) was used to estimate the fit of the model to the data and to obtain estimates for the structural path parameters. Model evaluation was then conducted by determining the degree to which data from this investigation demonstrated the proposed linkages included by the hypothesized model. To test for further mediation, Mplus estimates of indirect effects were also obtained from model estimates (also for gender, below). After establishing the model that fit the data well, the model was further modified according to conceptual guidelines to improve fit and parsimony (Reduced Mediated Model).

Moderation: gender model.

The Reduced Mediated Model (created by eliminating non-significant pathways from the hypothesized model) was also evaluated for moderating effects by examining the extent to which the model might differ for boys and girls. The Reduced Mediated Model was run using a Multigroup SEM Comparison using Mplus software (Muthén & Muthén, 2005) in order to test for moderation or potential gender differences within the model. Past evidence has shown that girls are more likely to be relationally aggressive than boys and that relational aggression explains a significant proportion of variance in girls' externalizing behaviors and social-psychological adjustment. Relational victimization has been shown to play a larger role in relation to internalizing outcomes for girls. For boys, but not typically for girls, overt victimization has been associated with depressive symptoms and higher levels of loneliness (Crick and Grotpeter, 1995 & Prinstein, Boergers, and Vernberg, 2001).

Moderation: classroom model.

The Reduced Mediated Model was also tested for potential moderating effects possibly linked to classroom factors using Two Level HLM Analyses estimated within SEM (Mplus, Muthén & Muthén, 2005). Previous research suggests that it may be the case that the model parameters could vary by class due to differences in teacher instruction, student/teacher relationship quality and classroom environment (see Ladd, 2003, Hirschstein et al., 2007, & Ladd, Kochenderfer, & Coleman, 1997). If the classroom predictor accounts for high levels of variance within the model, it would support the idea that a significant amount of variance in the model can be attributed to between-level classroom differences.

Table 1

Means, Standard Deviations, and Correlations for Victimization, Participation, Internalizing Symptoms, Gender and Achievement

Variable	1	2	3	4	5	6
Victimization						
Overt (1)	--	.81**	-.31**	.31**	-.07	-.15**
Relational (2)	.81**	--	-.19**	.40**	.06	-.13**
Engagement						
Participation (3)	-.31**	-.19**	--	-.21**	.12*	.40**
Internalizing Symptoms						
Depression (4)	.31**	.40**	-.21**	--	.03	-.32**
Demographics						
Gender (5)	-.07	.06	.12*	.03	--	.06
Achievement						
My Performance (6)	-.15**	-.13**	.40**	.32**	.06	--
(Self Report)						
Mean	1.79	2.02	1.45	2.10	1.53	3.83
SD	.94	.91	2.32	.76	.500	.83

Note. Gender coded as 1 = boys, 2 = girls

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

Model fit.

The criteria used to evaluate model fit (see Hu & Bentler, 1999) included the Chi-Square test of model fit, Steiger's root-mean-square error of approximation (RMSEA values below .05 indicate a very good fit and those below .10 indicate a reasonable fit; Steiger, 1990) and two other common fit indices: the comparative fit index (CFI >.95; Bentler, 1990) and the standardized root-mean-square residual (SRMR < .05; Hu & Bentler, 1999). According to Hu and Bentler (1999) this collection of fit statistics conforms to recommended strategies for assessing the overall fit of structural models.

Full Mediated Model

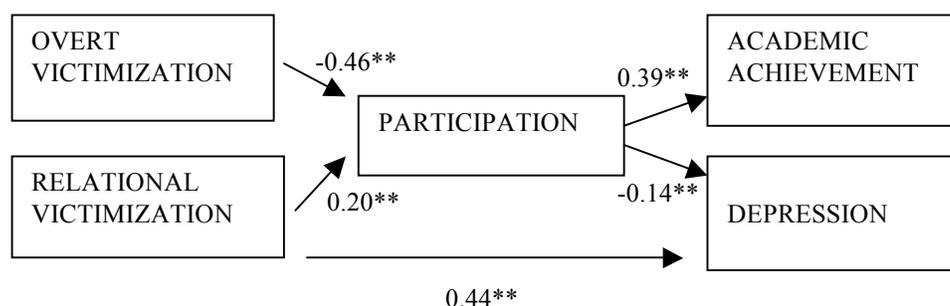


Figure 2. Full Mediated Model Results

Note. Direct paths from overt and relational victimization to achievement were also modeled but are not pictured as well as direct paths from overt victimization to depression. (**indicate significant path weights; $p < .01$)

The model fit statistics for the Full Mediated Model are as follows. The chi square value was 0.00 (df=0). The CFI value was 1.00 and the RMSEA value was 0.00.

