Title
Adolescents’ Experiences of Peer Victimization Across Middle School: When Do Friends Help Alleviate Distress?

Permalink
https://escholarship.org/uc/item/58g5c7qf

Author
Schacter, Hannah Lindsay

Publication Date
2017

Peer reviewed|Thesis/dissertation
Adolescents’ Experiences of Peer Victimization Across Middle School: When Do Friends Help Alleviate Distress?

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Psychology

by

Hannah Lindsay Schacter

2017
ABSTRACT OF THE DISSERTATION

Adolescents’ Experiences of Peer Victimization Across Middle School: When Do Friends Help Alleviate Distress?

by

Hannah Lindsay Schacter

Doctor of Philosophy in Psychology

University of California, Los Angeles, 2017

Professor Jaana Helena Juvonen, Chair

This dissertation consists of three studies examining associations between peer victimization and maladjustment across the middle school years and investigating whether friendships mitigate the distress of victimized adolescents. These studies rely on data drawn from two different longitudinal school-based studies of ethnically diverse early adolescents’ social and psychological adjustment in varying school contexts. Presuming that students who are victimized and friendless are at heightened risk for maladjustment, in Study 1 I investigate whether attending school with prosocial peers can alleviate the psychosocial distress of adolescents who are bullied and have no friends during their first year of middle school. Results from multilevel modeling indicate that being victimized and friendless makes students feel more anxious, lonely, and unsafe a year later when they go to school with less supportive peers; however, friendless victims are protected from distress when their grademates are more prosocial (e.g., stand up for the bullied). The findings suggest that victims without friends can be buffered from socio-emotional difficulties if they receive social provisions similar to those provided by friendships (e.g., support, security) from their peers at school. Extending beyond a focus on whether students
have any friends, Study 2 considers the quality and characteristics of adolescents’ best friendships. Perceptions of best friend emotional support and best friend victimization are investigated as moderators of short-term links between victimization and internalizing symptoms in the last year of middle school. It is hypothesized that the protective effects of emotionally supportive friendships vary depending on whether or not youth perceive their best friends as also mistreated by peers. Multivariate multilevel modeling reveals that perceiving a best friend as caring and supportive protects peer victimized boys from feeling more depressed, regardless of whether they think the best friend is also bullied. For girls, perceiving a best friend as emotionally supportive only weakens victimization-internalizing links when girls perceive their best friend as nonvictimized; when bullied girls can rely on and talk about their problems with a best friend who they think is also picked on, they feel more depressed and anxious. The findings suggest that friendships characterized by high levels of support and self-disclosure can generally make adolescents feel less distressed in the face of peer mistreatment, but such intimacy can “backfire” when girls perceive their best friend to be enduring similar social stress. Study 3 builds on Studies 1 and 2 to examine the effects of peer victimization and friends’ victimization on adolescents’ depressive symptoms, somatic complaints, characterological self-blame, and perceived safety across all three years of middle school. Capitalizing on four waves of data, I extend past research on individual differences in victimization and adolescent well-being to investigate whether students feel greater distress during school years when they experience increased victimization (i.e., within-person changes). A central goal is to determine whether these maladaptive associations are mitigated among youth whose friend group experiences more victimization across middle school. Rather than focusing on students’ self-perceptions of a best friend’s victimization (i.e., Study 2), here I examine the average victimization reported by all of
adolescents’ nominated friends across 6th, 7th, and 8th grade. Results from three-level multilevel models reveal both between- and within-person effects of victimization on adjustment difficulties. Moreover, students are buffered from victimization-related distress (at the between- and within-person level) when they affiliate with friends who are more victimized during middle school. In other words, sharing social plight with friends alleviates victimization-related maladjustment. By considering whether adolescents have friends, the quality of their friendships, and the social experiences of their friends across the middle school years, these studies extend our understanding of the complex ways in which friendships do (and do not) protect victimized youth from distress.
The dissertation of Hannah Lindsay Schacter is approved.

Craig Enders
Adriana Galván
Sandra Graham
Jaana Helena Juvonen, Committee Chair

University of California, Los Angeles
2017
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. General Introduction</td>
<td>1</td>
</tr>
<tr>
<td>A. Peer Victimization as a Social Stressor</td>
<td>2</td>
</tr>
<tr>
<td>B. Developmental and Social Functions of Friendship</td>
<td>4</td>
</tr>
<tr>
<td>C. Friends Protect Against Peer Victimization-Related Distress?</td>
<td>6</td>
</tr>
<tr>
<td>D. Significance of this Dissertation</td>
<td>14</td>
</tr>
<tr>
<td>II. Study 1: “Does Anyone Care?” Protective Effects of Prosocial School Environments for Victimized Adolescents Without Friends</td>
<td>17</td>
</tr>
<tr>
<td>A. Introduction</td>
<td>19</td>
</tr>
<tr>
<td>B. Method</td>
<td>24</td>
</tr>
<tr>
<td>C. Results</td>
<td>32</td>
</tr>
<tr>
<td>D. Discussion</td>
<td>36</td>
</tr>
<tr>
<td>E. References</td>
<td>49</td>
</tr>
<tr>
<td>III. Study 2: When Do Friendships Help Versus Hurt? Perceived Best Friend Support and Victimization as Moderators of Peer Victimization-Related Distress</td>
<td>58</td>
</tr>
<tr>
<td>A. Introduction</td>
<td>60</td>
</tr>
<tr>
<td>B. Method</td>
<td>66</td>
</tr>
<tr>
<td>C. Results</td>
<td>70</td>
</tr>
<tr>
<td>D. Discussion</td>
<td>75</td>
</tr>
<tr>
<td>E. References</td>
<td>86</td>
</tr>
</tbody>
</table>
IV. Study 3: Peer Victimization and Adolescent Adjustment across Middle School:

Time-Varying Effects and the Moderating Role of Friends’ Victimization  93

A. Introduction  95
B. Method  106
C. Results  115
D. Discussion  121
E. References  140

V. General Discussion  152

A. Contributions of the Current Dissertation  153
B. Shared Social Plight: Cost or Benefit?  157
C. Limitations and Future Directions  159
D. Implications for Interventions  163
E. Conclusions  165

VI. Appendices  

A. Appendix A: Organizational Table of Studies  167
B. Appendix B: Study 1 Psychosocial Adjustment Outcomes Measures  168
C. Appendix C: Study 1 Perceived Peer Prosociality Measure  171
D. Appendix D: Study 2 Self-Perceived Victimization Measure  172
E. Appendix E: Study 2 Internalizing Symptoms Measures  173
F. Appendix F: Study 3 Self-Perceived Victimization Measure  176
G. Appendix G: Study 3 Adjustment Outcomes Measures  177
H. Appendix H: Study 3 Between-Person and Within-Person
   Correlations for the Main Study Variables 181

VII. References (General Introduction and General Discussion) 182
LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure I-1. Significant Victimization X School Prosociality interaction for students without any friends (black lines) and nonsignificant Victimization X School Prosociality interaction for students with friends (grey lines) predicting social anxiety.</td>
<td>46</td>
</tr>
<tr>
<td>Figure I-2. Significant Victimization X School Prosociality interaction for students without any friends (black lines) and nonsignificant Victimization X School Prosociality interaction for students with friends (grey lines) predicting loneliness.</td>
<td>47</td>
</tr>
<tr>
<td>Figure I-3. Significant Victimization X School Prosociality interaction for students without any friends (black lines) and nonsignificant Victimization X School Prosociality interaction for students with friends (grey lines) predicting perceived school safety.</td>
<td>48</td>
</tr>
<tr>
<td>Figure II-1. Significant interaction between victimization and perceived best friend emotional support predicting boys’ depressive symptoms.</td>
<td>83</td>
</tr>
<tr>
<td>Figure II-2a. Significant interaction between victimization and perceived best friend victimization predicting depressive symptoms for girls perceiving high levels of best friend emotional support.</td>
<td>84</td>
</tr>
<tr>
<td>Figure II-2b. Nonsignificant interaction between victimization and perceived best friend victimization predicting depressive symptoms for girls perceiving low levels of best friend emotional support.</td>
<td>84</td>
</tr>
<tr>
<td>Figure II-3a. Significant interaction between victimization and perceived best friend victimization predicting depressive symptoms for girls perceiving high levels of best friend emotional support.</td>
<td>84</td>
</tr>
<tr>
<td>Figure II-3b. Nonsignificant interaction between victimization and perceived best friend victimization predicting depressive symptoms for girls perceiving low levels of best friend emotional support.</td>
<td>84</td>
</tr>
</tbody>
</table>
friend victimization predicting social anxiety for girls perceiving high levels of best friend emotional support.

Figure II-3b. Nonsignificant interaction between victimization and perceived best friend victimization predicting social anxiety for girls perceiving low levels of best friend emotional support.

Figure III-1. Between-person victimization X between-person (BP) friends’ victimization interaction predicting depressive symptoms.

Figure III-2. Between-person victimization X between-person (BP) friends’ victimization interaction predicting somatic complaints.

Figure III-3. Within-person victimization X between-person (BP) friends’ victimization interaction predicting characterological self-blame.

Figure III-4. Within-person victimization X between-person (BP) friends’ victimization interaction predicting perceived safety.
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table I-1. <em>Descriptive Statistics for Main Study Variables (Measured at the Individual Level)</em></td>
<td>43</td>
</tr>
<tr>
<td>Table I-2. <em>Within-School Correlations Among Main Variables (Measured at the Individual Level)</em></td>
<td>44</td>
</tr>
<tr>
<td>Table I-3. <em>Full Model: Effects of 6th Grade Victimization, Friends, and School Prosociality on 7th Grade Adjustment</em></td>
<td>45</td>
</tr>
<tr>
<td>Table II-1. <em>Correlations Between Main Predictors and Outcomes for Boys and Girls</em></td>
<td>80</td>
</tr>
<tr>
<td>Table II-2. <em>Main Effects Multilevel Models Predicting Boys’ and Girls’ Spring of 8th Grade Depressive Symptoms and Social Anxiety</em></td>
<td>81</td>
</tr>
<tr>
<td>Table II-3. <em>Final Multilevel Models Predicting Boys’ and Girls’ Spring of 8th Grade Depressive Symptoms and Social Anxiety</em></td>
<td>82</td>
</tr>
<tr>
<td>Table III-1. <em>Correlations Among Victimization and Adjustment Difficulties (Main Time-Varying Variables) Across Four Waves</em></td>
<td>132</td>
</tr>
<tr>
<td>Table III-2. <em>Variance Estimates and Intraclass Correlations for Dependent Variables: Time (e), Student (u), and School (v) Effects</em></td>
<td>133</td>
</tr>
<tr>
<td>Table III-3. <em>Within- and Between-Person Effects of Victimization on Adjustment Outcomes</em></td>
<td>134</td>
</tr>
<tr>
<td>Table III-4. <em>Between-Person Friends’ Victimization as a Moderator of Between- and Within-Person Victimization Effects on Adjustment</em></td>
<td>135</td>
</tr>
</tbody>
</table>
ACKNOWLEDGMENTS

My childhood journal included the following prompt: “Picture yourself all grown up. Write a newspaper article describing what you’re like as a grown up and what you do.” At the age of six, my article began, “I feel good as a grown up. I work as a social scientist.” Twenty years later, I could not feel more proud, excited, and grateful to be fulfilling what has truly been a lifelong dream of mine. So many people have been an integral part of my academic journey as I’ve traversed both the highs and lows of graduate school, and I can only begin to express my deep gratitude for everyone’s unwavering support.

First, I want to thank all of the members of the UCLA Middle and High School Diversity Project. I feel so fortunate to have spent my graduate career in the company of such caring, creative, and brilliant undergraduates, graduate students, project managers and faculty mentors (co-PIs: Sandra Graham and Jaana Juvonen). Thank you to all the parents, teachers, and school administrators who have allowed us to pursue our research and to all of the student participants for their involvement in the project. I would also like to thank my funding source for the past three years, the National Science Foundation Graduate Research Fellowship Program under Grant No. DGE-1144087.

I want to specifically acknowledge and thank my primary advisor, Jaana Juvonen. It is truly difficult for me to articulate how much your support, guidance, and compassion has inspired and touched me over the course of my graduate career. As excited as I am to be nearing the end of my grad school road, it is also bittersweet—I cannot imagine a world in which our weekly meetings, lab lunches, and backyard get-togethers are no longer a standard part of my life. You are my role model and my “academic mom” for life. I also want to thank Sandra Graham, who has provided me with extensive advice and mentorship across so many of my
research and professional endeavors. I greatly appreciate all of your encouragement and for always reminding us that work and life can indeed be seamlessly aligned. Thank you so much also to Adriana Galvan and Craig Enders for their support and feedback throughout the dissertation process. I feel extremely fortunate to have had this group of academic and research superstars on my dissertation committee.

Thank you to all of my friends, near and far, for being my number one cheerleaders throughout graduate school. To my “pre-grad school” friends, thank you for every text, phone call, and visit and for always keeping my spirits so incredibly high. To my lab sisters, thank you for being my Franz/Moore family through all the ups and downs. To my Bruin friends, from Weyburn and Barney’s to now, I am so lucky to have developed lifelong bonds with such an amazing and talented group of people.