The SRMR was 0.00. The results in this just-identified model suggested that path estimates were in the hypothesized directions, but the model was saturated and there was no interpretable set of model fit statistics. The significant coefficient estimates are presented in Figure 2. The non-significant paths were the path from overt victimization to achievement and the path from relational victimization to achievement. Also non-significant was the link between overt victimization and depression. In order to improve parsimony and achieve interpretable model fit statistics, modifications were made to the model by dropping the non-significant paths. This new model was labeled the Reduced Mediated Model.

Reduced Mediated Model

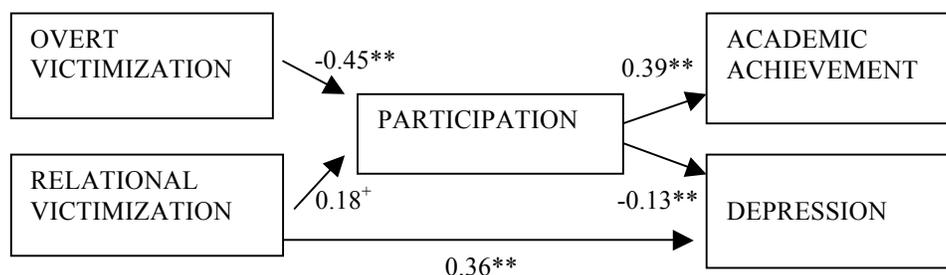


Figure 3. Reduced Mediated Model including path coefficients

(** indicate significant path weights; $p < .01$, $^{+}$ indicate significant path weights; $p < .10$)

The model fit statistics for the Reduced Mediated Model were as follows. The chi square value was 3.27 (df=3). The CFI value was 0.998 and the RMSEA value was 0.01. The SRMR was 0.02. These fit indices indicated an acceptable model fit. The results in this model suggested that overt victimization had a significant negative relationship with

participation (-0.45); as overt victimization rates were higher, participation tended to be lower. An unexpected finding was the weak but positive relationship between relational victimization and participation (0.18) These results also indicated that participation and achievement displayed a significant positive relationship (0.39) suggesting that higher levels of participation were associated with greater achievement. Participation also was found to have a significant negative relationship with depression (-0.13), indicating that as participation was lower; depression was likely to be higher. Finally, relational victimization demonstrated a significant positive relationship with depression (0.36), suggesting that higher levels of relational victimization were associated with higher levels of depression, independent of effects possibly mediated by participation.

Mediation: full model.

In order to test for mediation, estimates of indirect effects for the full model were obtained using Mplus software (Muthén & Muthén, 2005). Indirect effects from relational victimization to achievement were 0.08 (marginally significant, $p < .10$) and overt victimization had an indirect effect on achievement of -0.18 ($p < .01$). Relational victimization demonstrated a non-significant indirect effect on depression with an estimate of -0.03. However, overt victimization yielded a significant indirect effect on depression with a value of 0.07 ($p < .05$).

Moderation: classroom model.

The Reduced Mediated Model was also tested for potential moderating effects possibly linked to classroom factors using Two Level HLM Analyses estimated within SEM (Mplus, Muthén & Muthén, 2005). The classroom group variable was used in the model as a cluster variable. In the data there were a total of 21 classrooms with an

average N of 17.24. Fit statistics for this model indicated an acceptable fit with a chi square value of 14.49 (df=12). The CFI level was 0.98, the RMSEA was 0.02 and the SRMR value was 0.02. These results indicated a reasonable fit, but the model did not fit the data as well as the Reduced Mediated Model without the classroom cluster. After examination of the between level variances it was determined that although all predictors remained significant in the model, the between level variances were very small, and no significant additional variance was explained by the classroom level differences. The expected significant differences between classrooms were not displayed.

Gender Grouping Model

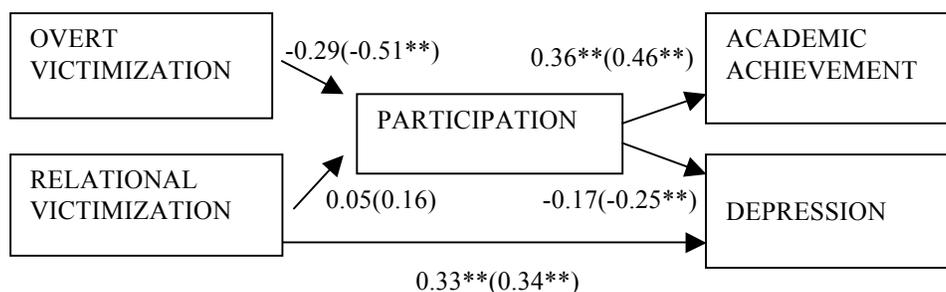


Figure 4. Test of gender differences/moderation: Gender Grouping Model

(**indicate significant path weights; $p < .01$, female coefficients are listed in parenthesis)

Moderation: gender.

The Reduced Mediated Model was also run using a Multigroup SEM Comparison strategy (Mplus, Muthén & Muthén, 2005) in order to determine whether or not gender differences or (moderation) existed within the model. The same model was used for both groups, but path weights differed for boys and girls. The chi square for test of model fit

was 4.68 (df=4). The chi square contributions for each group are as follows: the boys group had a chi square value of 2.13 and the girls group had a chi square of 2.60. The CFI value was 1.00, the RMSEA value was 0.00, and the SRMR value was 0.02. The fit indices indicated a good model fit relative to the Reduced Mediated Model with the whole sample. The model results and path weights for boys and girls are listed in Figure 4 (girls results are in parenthesis).

Differences did exist in the strength of the path estimates within the model for each group. Path weights for boys are listed first and girls in parenthesis second. Path weights from relational victimization to participation were non-significant for both boys and girls (0.05, 0.16, respectively) Overt victimization significantly predicted participation for girls with a negative path weight of -0.51 ($p < .01$). The same path was non-significant for boys (-0.29). The findings on links from depression were also different when comparing boys and girls. The path estimate from participation to depression was not significant for boys, but was significant for girls (-0.17, -0.25, $p < .01$). For boys and girls, depression was significantly associated with relational victimization at 0.33 and 0.34, respectively, ($p < .01$). The relationship found between depression and relational victimization indicated partial mediation and also indicated that for both boys and girls higher rates of relational victimization tended to be associated with higher reports of depression. Coefficient estimates for paths from participation to achievement for boys were significant at 0.36 ($p < .01$). For girls, participation also had a significant path estimate to achievement of 0.46 ($p < .01$). These results suggest that as participation rates were higher, achievement rates also tended to be higher.

Mediation: gender.

In order to test for mediation, estimates of indirect effects were obtained for the gender model using Mplus (Muthén & Muthén, 2005). Results for indirect effects within the model for boys yielded all non-significant indirect effects. Results for girls, however, yielded some significant estimates. Indirect effects for girls are listed first, followed by indirect effects for boys listed in parenthesis. Relational victimization and achievement had a non-significant indirect effect for both girls and boys. Overt victimization yielded a significant indirect effect on achievement for girls of -0.23; $p < .01$, but was non-significant for boys. The indirect effect from relational victimization to depression was non-significant for both girls and boys. Finally, indirect effects from overt victimization to depression were significant for girls with a path estimate of 0.13; $p < .01$, and non-significant for boys.

Chapter V**Discussion**

The hypothesized model (Full Mediated Model) examined potential relationships between the predictors (both forms of victimization), the mediator (participation/engagement), and the outcomes (depression and achievement). After further review of the Full Mediated Model as a saturated model, modifications were made, in part, in order to establish interpretable model fit statistics using only the significant paths estimated in the Full Mediated Model. As expected, higher levels of victimization were linked to lower levels of participation. Also as expected, higher levels of participation were linked to higher achievement and fewer reports of depressive symptoms. Higher levels of relational victimization were linked to higher levels of

depression.