And finally, I want to express my utmost gratitude to my family. To my fiancé, Steve, I don’t think you knew what you were signing up for (besides my softball team) when you came into my life during the calm before a dissertation storm. But, you have provided me with more love, generosity, and optimism than I could ever have asked for, and your family has been right there to cheer me on as well. Thank you for being my rock and for making me the happiest graduate student in the world. Emily, your visits were some of the highlights of my graduate school experience, and you are the most amazing sister and best friend I could ever ask for. To my parents, thank you for believing in me, for your love, and for constantly checking in and making me feel at home on the other side of the country. Mom, thank you for always keeping me sane and calm through times of stress. From not being able to sleep before my 4th grade MCAS exam to fretting about my dissertation, you have always given me so much strength. Dad, thank you for showing me how to be both a wildly successful academic and an unbelievable parent.
Thanks to the support and inspiration that you both have given me for the past 26 years, I’m finally going to be a sicologist.
VITA

EDUCATION

2012-2013  University of California, Los Angeles
            M.A., Psychology
            Major Area: Developmental Psychology

2008-2012  Hamilton College
            B.A., summa cum laude
            Major: Psychology

SELECTED FELLOWSHIPS AND AWARDS

2017  UCLA Division of Life Sciences Mautner Fellowship

2016-2017  UC Consortium on the Developmental Science of Adolescence Seed Grant

2015-2016  Sigma Xi: Grant-in-Aid of Research

2014-2017  National Science Foundation Graduate Research Fellowship

2012-2014  UCLA Graduate Dean’s Scholar Award

2012-2013  UCLA Distinguished University Fellowship

2012-2013  Hamilton College Elihu Root Fellowship for Graduate Study

SELECTED PUBLICATIONS


**SELECTED CONFERENCE PRESENTATIONS**

**Schacter, H.L.** (March 2017). *Victimization Consequences of Youth’s Psychological and School Adjustment: Insights From Individual-Contextual Approaches*. Co-chaired symposium at the Society for Research in Child Development Biennial Meeting, Austin, TX.


**TEACHING EXPERIENCE**

2016  Instructor of Record, Introductory Psychology, University of California, Los Angeles

2013-2014  Teaching Assistant, Various Courses
Department of Psychology, University of California, Los Angeles
GENERAL INTRODUCTION

Peer relationships constitute a critical component of child and adolescent development, providing youth with opportunities for learning cooperative skills, acquiring support, and developing interpersonal competence (Parker, Rubin, Erath, Wojslawowicz, & Buskirk, 2006). Friendships (“chumships”; Sullivan, 1953), compared to other peer relationships, are presumed to be especially significant for the development of youth’s social skills and positive mental health. Whereas positive peer relationships, and friendships in particular, can promote youth’s self-esteem (Bishop & Inderbitzen, 1995), mental health (Kingery, Erdley, & Marshall, 2011) and school adjustment (Kingery et al., 2011; Ladd, 1990), negative peer experiences in turn place children and adolescents at risk for a range of psychological and social difficulties. Peer victimization has been documented as one particularly prevalent and harmful social stressor experienced by youth during the adolescent years (see Juvonen & Graham, 2014 for review). Thus, an important question is whether positive peer relationships (e.g., friendships) can protect victimized adolescents from distress.

In this dissertation, I present three studies that examine the social, psychological, and emotional adjustment of adolescents experiencing peer victimization across the middle school years, specifically investigating several unanswered questions about the conditions under which adolescents’ friendships mitigate their peer victimization-related distress. Below I first provide a summary of past literature documenting the prevalence of peer victimization and its relation to adjustment difficulties among school-aged youth, as well as the developmental significance of experiencing peer victimization during adolescence. Then, I review studies that examine the protective function of friendships in buffering youth’s risk for experiencing peer victimization. Finally, I turn to a smaller body of past research investigating whether friendships can protect
youth from victimization-related distress, raising several unanswered empirical questions that motivate the current dissertation studies.

**Peer Victimization as a Social Stressor**

One of the most common and harmful social stressors among school-aged youth is bullying. Recent large-scale studies indicate that 10 to 15 percent of youth are bullied or victimized by peers on a regular basis (Barker, Arsenault, Brendgen, Fontaine, & Maughan, 2008; Craig et al., 2009), and many more experience victimization at some point across their schooling years (Hoover, Oliver, & Hazler, 1992; Kochenderfer-Ladd & Waldrop, 2001; Sheppard, Giletta, & Prinstein, 2016). Peer victimization can be distinguished from conflict among peers insofar as it involves an intention to cause harm and an imbalance of power between the victim and perpetrator (Olweus, 1993). It can also take a number of forms, including physical aggression, name-calling, exclusion, and humiliation.

There is extensive evidence that experiences of peer victimization place youth at risk for a host of short- and long-term adjustment problems. Victims of peer harassment typically exhibit worse mental health (e.g., depression and anxiety; Hawker & Boulton, 2000; Juvonen, Graham, & Schuster, 2003), self-esteem (Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999; Jankauskiene, Kardelis, Sukys, & Kardeliene, 2008), physical health (Gini & Pozzoli, 2009), and academic performance (Nakamoto & Schwartz, 2010) compared to their nonvictimized peers. Although chronically victimized youth show particularly high levels of adjustment difficulties (Kochenderfer-Ladd & Wardrop, 2001), seemingly “fleeting” experiences of peer mistreatment are nevertheless painful as well. For example, even over the course of several weeks, youth experience heightened distress on days when they are picked on by peers (Nishina & Juvonen, 2005).
Although being the target of ridicule, exclusion, or harassment is a stressful experience for most individuals across the lifespan, developmental theory suggests that experiences of peer victimization may be particularly detrimental during the adolescent years (Graham & Bellmore, 2007; Troop-Gordon, 2017). During adolescence, youth become increasingly concerned with fitting in and being accepted by their peers (Larson & Richards, 1991; O’Brien & Bierman, 1988), and they also exhibit heightened sensitivity to social exclusion (Sebastian, Viding, Williams, & Blakemore, 2010). As such, whereas positive peer interactions can promote adolescents’ psychological well-being, experiences of peer victimization pose a significant developmental threat.

Moreover, despite overall declines in the frequency of victimization over the course of adolescence, (Haltigan & Vaillancourt, 2014), bullying typically increases and peaks during the early adolescent years, specifically coinciding with the transition from elementary to middle school (Nylund, Bellmore, Nishina, & Graham, 2007; Pellegrini & Long, 2002; Pepler, Craig, Connolly, Yuile, McMaster, 2006). Findings also demonstrate a shift in social dynamics during early adolescence, such that the peer group is more likely to reinforce bullying (e.g., laughing, encouraging) and victimized youth are less likely to receive peer support compared to during childhood (Salmivalli & Voeten, 2004). Thus, heightened risk for increased victimization and decreased peer support coincides with heightened developmental sensitivity to negative peer experiences. In turn, to understand the negative consequences of peer victimization and how to meet the social needs of the victimized during adolescence, research must be sensitive to the intrapersonal, interpersonal, and contextual changes that characterize this developmental stage (Troop-Gordon, 2017).
Developmental and Social Functions of Friendship

Whereas negative peer experiences function as significant stressors for early adolescents, positive peer relationships, and friendships in particular, are vital to adolescent development in many ways. Throughout childhood and adolescence, friendships exert a strong influence on youth adjustment (Hartup, 1996). Insofar as they provide opportunities for social, emotional, and cognitive growth, friendships can be thought of as unique developmental contexts (Bagwell & Schmidt, 2011). Although closely linked with general “liking”, friendships are distinct insofar as they are dyadic and egalitarian interpersonal relationships (Bukowski, Newcomb, & Hartup, 1998; Bagwell & Schmidt, 2011; Wentzel, Baker, & Russell, 2009), typically characterized by a positive affective tie and a balance in power between dyad members (Bagwell & Schmidt, 2011; Bukowski & Hoza, 1989). Whereas during childhood friendships offer youth a source of companionship (e.g., shared activities) and aid in the development of social competence (Larson & Richards, 1991), as children approach adolescence they spend increased amounts of time with friends (Johnson, 2004) and friendships are characterized by greater trust and self-disclosure (Buhrmester, 1996; Steinberg & Morris, 2001). In turn, friendships during adolescence can help youth navigate developmental challenges, such as establishing autonomy and coping with the various stressors encountered during the middle and high school years (Bagwell & Schmidt, 2011). Indeed, research consistently indicates that youth with friends show better adjustment than those without friends (e.g., Hartup, 1996; Bagwell, Newcomb, & Bukowski, 1998), and longitudinal evidence demonstrates that compared to those without friends, early adolescents with friends exhibit higher self-esteem and fewer psychopathological symptoms, even into young adulthood (Bagwell et al., 1998).
Following a large body of research on the developmental significance of friendships during both childhood and adolescence, additional studies have considered the role of friends for youth at risk for experiencing different types of social stressors. For example, having friends can promote better adjustment among students as they navigate the oftentimes stressful transition from elementary to middle school (Berndt, Hawkins, & Jiao, 1999), as well as alleviate the emotional distress of early adolescents who are typically shy and withdrawn among their peers (Burgess, Wojlawowicz, Rubin, Rose-Krasnor, & Booth-LaForce, 2006). There has also been a growing focus on the role of friendships in protecting youth from experiencing peer victimization. That is, given the many beneficial qualities of close peer relationships, friendships may be particularly important in protecting early adolescents from being targeted or harassed by peers. Several studies among both children (Fox & Boulton, 2006; Hodges, Boivin, Vitaro, & Bukowski, 1999) and adolescents (Boulton, Trueman, Chau, Whitehand, & Amatya, 1999) suggest that even having just one close friendship can protect youth from becoming the victim of bullying. Longitudinal research has further shown that whereas preadolescents who lost a friend across one year experienced increases in victimization, those who gained a friend experienced reductions in victimization (Bowker, Rubin, Burgess, Booth-LaForce, & Rose-Krasnor, 2006). These studies together provide support for a “friendship protection hypothesis”, which posits that the presence of friends may be critical in fending off potential aggressors (e.g., Bukowski et al., 1998; Hodges, Malone, & Perry, 1997; Hodges et al., 1999). Friends may similarly buffer students from peer mistreatment by offering support in the face of social stress, as suggested by the finding that victimized children who respond to bullying by “having a friend help” are at decreased risk for future victimization (Kochenderfer & Ladd, 1997).
Particularly compelling evidence for the friendship protection hypothesis comes from studies examining victimization risk among youth already experiencing other known risk factors (e.g., mental health problems). Moreover, these studies suggest that beyond just having a friend, certain characteristics of children and adolescents’ friendships may be critical for serving a protective function. For example, one study demonstrated that although youth with internalizing symptoms (e.g., depression, anxiety) were more likely to become targets of peer harassment, this risk was mitigated for children with a high quality friendship (i.e., characterized by high levels of support; Hodges et al., 1999). In addition to the quality of the friendship, characteristics of friends also appear important in mitigating risk for victimization. That is, although youth with internalizing problems are buffered from victimization when they have a best friend who is nonvictimized or physically strong, children experience increased risk for victimization if their best friend is highly victimized or physically weak (Hodges et al., 1997). Taken together, these findings suggest that having friends, and having particular types of friends, serve an important protective function for youth at risk for experiencing peer victimization.

Friends Protect Against Peer Victimization-Related Distress?

While it is encouraging that having friends, and particularly having high quality or socially well-adjusted friends, can mitigate children and adolescents’ risk for becoming the target of peer harassment, many youth nevertheless experience peer victimization across their schooling years. Moreover, compared to their well-adjusted peers, research among both children and adolescents indicate that victimized youth tend to have fewer friends (Boulton et al., 1999), lower-quality friendships (Ellis & Zarbatany, 2007; Malcolm, Jensen-Campbell, Rex-Lear, & Waldrip, 2006), and friendships with other victimized students (Echols & Graham, 2016; Sentse, Dijkstra, Salmivalli, & Cillessen, 2013; Sijtsema, Rambaran, & Ojanen, 2013). At first glance
these findings paint a disheartening picture, wherein a victimized adolescent, who could most benefit from the support of peers, struggles to initiate and maintain high-quality relationships and may ultimately only find companionship among other socially vulnerable youth (Bagwell & Schmidt, 2011).

However, it is also important to recognize that although victims are more likely to experience friendship difficulties (e.g., lacking friends, having low-quality friendships) compared to their well-adjusted peers, not all victimized children or adolescents are friendless (Bagwell & Schmidt, 2011; Pellegrini, Bartini, & Brooks, 1999; Smith, Talamelli, Cowie, Naylor, & Chauhan, 2004), and some are indeed able to establish intimate, supportive friendships (Hodges et al., 1999; Schmidt & Bagwell, 2007). As such, an important question is whether having friends or having certain types of friends can protect against the negative effects of peer victimization on adolescents’ psychological and social well-being. Despite many studies documenting friendships as an important factor buffering children and adolescents’ risk for becoming the target of peer victimization, relatively little is known about how friendships buffer youth from victimization-related adjustment problems, particularly during the middle school years. In the following sections, I review the existing literature on this topic, raising several unanswered questions about the role of friendships in promoting the well-being of victimized adolescents that motivate the current dissertation studies.

**Presence versus absence of friends.** As mentioned above, although less likely to have friends than their nonvictimized peers (Fox & Boulton, 2006; Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007), many bullied children and adolescents have at least one friend (Bagwell & Schmidt, 2011; Pellegrini et al., 1999; Smith et al., 2004). Given that youth who have friends are less likely to become the target of peer victimization compared to those who do
not have friends (Bukowski et al., 1998; Hodges et al., 1997; Hodges & Perry, 1999), an important question is whether friends can serve as a protective factor alleviating victimization-related distress. Insofar as friendships offer youth a source of companionship, intimacy, and emotional support (Sullivan, 1953), having a friend should in turn mitigate the negative effects of peer mistreatment. In contrast, children or adolescents who lack friends also lack access to such benefits (e.g., support and companionship) and should feel particularly distressed by experiences of peer victimization. Investigating this question in a study of 4th and 5th graders, Hodges and colleagues (1999) indeed found support for this friendship protection hypothesis. That is, peer victimization was related to increased internalizing and externalizing symptoms, but only among children without any friends. This study provided some of the first empirical evidence that having just one friend can not only protect youth from experiencing victimization, but it can also buffer against victimization-related distress, at least in late childhood. Although Hodges and colleagues’ (1999) study importantly demonstrates that having just one friend can protect bullied children from distress, it also suggests that victims who lack friends represent an especially vulnerable group. This in turn begs an important question: if friends are not present to fulfill the social needs of bullied adolescents, what can?

**Study 1.** To understand whether the plight of friendless victims of bullying can be ameliorated, Study 1 of the current dissertation considers how victims’ friendships (or lack thereof) are embedded within the context of their school environments, focusing on the role of prosocial peer behavior in middle school. In this study I hypothesize that students who are viewed by their peers as bullied and lack friends during their first year in middle school will experience heightened distress. However, I also presume that students with these negative social reputations—those who are victimized and friendless—can be buffered from distress if they
receive social provisions similar to those provided by close friendships (i.e., support, validation, and security; Bagwell & Schmidt, 2011) within their broader school social context. Attending schools with kind and considerate peers may be vital in conveying the message that “someone cares,” thus alleviating the emotional distress and negative school views of the most socially vulnerable (i.e., friendless) victims. Thus, Study 1 examines whether schools characterized by more prosocial peer behavior can protect friendless victims from psychosocial distress. Although past research on social protective factors for victimized youth has considered relational factors (e.g., friendships) and school-level factors (e.g., peer prosociality), they have been examined separately. Thus, the current study extends prior research by considering the risk and protective functions of close relationships and school social environments occurring simultaneously within an interactive framework (Masten, 1999). As such, I acknowledge that the psychological consequences of being a friendless victim likely varies across school contexts. The findings, in turn, can shed light on ways in which the psychological and emotional needs of youth experiencing multiple social vulnerabilities can be met.

**Friendship quality.** Recognizing that the protective function of friendships likely also varies depending on qualitative characteristics of the relationship (i.e., beyond just presence or absence of friends), researchers have additionally considered how the *quality* of children’s and adolescents’ friendships influence associations between victimization and adjustment problems. This work is largely guided by a “stress-buffering model” (Cohen & Wills, 1985), wherein friendships characterized by higher levels of support, companionship, and trust (i.e., high quality friendships; Hartup, 1996; Parker & Asher, 1993) are presumed to protect victimized youth from maladaptive outcomes, such as mental health difficulties. In contrast, when youth perceive their friends as unkind or unsupportive, they are more likely to suffer the negative consequences of
peer victimization. Supporting this stress-buffering model, a number of studies have demonstrated that victimized children and adolescents are less likely to experience social and emotional distress if they perceive their close friend(s) as more supportive (e.g., Schmidt & Bagwell, 2007; Woods, Done, & Kalsi, 2009).

However, there are also a number of findings that challenge this stress-buffering model and, in fact, support something more akin to a stress-amplifying model of high quality friendships for victimized youth. That is, for children and adolescents who are victimized by peers, perceiving higher levels of companionship and emotional support within their friendship(s) has been shown to exacerbate their feelings of emotional distress (Hodges et al., 1999; Holt & Espelage, 2007; Yeung, Thompson, & Leadbeater, 2012). These amplifying effects of high quality friendships have predominantly been documented among girls, rather than boys. Researchers have speculated that high quality friendships, while offering girls a sense of emotional support, may also provide a venue for more maladaptive interactional patterns (Schmidt & Bagwell, 2007). For example, compared to boys, girls are more likely to dwell on their problems and engage in excessive self-disclosure (referred to as co-rumination) specifically within the context of their most emotionally supportive friendships, and these gender differences are most pronounced during adolescence (Rose, 2002).

Taken together, these inconsistent findings regarding friendship quality and victimization-related distress suggest that the protective function of high quality friendships for victims (and girls in particular) may vary as a function of other factors, such as perceived characteristics of the friend (Bagwell & Schmidt, 2011; Hartup, 1996). Specifically, when both the adolescent and her friend are experiencing social stress, such as peer mistreatment, intimate and emotionally supportive best friendships may in these cases amplify adjustment problems. As
suggested above, co-rumination (e.g., excessive problem-focused discussion) has been implicated as one possible process that helps account for the negative effects of such close friend effects (Schmidt & Bagwell, 2007). Moreover, co-rumination is more common among adolescent girls than boys, and girls have also been shown to exhibit greater sensitivity to the distress of close others compared to boys (Rose & Rudolph, 2006). As such, it is important to further investigate the combined effects of perceiving a friend as emotionally supportive and victimized among youth themselves experiencing mistreatment by peers. Investigating this question can shed light on the potential benefits and limitations of high quality friendships for providing protection against victimization-related distress, particularly among girls.

**Study 2.** Therefore, in Study 2 I investigate adolescents’ perceptions of their best friendship quality as well as best friend victimization at the end of middle school to better understand the conditions under which high quality friendships help versus hurt victimized youth. Presuming that adolescents experiencing victimization during their last year of middle school, a time when these negative peer experiences tend to be less normative, will experience heightened risk for emotional distress (e.g., depression, anxiety), I in turn consider whether best friendships can alleviate such links. Consistent with past research suggesting the importance of high quality friendships among the bullied, I hypothesized that victimized youth would generally experience less emotional distress when they perceived their best friend as more emotionally supportive. However, I expected that high levels of perceived intimacy in girls’ best friendships would amplify their distress if they perceived their best friend to also be experiencing peer mistreatment. Despite theoretical recommendations for research that investigates how friendship quality and friend characteristics interact to affect adolescents’ adjustment outcomes (Bagwell & Schmidt, 2011; Hartup, 1996), few studies consider these different dimensions together. By
examining adolescents’ perceptions of their best friendship quality as well as best friend characteristics (i.e., victimization experiences), the current study tests the robustness of the hypothesis that high quality friendships can protect victimized adolescents from distress. Although it is known that adolescent girls show heightened sensitivity to the distress of others (Rose & Rudolph, 2006) and exhibit increased distress when they excessively dwell on problems with their friends (Guarneri-White, Jensen-Campbell, & Knack, 2014), it is important to directly investigate whether perceptions of shared social plight may alter the effects of supportive friendships for victimized youth.

**Victimization of friends.** Understanding the characteristics of adolescents’ friends can provide additional insight into when and how they serve a protective function for students victimized by peers. Whereas having friends who are socially well-adjusted should promote the social skills, coping strategies, and social integration of youth themselves victimized by peers, it has been theorized that when friends are victimized it may interfere with their ability to offer protection against victimization-related distress (Bagwell & Schmidt, 2011). There is some, albeit limited, evidence that friendships with victimized peers could indeed be problematic for youth who are themselves also victimized by peers. For example, as suggested above, intimate friendships between girls who are both experiencing high levels of social stress could promote high levels of negative affect and excessive problem-focused discussion (Rose, 2002). Indeed, when victimized youth engage in these sorts of maladaptive interactions with their best friends, they are more likely to experience emotional distress (Guarneri-White et al., 2015). Additionally, there is evidence that victimized boys exhibit higher levels of aggression when their close friends are also victimized by peers (Brendgen et al., 2013). These findings support the claim that victimized youth will experience increased risk when they are friends with bullied peers.
However, a growing body of research provides both direct and indirect evidence to the contrary, suggesting that sharing social plight with similar others can decrease, rather than increase, the adjustment difficulties of victimized youth. Directly supporting this notion, Brendgen and colleagues (2013) showed that victimized children were less likely to feel depressed when their close friends were more, as opposed to less, victimized. Relatedly, studies of victimization at the classroom and school level highlight that victimized adolescents experience better adjustment when victimization is more common among their classmates (Bellmore, Witkow, Graham, & Juvonen, 2004; Huitsing, Veenstra, Sainio, & Salmivalli, 2012). Being in social contexts characterized by higher levels of victimization can facilitate more adaptive social comparisons and attributions among victimized youth, promoting the sense that “there’s nothing wrong with me” (Schacter & Juvonen, 2015). Therefore, it may be important to examine the victimization experienced by all of adolescents’ friends (i.e., as opposed to just the best friend) to capture their typical social reference group across the middle school years.

**Study 3.** Study 3 therefore implements a longitudinal, repeated measures design to examine how adolescents’ multiple friends’ victimization influences associations between their own victimization and adjustment outcomes across the three years of middle school (four time points). In this study I examine this question by focusing on both individual differences and intraindividual variability in adolescents’ victimization from 6th to 8th grade. That is, whereas Study 1 and Study 2 consider individual differences in adolescents’ victimization (i.e., whether they experience more or less victimization compared to peers) and corresponding adjustment at the beginning (Study 1) and end (Study 2) of middle school, Study 3 spans all three years of middle school. In addition to examining individual differences based on overall level of victimization (i.e., comparing more and less victimized youth), within this longer longitudinal
framework I am also able to examine how within-person changes in victimization from year to year (i.e., whether students experience more or less victimization compared to their own average victimization) relate to changes in adolescents’ psychological well-being, including their attributions for why they were victimized. A key question in this study is whether sharing social plight with friends will hurt or help adolescents, with a focus on the victimization experiences of all of adolescents’ friends across middle school (i.e., rather than best friend at one time point, as in Study 2) and not relying on self-perceptions of friends’ victimization, but friends’ own reports of peer mistreatment. In addition to focusing on social-emotional outcomes (e.g., perceived safety at school), I also examine attributions for victimization. As such, I can test a key question: whether victimized youth with victimized friends blame themselves less than those whose friends are not mistreated by peers. Given that decreased self-blame is related to lower distress (e.g., fewer depressive symptoms), it was hypothesized that when victimized youth have friends who have similar social experiences, they feel better. That is, whereas Study 2 considers the risks of girls sharing social plight within their highly intimate best friendships at the end of middle school, Study 3 investigates the potential benefits of bullied youth affiliating with victimized peers across all of middle school. The study findings have important implications for understanding how to meet the needs of youth experiencing both consistent as well as temporary or fluctuating experiences of peer victimization and whether there may be safety in shared plight for socially vulnerable adolescents.

**Significance of This Dissertation**

The current studies offer novel empirical investigations of several theoretical assumptions that have motivated much of the literature on peer victimization and friendships. Can friendless victims ever be protected from experiencing distress? Are high quality friendships always
beneficial for victimized youth? And, is there ever safety in shared plight? While it seems intuitive that friendless victims are more vulnerable than those with friends, high quality friendships will protect youth from victimization-related distress, and victimized friends cannot fulfill the same protective function as well-adjusted friends, the evidence to support these conclusions is mixed. In turn, this dissertation tests several unanswered questions regarding the function of friendships for bullied adolescents. In the following chapters, I present three studies that examine how friendships moderate associations between adolescents’ victimization and social, emotional, and psychological adjustment across the middle school years. These studies rely on data drawn from two different longitudinal school-based studies (UCLA Middle School Diversity Project and UCLA Peer Project) that investigate ethnically diverse early adolescents’ well-being in varying school contexts (see Appendix A).

Across the three studies I incorporate an array of measurement approaches (e.g., self-reports, peer-reports) and test longitudinal associations between victimization and adjustment using different analysis approaches (e.g., short-term prospective design from 6th grade to 7th grade; repeated measures across three years of middle school). Moreover, recognizing differences in the function of different types of friendships, each study also focuses on a different measurement of friendship that is most relevant to the research question at hand. For example, Study 1 considers whether victimized students receive any friendship nominations, presuming that a victimized student who is never chosen as a friend may be particularly socially isolated and would most benefit from prosocial peers at school. In contrast, Study 2 focuses on adolescents’ perceptions of their best friendship, allowing me to directly test the hypothesis that girls who perceive a very close friend as both highly supportive and victimized might be at risk for heightened distress. Finally, Study 3 captures friends’ victimization by relying on the self-
reports of adolescents’ friends across the three years of middle school. Here I capture the characteristics of students’ typical social reference group over time in order to investigate whether having friends who have experienced victimization can promote adaptive social comparisons among bullied youth (e.g., nothing wrong with me).

This program of research will extend our understanding of the negative consequences of peer victimization among adolescents and the specific ways in which friendships can reduce risk for the social, emotional, and psychological problems stemming from these harmful social experiences during middle school. The findings will also enable us to tease apart the specific features of friendship that are more or less protective for youth exposed to peer harassment during a developmental period when sensitivity to negative peer experiences is heightened. As such, it is hoped that the results of these studies can inform the design of multifaceted interventions that capitalize on the positive aspects of adolescents’ peer relationships and school contexts in reducing victimization-related distress. For example, if friendless victims of bullying can be protected from social-emotional adjustment problems in certain types of school contexts, interventions can help the most socially vulnerable youth by taking a school-wide approach and promoting more positive (e.g., prosocial) peer norms among the broader student body (e.g., Kärnä et al., 2011). And, if merely having a friend is protective for victims, interventions may achieve success by facilitating friendships between bullied youth and their well-adjusted peers. Finally, if the victimization experiences of adolescents’ friends influence their own victimization-related adjustment in both positive and negative ways, interventions must be sensitively tailored to promote an adaptive sense of shared plight with similar others (e.g., “we’re in this together and there’s nothing wrong with me”) and discourage maladaptive interpersonal coping strategies (e.g., co-rumination) that could arise in highly intimate best friendships.
STUDY 1

“Does anyone care?” Protective effects of prosocial school environments for victimized adolescents without friends
Abstract

Presuming that victimized adolescents who lack friends are at heightened risk for social and emotional problems, the current study investigated whether attending school with prosocial peers can alleviate the psychosocial distress of friendless adolescents who are bullied during their first year of middle school. Relying on an ethnically diverse sample (n=5,991) within 26 urban middle schools across 6th and 7th grade, youth reported on peer prosocial behavior, social anxiety, loneliness, and perceived school safety; peer nominations were used to assess peer victimization and friends. School-level prosociality was captured by examining the average level of prosocial peer behavior perceived by students in each school. Multilevel analyses revealed that victimized youth without friends felt significantly less anxious, lonely, and unsafe in schools where peers engaged in higher, as opposed to lower, levels of prosocial behavior (e.g., standing up for the bullied). The findings demonstrate that support from the broader peer group can compensate for the negative impact of being victimized and friendless, highlighting the importance of simultaneously studying relational and school contextual protective factors. Implications for anti-bullying interventions are discussed.
“Does anyone care?” Protective effects of prosocial school environments for victimized adolescents without friends

"Nobody cares about me." This painful sentiment is all too frequently expressed by youth bullied by their peers, and it may help explain when experiences of peer victimization (i.e., targeted ridicule, intimidation) are particularly hurtful. In early adolescence, when desires to fit in and be accepted by peers are heightened (Blakemore & Mills, 2014), targets of peer harassment experience increased risk for psychological and social-emotional difficulties, as well as negative school perceptions in subsequent years (Paul & Cillessen, 2003). Moreover, consistent with the notion that risks for developmental problems often co-occur (A. Masten, 2001), victimized youth are less likely to have friends than their well-adjusted peers (Fox & Boulton, 2006; Scholte et al., 2007). This begs an important question: if friends are not present to fulfill the social needs of bullied adolescents, what can? To understand whether the plight of friendless victims of bullying can be ameliorated, the main aim of the current study is to examine an important ecological feature of schools, namely the prosocial behavior of peers. Guided by a social contextual framework (Rodkin & Hodges, 2003), I presume that victims without friends can be buffered from distress if they receive social provisions similar to those provided by friendships (i.e., support, validation, and security; Bagwell & Schmidt, 2011) within their broader school social context. That is, attending schools with kind and considerate peers may be vital in conveying the message that “someone cares,” thus alleviating the emotional distress and negative school views of the most socially vulnerable (i.e., friendless) victims.