In discussing these findings, the Reduced Mediated Model will first be evaluated, followed by a discussion of the gender group and classroom level findings. The Reduced Mediated Model fit the data well and demonstrated that overt victimization had a significant negative relationship with participation. This finding supports the hypotheses that as reports of overt victimization (kicking/hitting) were higher; participation was likely to be lower. Relational victimization was also shown to be marginally predictive of participation, but contrary to the hypothesis, these findings indicated that when victimization rates were higher, participation was likely to be higher as well.

Previous literature has suggested that victimization is more likely to be linked to lower participation for several reasons. These reasons likely include a negative impact on children's motivation to participate and engage and possible effects on children's level of satisfaction with school (Wentzel, 2009). Previous research has linked peer acceptance (a construct linked to victimization) with school satisfaction, interest in school, and perceived academic competence. If students are experiencing rejection from their peers they are likely to be excluded from academic activities involving their peers and therefore may have a negative perception of their own academic competence. This negative perception has been linked to disengagement and a lack of motivation to succeed academically (see Wentzel & Caldwell, 1997). Positive peer relationships, alternatively, have been linked to higher levels of participation and in some cases this may lead to academic increases.

In explaining this finding we note that bivariate correlations for relational victimization and participation were -0.19 and -0.31 for overt victimization and

participation, respectively. These correlations are consistent with the hypotheses and previous findings, however, upon running the Full Mediated Model, the valence for relational victimization indicated a positive value. This may have been due to a relatively high correlation between the two victimization variables (i.e. multicollinearity effects). These results suggested that a model where these two variables are combined into a single variable may be preferable; this is something that should be examined with an independent sample in future research. This was not done here due, in part, to our conceptual model and interest in potentially independent effects for victimization types, especially within the gender groups.

Participation was shown to be a positive predictor of achievement. These findings are consistent with previous research suggesting that higher levels of engagement/participation may be associated with higher levels of academic achievement possibly due to greater motivation to succeed and more school satisfaction (see Ladd, 2003, Gazelle, 2006, & Wentzel & Caldwell, 1997).

Of the two forms of victimization, relational victimization demonstrated a positive, direct link with depressive symptoms. The direct path from relational victimization to depression indicated partial mediation, suggesting that not all effects in this relationship were mediated through participation and that some other process or processes may be influencing this set of links. Although not examined in this study, these other processes could include those described by Wentzel (2003) who examined motivation and school satisfaction as other factors that have been shown to influence the linkage between victimization and adjustment outcomes. Another process that may be taking place involves the classroom environment and how victimization is being

managed within the classroom and whether or not there is any kind of teacher intervention taking place within the classroom (Kochenderfer-Ladd & Pelletier, 2008 & Wentzel, 1993).

Evidence from a study done by Prinstein, Boegers, and Vernberg, (2001) showed that that adolescents who were the targets of their peers' victimization, particularly relational victimization, reported higher levels of internalizing symptoms when compared with others in the sample. In their study, overt victimization was also associated with higher levels of depressive symptoms for both males and females. Those who were victimized by both forms of victimization (overt and relational) had higher levels of depression than those individuals that only experienced one form of victimization. Findings such as these demonstrate the importance of studying multiple forms of victimization and, although overt victimization was not directly linked to either of the outcomes in the Reduced Mediated Model, these findings reveal why it is important to evaluate results by groupings such as gender in order to see if differences exist within the model.

Before examining the Multigroup SEM gender comparisons within the Reduced Mediated Model, indirect effects were calculated in order to test for further mediation. The relationship between overt victimization and achievement was shown to be significantly mediated by participation and the relationship between overt victimization and depression was also mediated by participation. It could be that relational victimization was contributing to the existing mediation, but within the current model this finding may not have emerged due to the multicollinearity of the two victimization variables. This is important because it may be possible that the use of a model in which

both victimization variables were combined into a single construct or a data set where they were not so highly correlated would yield different results.

Multigroup SEM Comparisons were used to determine whether or not gender differences (moderation) existed within the model. Overt victimization significantly negatively predicted participation for girls and this path was non-significant for boys. The path estimate from participation to depression was significant for girls, but not for boys. For boys and girls, depression was significantly associated with relational victimization. This would indicate that, for both boys and girls, as relational victimization rates tended to be higher, reports of depression tended to be higher as well. Coefficients for paths from participation to achievement for both boys and girls were significant. These results suggest that as participation rates were higher, achievement rates were also higher for both groups. These results are consistent with previous findings suggesting that disengagement from classroom activities as a result of victimization may lead to lower achievement.