**Friendships and Victimization in Adolescence**

Although victims of bullying are at increased risk for developing social and emotional adjustment difficulties, studies also highlight how such maladaptive pathways can be weakened
(i.e., moderated), depending on youth’s relational contexts. Past research shows that having at least one friend is critical for protecting students from becoming the target of peer victimization in childhood (Fox & Boulton, 2006; Pellegrini, Bartini, & Brooks, 1999) and adolescence (Boulton, Trueman, Chau, Whitehand, & Amatya, 1999). Similarly, longitudinal work shows that victimized children who respond to bullying by “having a friend help” experience decreased risk for victimization in kindergarten (Kochenderfer & Ladd, 1997), and preadolescents who gain a friend across one year experience reductions in victimization (Bowker, Rubin, Burgess, Booth-LaForce, & Rose-Krasnor, 2006). These findings provide support for a “friendship protection hypothesis,” suggesting that the presence of friends may be critical in fending off potential aggressors (e.g., Hodges, Malone, & Perry, 1997; Hodges et al., 1999).

Although it is encouraging that having friends reduces the risk for becoming the target of peer harassment, less research has considered the function of having a friend among students already experiencing victimization. Some evidence suggests that friendship can similarly protect against victimization-related emotional distress, at least during elementary school. For example, having just one friend alleviates the internalizing and externalizing problems of children victimized by peers in in 4th and 5th grade, whereas friendless victims are at heightened risk for experiencing such emotional problems (Hodges et al., 1999). Although Hodges and colleagues’ (1999) study importantly demonstrates that having a friend can protect bullied children from distress, it also suggests that victims who lack friends during elementary school represent an especially vulnerable group. However, whether friendless victims are similarly at heightened risk for adjustment problems during the middle school years, and whether there are certain social contexts that may be able to protect against such distress, is not well understood.
Victimization and Prosocial School Environments in Adolescence

During adolescence, the behaviors of the broader peer group, in addition to close friends, become increasingly relevant to the self and school perceptions of young adolescents (Crone & Dahl, 2012). As such, in line with the idea that victims’ psychosocial adjustment will be shaped by both their close interpersonal relationships and their broader social context (Ettekal, Kochenderfer-Ladd, & Ladd, 2015), here I suggest that it is critical to consider the characteristics of adolescents’ social environment in school, particularly in terms of their grademates’ prosocial behavior. That is, although lacking friends is detrimental for victimized children during elementary school (Hodges et al., 1999), bullied and friendless middle schoolers may show relatively better psychosocial adjustment in schools where students are more likely to stick up for bullied peers and act considerately towards other kids, even if they do not know them well.

Indeed, there is some evidence suggesting that supportive school social contexts can improve students’ school climate perceptions and reduce their risk for victimization, with some of the most compelling evidence coming from school-wide interventions. For example, by relying on popular (i.e., most influential) peers to model prosocial behaviors (e.g., how to mediate conflicts, support bullied peers), Paluck, Shepherd, and Aronow (2016) improved the school social climate by significantly decreasing peer conflict in middle schools. Also, interventions specifically designed to promote positive bystander behavior (e.g., defending and supporting victims) reduce rates of bullying incidents as well as students’ internalizing symptoms, at least in elementary schools (Karna et al., 2011; Williford et al., 2012). Moreover, recent findings demonstrate that such programs are particularly beneficial for preadolescents who were chronically victimized (i.e., several times a week) prior to the intervention, improving their subsequent mental health and school perceptions (Juvonen, Schacter, Sainio, & Salmivalli,
These findings suggest that students, even those who are frequently bullied, can benefit from programs that foster more supportive peer norms at school. The question raised in the current investigation is whether attending school with prosocial peers can provide similar protection for the potentially most vulnerable victims—that is, those lacking any friends. Although as far as I know this question has not been examined, there is indirect evidence to suggest that supportive contexts function much like supportive relationships for high risk youth. For example, a positive school climate is especially important for promoting the adjustment of youth experiencing heightened risk for emotional and behavioral difficulties, such as students with self-regulatory problems (e.g., Kuperminc, Leadbeater, Emmons, & Blatt, 1997; Loukas & Murphy, 2007). Additionally, victimized youth who report having at least one peer who defends them (e.g., stands up for them) at school show better well-being than those who are undefended (Sainio, Veenstra, Huizinga, & Salmivalli, 2011). Given that being bullied and lacking social support both are likely to increase adolescents’ risk for adjustment problems, a school where peers are caring of one another and stand up for the vulnerable may be critical for friendless victims of bullying.

**The Present Study**

Testing the potential protective effects of school-level prosociality on the peer victimization-related distress of adolescents with versus without friends, the main goal of current study is to examine whether attending school with kind, considerate, and supportive peers in 6th grade can make friendless victims of bullying feel less socially and emotionally vulnerable (e.g., less lonely, more safe) a year later. I study this question across the first two years of middle school for several reasons. While past research suggests that having friends can alleviate victimization-related maladjustment during childhood, less is known about the fate of victims
who lack friends as they navigate the new middle school environment. Moreover, when students move from self-contained elementary school classrooms to a larger and less structured middle school, young adolescents are very vulnerable to social stressors (Chung, Elias, & Schneider, 1998). As old friendship networks are interrupted because of the school transition, prosocial behavior typically decreases (Galvan, Spatzier, & Juvonen, 2011), while bullying increases across the middle school transition (typically in 6th grade; Pellegrini & Bartini, 2000). I presume that under such conditions peer victimization experiences are particularly emotionally distressing and also likely to shape student views of the school as an unsafe environment (Nansel, Haynie, & Simonsmorton, 2003).

In the current study, I hypothesized that in the absence of friends, a prosocial peer environment at school is especially critical to alleviate the feeling of “nobody caring” among peer victimized youth in middle school. I test my moderation hypotheses (captured by a three-way cross-level interaction between victimization, presence versus absence of friends, and school prosociality) across the first two years of middle school (from 6th grade to 7th grade), focusing on important social distress indicators of social anxiety and loneliness as 7th grade outcomes; I also consider student sense of safety at school as an outcome given that negative social experiences are likely to shape students’ school perceptions. Insofar as I expected peer prosocial behavior at school to make the most significant difference for students who were indeed viewed by their peers as socially vulnerable (i.e., victimized, without friends), I measured students’ victimization and presence versus absence of a friend based on peer nominations in 6th grade. Peer nominations are well-established in past research (Cillessen, 2009) and advantageous in that they reflect the perspectives of grademates at school (i.e., student’s social reputation) versus a single rater (i.e., student’s self-perception). Additionally, the current analyses focus on
an ethnically and socioeconomically diverse sample of urban middle schoolers and thus control for several relevant individual-level factors (sex, ethnicity, SES) and school-level factors (ethnic diversity) within a multilevel modeling framework.

The current study contributes to and extends prior literature in several important ways. First, by simultaneously examining the moderating effects of friendship and school prosociality, I consider the risk and protective functions of close relationships and school social environments occurring within an interactive framework (A. Masten, 1999). As such, I acknowledge that the psychological consequences of being a friendless victim likely varies across school contexts (i.e., whether grademates are more or less prosocial). Additionally, I study these processes following an important developmental transition (i.e., to middle school), recognizing that interpersonal stressors experienced during early adolescence frequently amplify distress among middle school-aged youth (C. Masten et al., 2009). Finally, I use peer- and self-report measures to avoid capitalizing on shared method variance and rely on a large ethnically diverse sample to increase generalizability across demographic groups. My findings, in turn, can shed light on potentially effective avenues of intervention for promoting the sense that “someone cares” among youth experiencing multiple social vulnerabilities.

**Method**

**Participants**

The current sample consisted of 5,991 adolescents (52% female) who were part of a large, longitudinal study of adolescent development across the middle school years (UCLA Middle School Diversity Project). The sample was recruited from 26 urban public schools in California that systematically varied in their ethnic composition. All school districts provided permission to conduct the study, and during 6th grade recruitment all students and families
received informed consent and informational letters. Parental consent rates averaged 81.4% and student assent rates averaged 83.1% across the schools. Only students who turned in signed parental consent and provided written assent participated. The number of participating students in each school ranged from 78 to 445 (\(M=281.57, SD=111.68\)). All participating students made the transition to middle school in the 6\(^{th}\) grade school year.

Based on self-reported ethnicity in the Fall of 6\(^{th}\) grade, the sample was 32% Latino/a, 20% Caucasian/White, 13% East/Southeast Asian, 14% Multietnic/Biracial, 12% African American/Black, 3% Filipino/Pacific Islander, 2% Middle Eastern, 2% South Asian, and 2% other. Participants also came from families ranging in socioeconomic status as indicated by parental level of education (18% less than high school, 13% high school education or GED, 29% some college, 22% college degree, 19% graduate degree).

**Procedure**

The present study relies on data collected across three distinct time points: Fall of 6\(^{th}\) grade, Spring of 6\(^{th}\) grade, and Spring of 7\(^{th}\) grade. For the current analyses, data collected in the Fall of 6\(^{th}\) grade are primarily used as baseline covariates, data collected in the Spring of 6\(^{th}\) grade are the main predictors of interest, and data collected at 7\(^{th}\) grade are examined as outcomes. Students were informed about confidentiality and reminded that participation was voluntary prior to participation and received cash or gift certificate compensation ($5 in the Fall and Spring of 6\(^{th}\) grade and $10 in the Spring of 7\(^{th}\) grade) after participation. Researchers read most items aloud as students followed along and completed the written questionnaires within a classroom setting.

**Measures**

**Psychosocial adjustment outcomes.** Three indicators were used to assess psychosocial
adjustment during 6th grade (as “baseline” covariates) and Spring of 7th grade (as outcomes). See Appendix B for full measures.

**Social anxiety.** Social anxiety was measured using 6 items from two subscales of the Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, 1998): Fear of Negative Evaluation (e.g., “I worry about what others say about me”), and Social Avoidance and Distress (e.g., “It’s hard for me to ask others to do things with me”). Responses were rated on a 5-point scale (1 = *not at all* to 5 = *all the time*) and averaged into a composite with higher scores indicating higher social anxiety (α 6th grade = .79; α 7th grade = .80).

**Loneliness.** A 5-item adapted scale (Asher & Wheeler, 1985) was used to assess loneliness (e.g., “I have nobody to talk to,” “I feel alone”). Participants were asked how often they feel this way at school, using a 5-point response scale (1 = *always true* to 5 = *not true at all*). Items were reverse coded and averaged into a composite with higher scores indicating greater loneliness (α 6th grade = .91; α 7th grade = .91). Because loneliness was not measured in Fall of 6th grade, Spring of 6th grade scores were used as a baseline control instead.

**Perceived school safety.** Students’ perceptions of school safety were measured using a subscale taken from the Effective School Battery (Gottfredson, 1984). The subscale included six items (e.g., “Are you afraid that someone will hurt or bother you at school?”). Responses were rated on a 5-point frequency scale (1 = *always* to 5 = *never*) (α 6th grade = .79; α 7th grade = .80). Items were reverse coded and averaged into a composite with higher scores indicating feeling safer at school in 7th grade.

**Individual-level predictors.**

**Peer victimization.** Peer nominations were utilized to assess victim reputation. In the spring of 6th grade, students listed classmates in response to the question, “Which 6th grade
students from your list get picked on by other kids (get hit or pushed around, called bad names, talked about behind their backs)?”. With the aid of a school roster, students could write down unlimited names, excluding themselves. The total number of nominations received for each student was computed and z-score standardized within school. Within-school standardization of peer nomination data accounts for varying grade sizes across schools (i.e., different number of potential nominators and nominees) and captures students’ victimization (reputation) relative to peers at their school. The z-scores ranged from -0.64 to 12.51.

**Friends.** Presence versus absence of friends was determined based on peer nominations. In the spring of 6th grade, students listed the names of their good friends in their grade at their school, using an unlimited nomination procedure. In light of methodological limitations associated with relying on reciprocal friendships (underestimation of friends; Bagwell & Schmidt, 2011) and friendship nominations given (overestimation of friends; Furman, 1996), the number of friendship nominations received from peers was calculated for each student. Consistent with past studies that compare the adjustment of victimized youth with or without friends (e.g., Hodges et al., 1999; Erath, Flanagan, & Bierman, 2008), friend nominations received was dichotomized to distinguish between students with or without any friends (1 = at least one friendship nomination received, 0 = no friendship nominations received). Twelve percent of the sample (n=729) did not receive any friendship nominations and hence were considered friendless. Supplementary analyses were conducted based on reciprocated friendships; 22% of the sample (n=1173) did not have any reciprocated friendships.

**Perceptions of peer prosocial behavior.** Students were asked to estimate the prosocial behavior of their peers, rather than reporting on their own prosocial behavior, to avoid issues of self-presentation and social desirability biases. Participants estimated how many students in their
school engaged in prosocial behaviors (e.g., “help others even if they do not know them well”; “help resolve arguments between other kids”), responding to 5 questions on a 5-point scale (1=almost all the students, 5=hardly any). Items were reverse coded and averaged into a composite such that higher scores indicate perceptions of prosocial behavior as more characteristic of peers at school (α=.80; see White, 2013). See Appendix C for full measure.