Indirect effects were also calculated in order to test for potential mediation within the gender model. Results show that, for girls only, the relationship between overt victimization and achievement was mediated. The relationship between overt victimization and depression was also mediated for girls. No mediation was supported for boys. In both the Gender and Reduced Mediated models the relationships between overt victimization and both outcomes have been shown to be mediated by participation. One interesting finding to note was that in the Gender model, mediation only existed for girls. Indirect effects were non significant for boys and therefore all indirect effects in the full model are likely attributable to effects present for girls. As previous research has shown,

victimization affects boys and girls in many different ways, and the process of victimization and its effects on participation and the subsequent adjustment difficulties should be of concern for both boys and girls (Crick & Grotpeter, 1995). However, the findings from the current study suggest that this process should be further investigated especially for girls.

Prior findings suggest that the tendency to interact with same sex peers tends to predict increases in sex-typed behaviors over time. For boys, greater exposure to same sex interactions, predicted higher levels of rough and tumble play and aggression over time (Martin & Fabes, 2001). Findings such as this may explain why overt victimization was not shown to be a significant predictor of participation for boys in this model because it may be possible that through such high levels of exposure to this type of activity in normal interactions, boys are less likely to be as affected by it. This may also explain, in part, why mediation through participation was only significant for girls in this sample.

The findings on direct links from relational victimization to depression were both significant when comparing males and females. Results for this relationship for both groups demonstrated significant path estimates. Prior findings such as those of Burks, Dodge, and Price (1995) have shown that boys who are chronically rejected (a correlate of victimization) were especially susceptible to depressive symptoms. Crick and Grotpeter (1995) found that in a study of third through sixth grade children, girls were more likely to be relationally aggressive than boys. Other studies such as Crick (1995) indicated that girls typically find this type of aggression more hurtful than boys. It may be the case that due to lower levels of exposure to relational victimization, higher levels

of depression may be more likely for boys when they experience relational victimization. These findings support the findings of the current study that demonstrated that relational victimization was significantly predictive of depressive symptoms for both boys and girls.

Path estimates from participation to achievement were significant for both boys and girls. Higher levels of engagement/participation have also been shown to be associated with higher levels of academic achievement possibly due to greater motivation and more school satisfaction (Ladd, 2003, Gazelle, 2006, & Wentzel & Caldwell, 1997). Ongoing social interactions teach children how to become accepted and competent members of social networks. Supportive relationships are also likely to motivate children to adopt the goals and values of their friends as their own and become more engaged. Children provide each other with standards for behavior. If their peers have high academic standards, then individuals are likely to adopt these same standards (Wentzel, 2009).

In order to assess the potential moderating effects of the classroom, the final model was run using a Multilevel SEM (Mplus; Muthén & Muthén, 2005) where data was clustered by classroom. Evaluation of the classroom model demonstrated an acceptable model fit with significant path weights, but not enough variance to assume that the classroom in this particular sample was playing a large enough role to be considered a significant contributor to the variance in the model. The classroom analysis demonstrated significant path weights on all linkages established in the Reduced Mediated Model.

Specific causes for classroom level differences were not examined, but previous

findings have suggested that if teachers intervene in a timely and consistent manner they can be effective in preventing peer victimization (Kochenderfer-Ladd and Pelletier, 2008). Wentzel (1993) also discussed classroom rules and social behavior as an independent predictor of academic performance. If classroom rules are designed to promote positive interactions and discourage antisocial behaviors, there would be a direct relationship between a positive classroom atmosphere and academic achievement. Findings such as these give reason to believe that teachers are likely to have an effect on what is taking place in the classroom and a teacher's behavior or guidelines in a classroom can affect peer interactions, such as victimization levels, within the classroom and academic achievement. Although the classroom model displayed an acceptable model fit, the between level variances were too small to attribute additional variance to classroom level differences. Possibly a larger sample of classrooms and a more diverse sample of schools would give some more insight into how different classroom environments may contribute to differences in victimization effects.