Demographic covariates. Students self-reported their sex and ethnicity in the fall of 6th grade. Parent education was used as a proxy for student socioeconomic status (SES). The parent or guardian who completed informed consent indicated his or her highest level of education on a 6-point scale ranging from 1= “elementary/junior high school,” 2= “some high school,” 3= “high school diploma or GED,” 4= “some college,” 5= “4-year college degree,” and 6= “graduate degree.”

School-level predictors.

School-level prosociality. Individual scores of perceived peer prosocial behaviors (see above) were aggregated within each school to create a school-level indicator of prosociality (i.e., mean individual-level perceived prosocial behavior within each of the 26 schools), the main contextual construct in the study (M=2.78, SD=.13). The index captures the average level of prosocial behavior perceived by students within a school, with higher values indicating a more prosocial school environment (referred to as “school-level prosociality” herein).

Ethnic diversity. Given that ethnic diversity is associated with the outcomes examined in this study (Juvonen, Nishina, & Graham, 2006; Juvonen, Kogachi, & Graham, 2017), it was included as a covariate. Data from the California Department of Education were used to compute Simpson’s index (1949).

\[
D_c = 1 - \sum_{i=1}^{a} p_i^2
\]
$D_C$ (diversity) is calculated by summing the proportion of students in the same grade at school belonging to a given ethnic group ($p$) and subtracting this proportion from one. Simpson’s index indicates the probability of any two students chosen at random in a school being from different ethnic groups, with possible values ranging from 0 to 1 (higher representing more diversity). In the current study, diversity ranged from .49 to .74 ($M=.64, SD=.08$).

**Missing Data**

There were missing data on several analysis variables, in part due to the larger longitudinal study’s planned missing design. Planned missing designs are advantageous insofar as they maximize data collection efficiency among large samples and reduce burden on the study participants (Graham, Taylor, Olchowski, & Cumsille, 2006). In the Spring of 6th and 7th grade, participants were randomly chosen to complete one of three questionnaires, each of which excluded a different set of measures. In the current analyses, self-reported loneliness in 6th and 7th grade was part of the planned missing design, such that any missing data on loneliness were missing completely at random (MCAR).

There were no missing data for the three central predictors: peer-reported victimization, peer-reported friendship, and school-level prosociality. However, in addition to the aforementioned intentional (planned) missing data, there were relatively low rates of unintentional missing data for self-reported covariates measured in 6th grade (ethnicity, anxiety, safety, SES, individual-level perceived prosociality) and outcomes measured in 7th grade (anxiety, safety). Although there is no way to empirically confirm that unintentional missing data on these variables was consistent with a missing at random (MAR) mechanism, there was not specific evidence to suggest that missingness on these variables was systematically related to the constructs themselves. Rather, across the two years of data collection students occasionally
transferred to new schools, were absent during data collection, or skipped measures given time constraints. As such, all missing data were presumed to be missing at random and handled using full information maximum likelihood (FIML) estimation in Mplus version 7.31 (Muthén & Muthén, 1998-2016). The robust standard error option (MLR) was used to correct for non-normality. By treating all observed predictors as single-item latent variables, FIML estimation allows each individual to contribute whatever data they have to the likelihood function. That is, rather than removing participants with some missing data from analyses (i.e., listwise deletion), thus biasing the results, FIML estimation uses observed responses in the data to produce accurate estimates of the entire sample, even when data are incomplete (Little, Jorgensen, Lang, & Moore, 2013). Methodologists currently regard maximum likelihood estimation as a state-of-the-art missing data technique because it improves the accuracy and the power of the analyses relative to other missing data handling methods (Enders, 2010; Schafer & Graham, 2002).

**Analytical Strategy**

For descriptive purposes, bivariate correlations were first calculated among the main individual-level predictor and outcome variables. In order to obtain purely within-school associations between variables, all variables were centered within school (i.e., group-mean centered) prior to calculating correlations. To address my primary hypotheses, data were analyzed using multilevel modeling to account for non-independence of observations, given that students were nested within schools (Bryk & Raudenbush, 2002). Specifically, multilevel modeling was used to simultaneously examine the independent and joint effects of victimization, friendship, and school-level prosociality on student adjustment in 7th grade, while controlling for individual and school-level variables. All analyses controlled for gender (1=girl, 0=boy) and ethnicity (reference group=Latino, as the largest ethnic group) using dummy-coded variables.
Students who were not in the four major pan-ethnic groups (African American, Asian, Latino, White) were collapsed into a fifth category, “Other,” given the small size of these other ethnic groups and to achieve more parsimonious models. I also controlled for individual-level perceived peer prosocial behavior, baseline levels of the outcomes, SES, and school-level ethnic diversity. For all multilevel analyses, continuous predictors were grand-mean centered, with the exception of victimization, which was standardized within school (i.e., group-mean centered; Bryk & Raudenbush, 2002). Because friendship was represented as a dichotomous variable, the regression coefficient represents the difference between students with versus without friends.

Model-building proceeded in two steps. For each of the three dependent variables (social anxiety, loneliness, perceived school safety), I first tested an unconditional means (i.e., empty) model including only the outcome variable. Based on the variance components from these models, the intraclass correlation (ICC) was computed for each outcome, indicating the degree of similarity between individuals due to shared cluster (school) membership at 7th grade (Hox, 2010).

In the final set of models, I added the fixed effects of individual-level predictors: victimization, friendship, sex, ethnicity, perceived peer prosocial behavior, baseline adjustment, and SES; school-level variables: school-level prosociality and ethnic diversity; as well as the two- and three-way (cross-level) interactions between the main predictors of interest: victimization, friendship, and school-level prosociality (see equation below). In particular, I was interested in assessing whether victimization was related to better adjustment among students who were never chosen as friends in more, compared to less, prosocial schools ($\gamma_7$ interaction term). As such, significant 3-way interactions were decomposed by examining the two-way cross-level interaction between victimization and school-level prosociality among students.
without versus with friends. Then, in the presence of a significant lower-order 2-way interaction ($\gamma_5$ interaction term), simple slopes of victimization predicting psychosocial adjustment were tested at high (+1 SD) and low (-1 SD) levels of the moderator (school-level prosociality). The equation for the main analysis model is presented below, wherein each psychosocial adjustment outcome ($PA_{ij}$) was examined as a function of student victimization ($VIC_{ij}$), presence or absence of a friend ($FRD_{ij}$), school prosociality ($SP_j$), and their two- and three-way interactions. The analyses also controlled for student sex, ethnicity, baseline psychological adjustment, perceptions of prosocial peer behavior, SES, and school diversity ($COV_k$).

$$PA_{ij} = \gamma_0 + \gamma_1 (VIC_{ij}) + \gamma_2 (FRD_{ij}) + \gamma_3 (VIC_{ij})(FRD_{ij}) + \gamma_4 (SP_j) + \gamma_5 (VIC_{ij})(SP_j) + \gamma_6 (FRD_{ij})(SP_j) + \gamma_7 (VIC_{ij})(FRD_{ij})(SP_j) + \sum_{k=1}^{K} \gamma_{k+7} (COV_k) + \mu_0 + \epsilon_{ij}$$

All models included a random intercept, allowing the mean level of the outcome to vary randomly across schools. In supplemental analyses, I also examined this same set of models focusing on whether students had any reciprocated friendships, rather than whether they received any friendship nominations. There was a similar, albeit slightly weaker, pattern of results; this was likely attributable to the overestimation of friendless youth based on the reciprocity criterion (Bagwell & Schmidt, 2011). As such, the final models presented here examine whether students received any friendship nominations from peers.

**Results**

Descriptive statistics for the primary study variables are presented in Table 1, and corresponding correlations among individual-level variables are presented in Table 2. As described above, all variables were centered within school (group-mean centered) prior to computing correlations in order to capture purely within-school associations. As seen in Table 2, students with higher levels of peer-reported victimization were more likely to be friendless (i.e.,
receive no friendship nominations) at the end of 6th grade and feel more anxious, lonely, and unsafe in both 6th and 7th grade. Similarly, students who were friendless in 6th grade felt more anxious, lonely, and unsafe in both 6th and 7th grade. That is, consistent with past research, victimization and friendlessness were each associated with negative adjustment outcomes. Perceptions of more prosocial peer behavior at school (individual-level), in turn, were associated with lower victimization and better psychosocial adjustment in both 6th and 7th grade, but unrelated to presence versus absence of friends. There was moderately strong stability in the psychosocial adjustment outcomes from 6th grade to 7th grade.¹

Multilevel Models

Intraclass correlations were computed using the variance components from intercept-only models for social anxiety (σ²=.542, p<.001; τ₀₀=.014, p=.003), loneliness (σ²=.564, p<.001; τ₀₀=.010, p=.001), and perceived school safety (σ²=.399, p<.001; τ₀₀=.016, p=.001). ICCs were .025 for social anxiety, .017 for loneliness, and .038 for school safety, indicating that the majority of variability in psychosocial adjustment was attributable to individual, rather than school-level, differences.

The final multilevel models are presented in Table 3. To test my main moderator hypotheses, four interaction terms were included in the model to capture the two-way and three-way interactions between victimization, friends, and school prosociality. By including these interaction effects, the individual-level effects of victimization in the models are now interpreted as conditional effects (i.e., for students without friends and in a school with average-level

¹ In supplemental analyses, I also examined the correlation between school-level prosocial norms and school-level victimization (i.e., n=26). Although the two were moderately negatively correlated (r=-.484, p<.001), this suggests that the two are nevertheless independent constructs (i.e., schools with more prosocial norms are not necessarily schools with less bullying).
prosociality). Also, gender and ethnic group moderation (i.e., 4-way interactions) was tested; however, these interaction terms were all nonsignificant and removed from final models.

Focusing first on individual- and school-level covariate effects, as seen in Table 3, girls reported higher levels of anxiety and loneliness compared to boys in 7th grade. Asian and White students experienced significantly more social anxiety and loneliness, as well as less perceived school safety compared to Latino students, who in turn experienced significantly more social anxiety than African American students. Students who perceived higher prevalence of peers engaging in prosocial conduct at school reported less social anxiety, less loneliness, and greater sense of safety at school. Additionally, baseline (6th grade) adjustment indicators were significant predictors of adjustment outcomes a year later. At the school level, greater ethnic diversity was related to higher levels of perceived safety.

Turning to the interactions, as hypothesized there were significant three-way interactions between victimization, friendship, and school-level prosociality for all three outcomes (see Table 3). To probe the three-way interactions, I examined the two-way interaction between victimization and school prosociality for students with versus without friends. That is, I test whether a more prosocial school context can alleviate victimization-related distress among youth with and without friends (received versus did not receive any friendship nominations), respectively. For students without friends, there was a significant interaction between victimization and school prosociality for social anxiety \((b= -.305, p = .014)\), loneliness \((b= -.292, p = .031)\), and perceived school safety \((b= .271, p = .050)\). Probing the significant two-way interactions for students without friends at high (+1 SD) versus low (-1 SD) levels of school prosociality, tests of simple slopes revealed that a more prosocial school buffered the effects of victimization on social anxiety (Figure 1), loneliness (Figure 2), and perceived school safety.
(Figure 3) for friendless youth. That is, as seen in by the black lines depicted in Figures 1-3, whereas friendless students in less prosocial schools (solid black line) showed a significant association between 6th grade victimization and 7th grade social anxiety ($b=0.095, p<0.001$), loneliness ($b=0.106, p=0.002$), and perceived school safety ($b=-0.072, p=0.040$), there were no significant associations between victimization and the three outcomes (social anxiety: $b=0.015, p=0.467$; loneliness: $b=0.039, p=0.066$; safety: $b=-0.002, p=0.914$) for students without friends in more prosocial schools (dashed black line).

For students with friends, the association between victimization and the three outcomes did not significantly differ depending on school-level prosociality (i.e., nonsignificant victimization X school prosociality interactions). As seen by the grey lines displayed in Figure 1, for students with at least one friend, peer victimization was unrelated to social anxiety, regardless of school prosociality ($b=0.024, p=0.079$; i.e., average slope of the solid and dashed grey lines). Follow-up comparisons of simple slopes also indicated that for social anxiety there was a protective effect of having at least one friend for students in less prosocial schools (slope difference Wald test=7.07, $p=0.008$). That is, although victimization was related to increased social anxiety for students without friends in less prosocial schools (solid black line; $b=0.095, p<0.001$), victimization was unrelated to social anxiety for students with at least one friend in less prosocial schools (solid grey line; $b=0.007, p=0.692$). As seen by the grey lines displayed in Figures 2 and 3, for students with at least one friend, peer victimization was related to higher levels of loneliness ($b=0.047, p=0.004$) and lower levels of safety ($b=-0.021, p=0.024$), regardless of school prosociality (i.e., average slope of the solid and dashed grey lines). However, as seen in the figures, these were relatively small effects.
Taken together, the findings suggest that school-level prosociality serves a robust protective role for friendless victims—students who were not considered a friend by anyone in their grade were buffered from victimization-related distress in schools with higher levels of peer prosocial behavior. Additionally, students were protected from social anxiety in less prosocial schools if at least one grademate considered them to be a friend.

**Discussion**

In spite of growing efforts to decrease peer victimization in schools, approximately one in every four American middle school students nevertheless report being frequently bullied (US Department of Justice, 2013). Many bullied youth lack friends (Fox & Boulton, 2006) or feel unsupported at school, and lack of such protective factors, independently, appear to heighten their distress (Espelage & Swearer, 2003; Nickerson, Singleton, Schnurr, & Collen, 2014). The current study contributes to past literature by simultaneously examining the potential moderating effects of peer relationships (i.e., friends) and the characteristics of the broader peer group at school (i.e., prosocial behavior) following adolescents’ transition to middle school. By considering how features of the school context can compensate for vulnerability experienced in relational contexts (i.e., lacking friends), the results provide a more nuanced understanding of the social conditions under which the potentially most marginalized victims fare better.

The overall findings suggest some degree of functional similarity between having friends and being in a school with prosocial peers (van Rijsewijk, Dijkstra, Pattiselanno, Steglich, & Veenstra, 2016). Consistent with past research, the correlational descriptive results indicated that victimization and friendlessness place youth at risk for negative adjustment outcomes, such that both were related to greater psychosocial distress concurrently and one year later. However, I found that in schools where students help resolve arguments between other students, stand up for
the bullied, and are kind to even those they do not know well, more victimized youth who were not considered a friend by any of their grademates nevertheless felt less anxious, less lonely, and consider their school safer. The findings also suggest that in schools with low levels of prosocial peer behavior, having someone who thinks of you as a friend is especially critical for protecting victimized youth from social anxiety. While a test of underlying mechanisms of the documented moderator effects was beyond the scope of the current study, I presume that greater prosocial behavior among peers at school, much like having friends, offers victims support in the face of mistreatment (Lamarche et al., 2006), which can also interrupt the stability of victimization and related distress (Hodges et al., 1999; Kochenderfer & Ladd, 1997). Similarly, in school contexts with less supportive peers, peer relationships within the more proximal social context (i.e., friends) may be especially important for providing compensatory support. One possibility is that, among victimized youth, having a grademate who sees them as a friend increases the likelihood of receiving instrumental (e.g., standing up to the bully) or emotional (e.g., empathy and comfort) support in the face of peer mistreatment, regardless of whether the friendship was reciprocated.

The current findings show that prosocial schools were protective against victimization-related distress, but only in the absence of friends. That is, I did not find evidence that the “rich get richer”, wherein victims with friends would gain additional benefits from being in a more prosocial school context. One possibility is that students who already have friends are less likely to reap the benefits of a supportive peer context—that is, even in a school with caring and considerate students, if peers perceive a victimized student to already have support in the form of friendship, they may be less likely to come to their aid. Instead, the current results capture a pattern wherein the socially “poor get poorer”, such that the experience of being victimized is
most detrimental when adolescents lack both friends and a supportive social context. Thus, these findings are consistent with past studies that demonstrate the importance of friendship and positive school climate among youth already experiencing other risk factors. For example, in one study it was found that friendships were especially important for youth exposed to high levels of family adversity, insofar as these positive peer relationships can help “re-route” the adjustment trajectories of youth exposed to social risks (Criss, Pettit, Bates, Dodge, & Lapp, 2002). Similarly, findings from school climate literature have shown that youth who experienced multiple psychological vulnerabilities (e.g., self-criticism; lack of efficacy) and perceived a more negative school environment showed the most detrimental outcomes (Kuperminc, Leadbeater, & Blatt, 2001). The current findings highlight a similar pattern, wherein students experienced the greatest risk for heightened distress and adjustment problems when they had a victim reputation, did not have any friends, and attended a school with less prosocial peers.

Although I did not find evidence that the main pattern of results (i.e., three-way interactions) varied by gender or ethnic group, there were several differences in psychosocial adjustment across our covariates. I found that girls experienced greater social anxiety and loneliness in 7th grade, which is consistent with past research suggesting that girls exhibit more concerns about peer abandonment and peer evaluation than boys during middle childhood and adolescence (Rose & Rudolph, 2006). While no differences were documented based on parental level of education, Asian and White students in the sample reported significantly greater social anxiety and loneliness and felt less safe in school compared to their Latino and African American peers. This finding is in line with past studies examining differences in psychosocial outcomes within ethnically diverse school-based samples (e.g., Bellmore et al., 2004), although the specific mechanism underlying these differences will require further investigation.
Strengths and Limitations

Strengths of the current study include the use of both self- and peer-report measures to avoid shared method variance, the short-term longitudinal design that allowed me to control for baseline adjustment problems, and the inclusion of an ethnically diverse sample. Moreover, by testing three-way interactions between victimization, friendship, and school-level prosociality, I was able to identify how certain relational and school-level factors interact. Although some past studies have considered peer prosocial behavior as it relates to peer victimization, this research has typically focused solely on bystander behavior (e.g., defending or reinforcing) as it relates to risk for victimization (Kärnä, Voeten, Poskiparta, & Salmivalli, 2010). Expanding this work, here I demonstrate how prosocial peers can alleviate the plight of friendless youth already experiencing victimization. By relying on a large ethnically diverse public school sample and testing for ethnic differences in the moderation effects, the current study also provides findings that should be generalizable across a wide range of groups. Past research has found that students in more ethnically diverse schools feel less socially vulnerable (Juvonen et al., 2006; Juvonen et al., 2017), and the present study similarly demonstrated that students in more diverse schools also felt safer at school. One possibility is that the representation of students from multiple different ethnic groups at school may promote increased inclusion, including more positive bystander behavior and peer support for victims. It will be important for future research to consider how school ethnic composition may directly or indirectly influence positive peer behavior at school to improve the adjustment outcomes of victimized and/or friendless adolescents.

Despite these strengths, there were several limitations of the current study. First, although my focus on whether or not students received any friendship nominations was warranted in light...
of past research (e.g., Scholte et al., 2007), I found that the pattern of results was weaker when focusing on students’ reciprocal friendships. One possibility is that restricting my analyses to participants’ reciprocated friendships resulted in an overestimation of friendless students (e.g., possibly due to less than 100% of grademates participating in the study). At the same time, my results suggest that even just one grademate considering a peer with a victim reputation a friend (regardless of reciprocation) could offer protection from victimization-related anxiety for students in less prosocial schools. Studies that simultaneously consider how different types of friendships (e.g., mutual, desired) differentially affect adolescent adjustment (e.g., Echols & Graham, 2016; Scholte et al., 2009) can provide important insights about the most critical characteristics of friendships.

Additionally, given the specific focus on understanding how prosocial school contexts may impact the adjustment of victimized youth without friends, the current study only considered the presence versus absence of friends among youth, raising questions about other features of friendship that may be important for victims. For example, I found that among students who had at least one friend, there were nevertheless significant (albeit weak) associations between victimization and loneliness as well as perceived school safety, regardless of school context. This suggests that merely having a friend may not be enough to buffer victims from feeling isolated or vulnerable at school, at least during adolescence (Erath et al., 2008; Kochel, Bagwell, Ladd, & Rudolph, 2017). One possibility is that having friends is only protective for victims insofar as these relationships are characterized by high levels of trust and support. As such, it will be important for future studies to also take into account the quality and characteristics of adolescents’ friendships, particularly those experiencing social difficulties. Finally, it should be noted that effect sizes in the current analyses were small. However, this is to
be expected for models that control for prior levels of psychological adjustment (Hodges et al., 1999) and involve 3-way interactions that are already difficult to detect (McClelland & Judd, 1993).

**Implications**

While it is encouraging that risks from the relational domain can be offset by protection from the larger social context, this also presents new complexity and challenges for antibullying interventions. It is critical to recognize that a school with more prosocial peers is not synonymous with a school with low levels of bullying. Indeed, supplemental analyses demonstrated that school-level prosociality was only moderately correlated with school-level victimization, suggesting that one is not simply the inverse of the other. This is important because unlike prosocial peer behavior that appears to alleviate the negative feelings and school perceptions of victimized youth who lack friends, lower rates of victimization in school have been shown to increase the distress of victims (Bellmore et al., 2004; Huitsing et al., 2009). That is, in schools where bullying is less common, victimized youth are more likely to feel responsible for their plight and blame themselves (Schacter & Juvonen, 2015). Such feelings of self-blame are likely further exacerbated when victims do not receive any peer support, such as a group of classmates standing up to a bully. As such, interventions should not only focus on reducing rates of bullying, but also find ways to support victims, especially those lacking adequate social provisions. In addition to promoting positive peer behavior in response to bullying (e.g., intervening, defending victims), school-based interventions may achieve the greatest success by also promoting social support from other sources, such as teachers. Perhaps when victims lack friends and experience a more negative peer climate, having a supportive teacher at school could compensate for such vulnerability (Nickerson, Cornell, Smith, &
Furlong, 2013). Future research examining additional social protective factors, as well as interactions between victimization prevalence and peer group prosociality in schools, will be important for the success of multifaceted intervention approaches.

It is also important to recognize how challenging it is to effectively provide victims with social support in the form of friendships. For example, “befriending” interventions, wherein the goal is to facilitate friendships between victimized youth and their peers, have not been consistently successful (Bagwell & Schmidt, 2011; Smith, Ananiadou, & Cowie, 2003) and are likely to be more difficult to carry out with older youth. Such interventions require a targeted approach (i.e., identifying victims who are then matched with a well-adjusted “buddy”), which could further exacerbate victimized students’ stigmatization and ineptness within the peer group, especially in middle school. However, we do know that whole-school interventions focused on fostering more positive peer norms (e.g., defending victims) have achieved success among victimized youth in childhood and adolescence. Although requiring significant effort to design and implement, such interventions show promise using a range of different methods (e.g., peer exemplars, teacher training) and can be universally administered to students in a school context (Caprara et al., 2014; Kärnä et al., 2011; Paluck et al., 2016). Moreover, recent studies on adolescents demonstrate that much like for antisocial behaviors (Nickerson & Mele-Taylor, 2014), peers influence one another’s prosocial behaviors (Choukas-Bradley, Giletta, Cohen, & Prinstein, 2016; Paluck et al., 2016). As such, victimized adolescents may benefit most from interventions that integrate both targeted and school-wide approaches that not only seek to provide victimized youth with proximal social support (i.e., friendship), but simultaneously promote more prosocial attitudes and behaviors among the broader peer group at school.
Table 1.

*Descriptive Statistics for Main Study Variables (Measured at the Individual Level)*

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Min.</th>
<th>Max.</th>
<th>M</th>
<th>SD</th>
<th>Rating Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6th Grade Predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer-Reported Victimization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Nominations Received)</td>
<td>0.00</td>
<td>35.00</td>
<td>.59</td>
<td>1.60</td>
<td>N/A (unlimited)</td>
</tr>
<tr>
<td>Friends (Nominations Received)</td>
<td>0.00</td>
<td>19.00</td>
<td>3.08</td>
<td>2.45</td>
<td>N/A (unlimited)</td>
</tr>
<tr>
<td>Perceived Peer Prosociality</td>
<td>1.00</td>
<td>5.00</td>
<td>2.78</td>
<td>0.79</td>
<td>1-5</td>
</tr>
<tr>
<td>Social Anxiety</td>
<td>1.00</td>
<td>5.00</td>
<td>2.08</td>
<td>0.78</td>
<td>1-5</td>
</tr>
<tr>
<td>Loneliness</td>
<td>1.00</td>
<td>5.00</td>
<td>1.65</td>
<td>0.78</td>
<td>1-5</td>
</tr>
<tr>
<td>Perceived School Safety</td>
<td>1.33</td>
<td>5.00</td>
<td>4.27</td>
<td>0.66</td>
<td>1-5</td>
</tr>
<tr>
<td><strong>7th Grade Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Anxiety</td>
<td>1.00</td>
<td>5.00</td>
<td>2.14</td>
<td>0.74</td>
<td>1-5</td>
</tr>
<tr>
<td>Loneliness</td>
<td>1.00</td>
<td>5.00</td>
<td>1.59</td>
<td>0.76</td>
<td>1-5</td>
</tr>
<tr>
<td>Perceived School Safety</td>
<td>1.00</td>
<td>5.00</td>
<td>4.27</td>
<td>0.64</td>
<td>1-5</td>
</tr>
</tbody>
</table>

*Note.* In subsequent tables and analyses, a) peer-reported victimization was z-score standardized within schools to account for differences in grade size and b) friends was dichotomized to distinguish between students with or without at least one friend.
Table 2.

*Within-School Correlations Among Main Variables (Measured at the Individual Level).*

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6th Grade Predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Peer-Reported Victimization</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Friendship</td>
<td>-.112***</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Perceived Peer Prosociality</td>
<td>-.029*</td>
<td>.003</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Social Anxiety</td>
<td>.049***</td>
<td>-.034*</td>
<td>-.079***</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Loneliness</td>
<td>.144***</td>
<td>-.144***</td>
<td>-.159***</td>
<td>.384***</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Perceived School Safety</td>
<td>-.071***</td>
<td>.054***</td>
<td>.131***</td>
<td>-.346***</td>
<td>-.265***</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7th Grade Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Social Anxiety</td>
<td>.067***</td>
<td>-.056***</td>
<td>-.084***</td>
<td>.472***</td>
<td>.408***</td>
<td>-.243***</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>8. Loneliness</td>
<td>.112***</td>
<td>-.097***</td>
<td>-.123***</td>
<td>.338***</td>
<td>.508***</td>
<td>-.204***</td>
<td>.531***</td>
<td>--</td>
</tr>
<tr>
<td>9. Perceived School Safety</td>
<td>-.073***</td>
<td>.056***</td>
<td>.141***</td>
<td>-.274***</td>
<td>-.319**</td>
<td>.416***</td>
<td>-.391***</td>
<td>-.393***</td>
</tr>
</tbody>
</table>

*Note.* All continuous variables were centered within school (i.e., group-mean centered) prior to computing correlations to capture purely within-school associations between variables. ***p<.001, **p<.01, *p<.05.*

Table 3.
### Full Model: Effects of 6th Grade Victimization, Friends, and School Prosociality on 7th Grade Adjustment