Although the current study has uncovered many significant findings, several weaknesses exist. First, in this model, the two victimization variables were so highly correlated that it is likely that relational victimization displayed a positive valence for the link to participation in the full model. As previously discussed, this may suggest that multicollinearity exists between the two victimization variables and results suggest testing a model where these variables are combined into a single variable. Next, several of the measures relied on self-report. Victimization measures were gathered through self-report as were achievement and depression measures. Achievement measures were also limited by the fact that they were estimated grades, not actual grades or standardized test scores.

Teacher reports were, however, used to create the participation measure and thus many of the key associations of interest did not only rely exclusively on a single data source.

Another potential limitation to this study was the use of a sample that was primarily rural. It is possible that in an urban area (where schools tend to be much larger) different results could emerge. It may also be the case that additional factors outside of those included in this study are responsible for changes in participation, achievement and depression. Although not directly measured in this study, the direct role teachers may have in influencing these factors are of great interest. A teacher's patterns of instruction and the classroom environment that they support have been shown to be influential in the development of a positive environment, not only allowing for participation and learning to occur, but for the development of positive peer interactions as well (Wentzel, 1993 & Ladd, 2003).

Future investigations would also benefit through the use of a longitudinal study in order to test for these relationships over time. It is possible that at this age children have not yet established full symptoms of an outcome such as depression and a longitudinal study would be beneficial in determining if the relationship between these predictors and depressive symptoms becomes stronger as children become more likely to develop these symptoms. It would also be beneficial to look at the relationship between participation and adjustment (academic and psychological) over time in order to develop a stronger, potentially more causal, link between the two variables.

In summary, the data from the Reduced Mediated Model suggested that overt victimization negatively predicted participation as hypothesized, but when evaluated by gender, this was only true for girls. Relational victimization, however, was positively

linked to participation in the Reduced Mediated Model. This may have been due to the high correlation between victimization variables. Participation was negatively linked to depressive symptoms in the Reduced Mediated Model, but was found to only be significant for girls in the gender model. The link from participation to achievement was significantly positive as hypothesized in the Reduced Mediated Model and significant for both boys and girls in the sample. Although not the main focus of this study, relational victimization demonstrated a significant direct link to depressive symptoms in the Reduced Mediated Model and for both males and females. The link between overt victimization and each of the outcomes was mediated through participation in the Reduced Mediated Model, but when evaluated by gender, this was true only for girls in the sample. This process was the main focus of the current study and it is important to note that relational victimization may have contributed to these mediation findings, but due to the multicollinearity of the victimization variables it is unknown if this is true.

The overall findings from this study are especially important to discuss because in this study they were found to be mostly significant only for girls. As previously discussed overt victimization may not always be a significant predictor of participation for boys because it may be possible that boys are less likely to be as affected by this type of victimization due to higher levels of exposure to these types of aggressive behaviors (Martin & Fabes, 2001). Girls, however, have been shown to experience more relational forms of victimization (Crick & Grotpeter, 1995). The current study's findings have suggested that this may not always be the case and it may be true that overt victimization has more effects on girls than previous research has suggested. It will be important for future research to further examine this idea and to be sensitive to the idea that girls and

boys react to victimization forms differently and it may be the case that girls are experiencing more overt forms of victimization now than during the times of previous research. These findings have demonstrated the importance of looking at multiple forms of victimization and how gender groups are affected by these different forms in different ways.

Previous findings have shown that peer relationships are a crucial part of the socialization process. Understanding the role of victimization is important because it has the potential to greatly affect children's ability to participate in the classroom social context and be engaged. Besides the home, the classroom context is where children spend the greatest proportion of their time and this is why it is critical to be aware of these relationships and their function within the classroom.

Although not directly examined in this study, Wentzel and Caldwell (1993) suggest that relations between classroom conduct and achievement could be explained by teacher factors such as teacher preferences toward certain types of students and quality of instruction given. With this in mind it is important for future research to look directly at how classrooms are being managed and what potential policies are in place or how students are being taught to deal with victimization. Instruction methods have been shown to increase participation and achievement and these types of instruction need to be further investigated in order to develop a plan for the classroom. Many different forms of peer victimization and maltreatment exist within the school context. Research like this is important in order to understand the potential long-term effects of multiple forms of victimization on both psychological and academic adjustment for both boys and girls.

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