<table>
<thead>
<tr>
<th>6th Grade Predictors</th>
<th>Social Anxiety</th>
<th>Loneliness</th>
<th>Perceived School Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intercept</strong></td>
<td>2.155***</td>
<td>1.615***</td>
<td>4.254***</td>
</tr>
<tr>
<td><strong>Individual level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>0.058**</td>
<td>0.082**</td>
<td>-0.006</td>
</tr>
<tr>
<td>African-American/Black</td>
<td>-0.120**</td>
<td>-0.026</td>
<td>0.041</td>
</tr>
<tr>
<td>East/Southeast Asian</td>
<td>0.191***</td>
<td>0.200***</td>
<td>-0.112**</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>0.087***</td>
<td>0.122*</td>
<td>-0.085</td>
</tr>
<tr>
<td>Other</td>
<td>0.015</td>
<td>0.071</td>
<td>-0.046</td>
</tr>
<tr>
<td>Parental Education (SES)</td>
<td>0.014</td>
<td>0.010</td>
<td>0.002</td>
</tr>
<tr>
<td>Perceived Peer Prosociality</td>
<td>-0.039**</td>
<td>-0.066***</td>
<td>0.072***</td>
</tr>
<tr>
<td>Baseline Adjustment</td>
<td>0.431***</td>
<td>0.469***</td>
<td>0.397***</td>
</tr>
<tr>
<td>Peer Victimization</td>
<td>0.055**</td>
<td>0.068**</td>
<td>-0.037</td>
</tr>
<tr>
<td>Friend</td>
<td>-0.080**</td>
<td>-0.133***</td>
<td>0.056*</td>
</tr>
<tr>
<td>Victimization X Friend</td>
<td>-0.031</td>
<td>-0.021</td>
<td>0.016</td>
</tr>
<tr>
<td><strong>School level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosociality (aggregate)</td>
<td>0.245</td>
<td>-0.210</td>
<td>0.361</td>
</tr>
<tr>
<td>Ethnic Diversity</td>
<td>0.127</td>
<td>-0.038</td>
<td>0.253</td>
</tr>
<tr>
<td><strong>Cross-level interactions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victimization X School Prosociality</td>
<td>-0.305*</td>
<td>-0.292*</td>
<td>0.135</td>
</tr>
<tr>
<td>Friendship X School Prosociality</td>
<td>0.098</td>
<td>0.408</td>
<td>-0.095</td>
</tr>
<tr>
<td>Victimization X Friend X School Prosociality</td>
<td>0.435*</td>
<td>0.392*</td>
<td>-0.339*</td>
</tr>
</tbody>
</table>

Note. ***p<.001, **p<.01, *p<.05
Figure 1. Significant Victimization X School Prosociality interaction for students \textit{without} any friends (black lines) and nonsignificant Victimization X School Prosociality interaction for students \textit{with} friends (grey lines) predicting social anxiety.

\textit{Note.} The x-axis was scaled to reflect the negative skew of the z-transformed victimization variable ($M=0.00$, $SD=1.00$, Range: -0.64 to 12.51).
Figure 2. Significant Victimization X School Prosociality interaction for students *without* any friends (black lines) and nonsignificant Victimization X School Prosociality interaction for students *with* friends (grey lines) predicting loneliness.

*Note.* The x-axis was scaled to reflect the negative skew of the z-transformed victimization variable ($M=0.00$, $SD=1.00$, Range: -.64 to 12.51).
Figure 3. Significant Victimization X School Prosociality interaction for students without any friends (black lines) and nonsignificant Victimization X School Prosociality interaction for students with friends (grey lines) predicting perceived school safety.

Note. The x-axis was scaled to reflect the negative skew of the z-transformed victimization variable ($M=0.00, SD=1.00$, Range: $-12.51$).
References


Caprara, G. V., Kanacri, B. P. L., Gerbino, M., Zuffianò, A., Alessandri, G., Vecchio, G., ... Bridglall, B. (2014). Positive effects of promoting prosocial behavior in early


adolescence. *Journal of Educational Psychology*, 91, 216-224. doi: 10.1037/0022-0663.91.2.216


STUDY 2

When Do Friendships Help Versus Hurt? Perceived Best Friend Support and Victimization as Moderators of Peer Victimization-Related Distress
Abstract

Although high quality friendships are presumed to protect peer victimized adolescents from experiencing distress, evidence to support this claim has been surprisingly mixed. The current study investigated whether the protective function of high quality best friendships for bullied youth may vary depending on adolescents’ perceptions of their best friend’s victimization. Among a sample of 1,667 8th grade students, multivariate multilevel models tested the independent and interactive effects of self-perceived victimization, as well as perceived best friend emotional support and victimization, on adolescents’ depressive symptoms and social anxiety across the school year (i.e., Fall to Spring of 8th grade). For boys, perceived best friend emotional support buffered links between peer victimization and subsequent depressive symptoms, regardless of perceived best friend victimization. For girls, perceived best friend emotional support buffered links between peer victimization and subsequent internalizing symptoms if they perceived their best friend as nonvictimized, but it amplified such associations if they perceived their best friend as victimized by peers. These results suggest that perceived emotional support from a best friend offers benefits to bullied youth under specific social conditions; highly intimate friendships between victimized girls at the end of middle school may promote maladaptive coping and increased distress.
When Do Friendships Help Versus Hurt? Perceived Best Friend Support and Victimization as Moderators of Peer Victimization-Related Distress

A growing body of research has documented the prevalence of peer victimization during the early adolescent years, with 9-25% of school-aged youth reporting being the target of bullying (Juvonen & Graham, 2014; Berger, 2007). During adolescence, as youth become increasingly concerned with gaining peer acceptance and avoiding peer rejection (Blakemore & Mills, 2014), experiences of peer victimization pose a significant developmental threat (Kretscher, 2016). Past studies demonstrate that victimized youth are at risk for a broad array of adjustment difficulties, and one of the most well-established correlates of peer victimization is internalizing distress (depressive symptoms; social anxiety; Hawker & Boulton, 2000; Reijntjes, Kamphuis, Prinzie, & Telch, 2010). The maladaptive associations between victimization and internalizing distress are concerning given that symptoms of depression and social anxiety during adolescence may be precursors to later psychopathology (e.g., major depressive disorder and social anxiety disorder; Birmaher et al., 1996; Moutier & Stein, 1999). It is thus critical to identify social factors that contribute to the distress of victimized adolescents, as well as factors that can protect peer victimized youth against increased internalizing symptoms during the adolescent years.

Although negative peer experiences (e.g., victimization) take a significant toll on adolescents’ psychological well-being, positive peer relationships, in turn, function as developmental assets. In particular, friendships play a central role in promoting adolescents’ healthy adjustment, providing a context for adolescents to seek out intimacy and receive support (Furman & Buhrmester, 1992). Friendships may, in turn, be particularly important for preventing emotional distress among youth victimized by their peers. Indeed, there is evidence that having
just one friend during childhood protects youth from peer-victimization related adjustment
difficulties (Hodges, Boivin, Vitaro, & Bukowski, 1999). Moreover, beyond considering whether
or not peer victimized adolescents have a friend, it is especially important to examine the
qualitative characteristics of friendships (Berndt, 1996; Furman, 1996). For victimized
adolescents, the protective function of a friend likely varies depending on their perceptions of the
quality of the friendship (e.g., friend’s emotional supportiveness). That is, youth should derive
the most benefits from friendship if they perceive their friend to be caring, supportive, and
trustworthy (Bagwell & Schmidt, 2011).

**Friendship Quality and Peer Victimization-Related Distress**

As previously noted, friendships serve an important developmental function during
adolescence (Brown, 1990; Buhrmester, 1990; Rubin, Wojslawowicz, Rose-Krasnor, Booth-
LaForce, & Burgess, 2006), and they may be particularly important for promoting the well-being
of youth bullied by their peers. Despite well-documented associations between peer victimization
and psychosocial adjustment problems, there is also evidence that having friends, and
specifically having high quality friendships, attenuates links between victimization and distress.
Within this “stress-buffering model”, friendships characterized by high levels of social-
emotional support are presumed to provide individuals with the coping resources necessary to
buffer them from negative outcomes, even when they are experiencing social stress (Cohen &
Wills, 1985; Leavy, 1983). For example, in a study of 7th and 9th grade students, Rothon and
colleagues (2011) found that higher levels of perceived social support from friends buffered
relations between boys’ and girls’ peer victimization and subsequent academic adjustment
problems. Support for a similar stress-buffering pattern was documented in a recent study of 4th
to 6th graders (Cuadros & Berger, 2016), wherein victimized boys and girls who perceived higher
levels of support from their friends also showed better socioemotional well-being (e.g., less loneliness, greater self-efficacy) a year later. Even in day-to-day interactions, having a more helpful best friend can weaken daily associations between 5th graders’ negative peer experiences (e.g., conflict, victimization) and negative mood (Reavis, Donohue, & Upchurch, 2015). Taken together, these studies suggest that when youth perceive greater support from their close friends, they are less likely to experience the negative consequences of peer mistreatment.

Despite evidence for protective effects of high quality friendships among victimized youth, a number of studies also demonstrate amplifying effects of high quality friendships, such that they exacerbate youth’s victimization-related distress. For example, in a study of 4th and 5th grade children, Hodges et al. (1999) found that peer victimization was more strongly related to internalizing symptoms when children reported higher levels of companionship (e.g., spending all free time together) in their best friendships. Studies among middle and high school students similarly show that victimized adolescents who perceive higher levels of emotional support from friends experience worse internalizing symptoms both concurrently (Holt & Espelage, 2007) and across one year (Desjardins & Leadbeater, 2011) than those who report moderate or low levels of support. The negative effects of perceived emotional support within friendships appear particularly relevant for girls. In a study of 3rd to 5th graders, Schmidt and Bagwell (2007) found that victimized girls who perceived greater closeness in their best friendships also experienced greater concurrent depression, whereas perceived closeness did not moderate links between victimization and internalizing distress for boys. Relatedly, Yeung Thompson and Leadbeater (2013) showed that victimized girls who perceived higher levels of emotional support from friends experienced increases in internalizing symptoms across four years, whereas victimized boys who perceived higher levels of emotional support from friends were buffered from
internalizing symptoms over time. Taken together, the aforementioned research suggests that whereas emotionally supportive friendships consistently protect victimized boys from adjustment problems, emotionally supportive friendships can either alleviate or exacerbate the adjustment difficulties of peer victimized girls.

One reason for these inconsistent findings may be that the function of emotionally supportive friendships for victimized girls varies depending on additional friendship factors. Whether or not friendships can protect victimized youth from distress could be dependent upon both the perceived quality of the friendship, as well as the perceived characteristics of the friend (Bagwell & Schmidt, 2011; Hartup, 1996). Indeed, scholars have emphasized that even in the context of an emotionally supportive friendship, victimized youth may nevertheless experience distress if their friend is not socially well-adjusted (Berndt, 2002). As such, high levels of perceived emotional support may amplify the distress of victimized girls if they perceive their best friend to be similarly experiencing peer victimization. Indirect support for this notion comes from research demonstrating that although self-disclosure in friendship contexts generally promotes positive adolescent well-being (Adams & Cantin, 2012; Sullivan, 1953), self-disclosures that involve excessive focus on problems and concerns (co-rumination; see Rose, 2002) can exacerbate adolescents’ emotional distress. Moreover, these maladaptive interactional patterns are more common in the context of girls’ high quality friendships (Rose & Rudolph, 2006); compared to boys, girls tend to endorse more intimacy and self-disclosure in their friendships (Rose & Rudolph, 2006) and exhibit greater sensitivity to interpersonal distress (Bryant, 1982; Van Tilburg, Unterberg, & Vingerhoets, 2002). This suggests that when victimized adolescents, particularly girls, perceive their best friend as both emotionally supportive and victimized, they may be more likely to dwell on negative problems and in turn...
feel even more depressed and anxious. However, whether the effect of perceived emotional support on victimization-related distress varies depending upon adolescents’ perceptions of their best friend’s victimization has yet to be directly tested.

**The Present Study**

The current study advances the literature on peer victimization and friendships by examining how adolescents’ perceptions of their best friendship quality and best friend victimization contribute to victimization-related depressive symptoms and social anxiety across a school year. Although relations between peer victimization and internalizing symptoms during adolescence have been well-established, studies that consider high quality friendships as a buffer against these links yield inconsistent results, particularly among girls. In the current study, I suggest that it is critical to also consider whether adolescents perceive their best friend as victimized. Intimate friendships may promote maladaptive interactions that contribute to adolescents’ symptoms of depression and anxiety if youth judge that both they and their best friend are experiencing high levels of peer mistreatment.

In this study I specifically examine the perceived quality and characteristics adolescents’ best friendships, as opposed to their full friendship network, for two main reasons. First, the majority of past studies that consider friendship quality as a moderator of victimization-adjustment links focus on youth’s best friendships; given the goal of the current study to reconcile inconsistencies of past findings, I use the same operationalization here. Second, because best friend relationships are often more intimate than other friendships, they are more likely to promote adolescents’ disclosures about personal thoughts and feelings (Berndt, 2002). It is within this relational context that victimized youth may be most affected by their (perceptions of a) best friend’s social stress.
As such, the current study investigated a) whether high levels of perceived best friend emotional support buffers against victimization-related depressive symptoms and anxiety and b) whether the protective function of an emotionally supportive best friendship varies depending on if adolescents perceive their best friend to be bullied. In addition, given documented gender differences in past studies considering the protective role of high quality friendships for victims, an important question was whether these patterns varied for boys versus girls. It was hypothesized that whereas perceived best friend emotional support would buffer links between victimization and internalizing symptoms for boys, perceived best friend emotional support would interact with perceived best friend victimization to predict the internalizing symptoms of victimized girls. Although higher levels of perceived emotional support were expected to protect victimized girls from internalizing symptoms if they perceived their best friend as nonvictimized, higher levels of perceived support were expected to exacerbate the internalizing symptoms of victimized girls if they perceived their best friend as more victimized. These hypotheses (two-way interaction between victimization and friend support for boys and three-way interaction between victimization, friend support, and friend victimization for girls) were tested by examining interactions between victimization, perceived best friend emotional support, and perceived best friend victimization in the Fall of 8th grade predicting depressive symptoms and social anxiety in the Spring of 8th grade. Because of the focus on complex 3-way interaction patterns, particularly for girls, analyses were conducted separately for boys and girls to facilitate interpretation. Multilevel multivariate models were used to simultaneously model depression and anxiety outcomes, while controlling for internalizing symptoms at the beginning of 8th grade.

Guided by calls to simultaneously consider the quality of youth’s friendships as well as who their friends are (e.g., Hartup, 1996; Bagwell & Schmidt, 2011), the current study extends
past research in several important ways. First, the study focuses not only understanding how perceptions of best friend emotional support can protect victimized youth from distress, but also how a best friend’s social experiences may impact the effectiveness of their social support. Additionally, in light of documented differences in the friendships of adolescent boys and girls, this study also considers how adolescents’ perceptions of their best friend’s supportiveness and victimization may serve different functions depending on adolescent characteristics (i.e., sex). Finally, by examining associations between victimization and distress at two separate time points across 8th grade, I account for students’ internalizing symptoms at the beginning of the school year and identify how victimization, perceived best friendship quality, and perceived best friend victimization contribute to depressive symptoms and social and anxiety over and above preexisting mental health difficulties. This is important insofar as internalizing symptoms tend to be highly stable over the course of a year in adolescence (Reitz, Deković, & Meijer, 2005).

Moreover, given that peer victimization typically peaks following the transition to middle school in 6th grade and subsequently declines in prevalence (Nansel et al., 2001; Nylund, Bellmore, Nishina, & Graham, 2007), adolescents who are nevertheless victimized during their final year of middle school may represent a particularly vulnerable group.

**Method**

**Participants**

Participants were 1,667 students (763 boys, 904 girls) taking part in the UCLA Peer Project, a larger longitudinal study of peer relations. Students were recruited from 11 middle schools in low-income communities within the greater Los Angeles area that were carefully selected to yield an ethnically diverse sample (44% Latino, 16% African American, 10% Asian, 8% White, 22% Other). The current study reports on data collected during the Fall and Spring
semesters of the 8th grade school year. Due to attrition over the course of the study, the current sample represents approximately 70% of the students who initially participated during the Fall of 6th grade. A series of independent samples t-tests indicated that students who were no longer participating in the study by 8th grade (i.e., students missing from the current analyses) were significantly more likely to report victimization and depressive symptoms, but not social anxiety, in 6th grade compared to those who remained in the study. As such, the current analyses may not necessarily generalize to students experiencing the highest levels of victimization and depressive symptoms.

**Procedure**

Students were recruited during the sixth grade and completed written surveys twice per year over the course of three years (6th to 8th grade). To increase consent return rates, students returning signed consent were entered in a raffle. Participants providing parent consent and student assent completed confidential surveys in their classrooms. All questionnaire items were read aloud by a trained research assistant and students provided individual responses on the paper survey.

**Measures**

**Self-perceived victimization.** Four items from the Peer Victimization Scale (PVS; Neary & Joseph, 1994) and two new items added for the current study were averaged to create a 6-item measure of self-perceived victimization (see Appendix D). To minimize social desirability effects, for each item, students read two statements separated by the word “but” (see Harter, 1985). They first circled the statement that was most true for them and then indicated whether the statement was “really true for me” or “sort of true for me”, creating a 4-point response scale for each item (higher score indicates more victimization). An example item was “Some kids are
not called bad names by other kids BUT other kids are often called bad names by other kids.”

The other PVS items asked about being picked on, pushed around, and laughed at. The new items asked students if they were gossiped about by others or had their possessions damaged/stolen by others. Ratings across the six items were averaged to create a composite measure of self-perceived victimization, with higher scores indicating greater mistreatment ($\alpha=.83$).

**Best friendship.** Fifteen items assessed the quality of students’ best friendship. Students were instructed to think about the person they considered their best friend at school and rated that person on each statement. The current analyses focus on the three items that measure *perceived best friend emotional support* (“cares about my feelings”; “sticks up for me when others say mean things about me”; “I can talk about problems with my best friend”) and the two items that measure *perceived best friend victimization* (my best friend… “gets pushed around by others”; “gets put down and made fun of by others”). Ratings across the three support items ($\alpha=.75$) and the two victimization items ($\alpha=.65$) were respectively averaged to create two separate composite scores.

**Depressive symptoms.** The 10-item short form of the Children’s Depression Inventory (CDI; Kovacs, 1992) assessed depressive symptoms during the Fall and Spring of 8th grade (see Appendix E). Students read three sentences describing “how kids might feel” and chose the statement that best described how they felt over the past two weeks (e.g., “I am sad once in a while”; “I am sad many times”; “I am sad all the time”). Items were scored on a 0-2 scale (higher indicates more depressive symptoms) and averaged to create a composite score of depressive symptoms (Fall 8th grade: $\alpha=.75$; Spring 8th grade: $\alpha=.74$).
Social anxiety. Nine items modified from the Social Anxiety Scale for Adolescents (La Greca & Lopez, 1998) measured students’ discomfort in social situations (see Appendix E). Responses were on a 5-point Likert-type scale (1=not at all, 5=all the time) to items such as “I worry about what others think of me” and “I’m afraid to invite others to do things with me because they might say no.” The nine items were averaged to form a composite score of social anxiety (Fall 8th grade: $\alpha=.86$; Spring 8th grade: $\alpha=.87$).

Demographics. Ethnicity was represented by four dummy variables (African American, Asian, White, Other), using Latino students (largest group) as the reference group.

Analytic Plan

Participants in the current sample were selected from 11 different middle schools. Given presumed similarities between students attending the same schools, I model the data using multilevel modeling. By accounting for the nesting of students within schools, multilevel analysis corrects for dependences between individual observations that come from the same cluster (Bryk & Raudenbush, 2002). Although in the current study I do not consider effects of any school-level variables, multilevel modeling nonetheless prevents underestimation of standard errors that can occur when using single-level regression techniques on clustered data. Given the strong correlation and conceptual relation between depression and anxiety, I used multivariate multilevel modeling to consider predictor effects on the two outcomes simultaneously. The multilevel multivariate models were analyzed in Mplus 7.31 (Muthén & Muthén, 1998-2016). All models were tested using the full information maximum likelihood (FIML) estimator in order to deal with the missing data. The robust standard error option (MLR) was used to correct for non-normality. By treating all observed predictors as single-item latent variables, FIML estimation allows each individual to contribute whatever data they have to the likelihood
function. Methodologists currently regard maximum likelihood estimation as a state-of-the-art missing data technique because it improves the accuracy and the power of the analyses relative to other missing data handling methods (Schafer & Graham, 2002; Enders, 2010). To reduce the complexity of final models that included 3-way interaction effects and in light of expected sex differences, all multilevel models were tested separately for boys and girls.

The current multilevel analyses proceeded in three stages of model building. Within the first stage, I first estimated unconditional means (i.e., empty) models separately for depression and anxiety to determine their intraclass correlations. In the second stage, I tested main effects multivariate models that examined the independent effects of self-perceived victimization, perceived best friend emotional support, and perceived best friend victimization on internalizing symptoms (depressive symptoms and anxiety). In the final stage, all two- and three-way interactions between the main predictors of interest (victimization, perceived best friend support, perceived best friend victimization) were added to models. In the presence of significant two- or three-way interactions, simple slopes were tested. Continuous predictors were grand-mean centered to facilitate interpretation. All models also controlled for ethnicity (dummy coded with Latino as the reference group) and Fall of 8th grade depressive symptoms and anxiety.

**Results**

Below I first review bivariate correlations between the main variables of interest, followed by multilevel models that test the independent and interactive effects of victimization, perceived best friend emotional support, and perceived best friend victimization on students’ internalizing symptoms.
Correlations

Correlations for all study variables are presented in Table 1 separately for boys and girls. Boys and girls who perceived higher levels of victimization were more likely to perceive lower levels of best friend emotional support and higher levels of best friend victimization. For both boys and girls, these three predictors were also related to anxiety and depression, such that higher levels of victimization, lower levels of perceived best friend support, and higher levels of perceived friend victimization in the Fall of 8th grade were associated with more depression and anxiety in the Fall and Spring of 8th grade. Depression and anxiety were moderately correlated at the beginning and end of the 8th grade school year, and there was also strong stability in both depressive symptoms and social anxiety from Fall to Spring of 8th grade.

Multilevel Models

Intraclass correlations were estimated by testing empty (intercept-only) models and calculating the proportion of variance at Level 2 (school level) for each dependent variable (Snijders & Bosker, 1999). The average ICC for depression was .01 (boys=.01; girls=.01), and the average ICC for social anxiety was .02 (boys=.01; girls=.03). As expected, this indicated that the almost all of the variability in internalizing symptoms for both boys and girls was between individuals within schools rather than between schools.

Boys. The first two columns of Table 2 present the results from a main effects model for boys. There was only one significant ethnic difference that emerged across the two outcomes, such that such that Latino boys reported more depressive symptoms than White students. Consistent with the correlations presented in Table 1, boys reporting more depressive symptoms and social anxiety in the beginning of 8th grade also reported more depressive symptoms and social anxiety at the end of 8th grade, respectively. There was a significant victimization effect
for depressive symptoms, indicating that over and above preexisting depressive symptoms, boys who perceived themselves as more victimized in the beginning of 8th grade exhibited increased depressive symptoms by the end of 8th grade. Although there was not a significant victimization effect for social anxiety, there was a significant effect of perceived best friend victimization. That is, over and above preexisting social anxiety, boys who perceived their best friend as more victimized in the beginning of 8th grade exhibited increased social anxiety by the end of 8th grade. There were no independent effects of perceived best friend emotional support for either outcome. Note that there was the same pattern of lower-order effects (i.e., nonsignificant victimization effect, significant perceived best friend victimization effect) when the interaction terms were removed from the model.

Table 3 displays estimates from the final model for boys. Because there were not significant 3-way interactions across either outcome for boys, they were dropped from final models. There was only one significant two-way interaction (Victimization X Best Friend Emotional Support) that emerged for boys across the two outcomes. Specifically, perceived best friend emotional support moderated the association between boys’ self-perceived victimization and subsequent depressive symptoms. Probing of simple slopes revealed that perceived friend support served as a buffer. Specifically, as seen in Figure 1, victimization at the beginning of the school year was related to increased depressive symptoms at the end of the school year if boys perceived their best friend to provide low levels of emotional support (-1 SD; \( b=0.064, p=.001 \)) or average levels of emotional support (\( b=0.041, p=.01 \)), but not if they perceived their best friend to provide high levels of emotional support (+1 SD; \( b=0.018, p=.107 \)).

**Girls.** The last two columns of Table 2 present the results from a main effects model for girls. There were several significant ethnic differences in social anxiety that emerged, such that
such that girls who were Asian, White, or from other than the four pan-ethnic groups reported more social anxiety than Latina students. Consistent with the correlations presented in Table 1, girls reporting more depressive symptoms and social anxiety in the beginning of 8th grade also reported more depressive symptoms and social anxiety at the end of 8th grade, respectively. There was a significant victimization effect for depressive symptoms, suggesting that over and above preexisting depressive symptoms, girls who perceived themselves as more victimized in the beginning of 8th grade exhibited increased depressive symptoms by the end of 8th grade. Although there was not a significant victimization effect for social anxiety, there were significant effects of perceived best friend emotional support and perceived best friend victimization. That is, over and above preexisting social anxiety, girls who perceived their best friend as more emotionally supportive in the beginning of 8th grade exhibited decreased social anxiety by the end of 8th grade. Additionally, girls who perceived their best friend as more victimized in the beginning of 8th grade exhibited increased social anxiety by the end of 8th grade.

Final multilevel models included two- and three-way interactions between victimization, perceived best friend emotional support, and perceived best friend victimization. As seen in Table 3, there were significant three-way interactions between victimization, best friend support, and best friend victimization in predicting both depressive symptoms and social anxiety. To probe the interactions, for each outcome (i.e., depressive symptoms, social anxiety) I first tested the conditional 2-way interactions between victimization and perceived friend victimization at different levels of perceived friend support. For depressive symptoms, among girls who

---

1 Given the positive skew of the perceived emotional support variable and negative skew of the perceived friend victimization variable among girls, +1 standard deviation on emotional support and -1 standard deviation on friend victimization were not plausible values. Simple slopes were therefore tested and plotted at -1SD and the maximum value for emotional support and at the minimum value and +1SD for friend victimization.
perceived their best friend to be highly supportive (maximum value), there was a significant 2-way interaction between victimization and perceived best friend victimization ($b=0.075, p=.001$). Specifically, as seen in Figure 2a, victimization was related to increased depressive symptoms when girls perceived their best friend as experiencing high levels of victimization ($+1SD, b=0.094, p=.001$). However, victimization was unrelated to subsequent depressive symptoms if girls perceived their best friend as experiencing average ($b=0.038, p=.115$) or no (minimum value, $b=-0.001, p=.985$) victimization. That is, it was specifically when girls perceived their best friends as both highly supportive and victimized that their own victimization was predictive of increased depressive symptoms. As seen in Figure 2b, among girls who perceived their best friend to be less supportive ($-1SD$), there was a nonsignificant 2-way interaction between victimization and perceived best friend victimization ($b=-.020, p=.468$). That is, when girls perceived their best friend as less supportive, the effect of victimization on depressive symptoms did not vary depending on friend victimization and, on average, predicted higher levels of depressive symptoms ($b=.042, p=.018$).

For social anxiety, among girls who perceived their best friend to be highly supportive (maximum value), there was again a significant 2-way interaction between victimization and perceived best friend victimization ($b=0.125, p<.001$). Specifically, as seen in Figure 3a, victimization was related to increased social anxiety when girls perceived their best friend as experiencing high levels of victimization ($+1SD, b=.121, p=.025$). However, victimization was unrelated to subsequent anxiety when girls perceived their best friend as experiencing average ($b=.026, p=.493$) or no (minimum value, $b=-0.037, p=.258$) victimization. That is, it was again specifically when girls perceived their best friends as both highly supportive and victimized that their own victimization was predictive of increased social anxiety. As seen in Figure 3b, among
girls who perceived their best friend to be less supportive (-1SD), there was a nonsignificant 2-way interaction between victimization and perceived best friend victimization ($b=-.056, p=.184$). That is, when girls perceived their best friends as less supportive, the effect of victimization on social anxiety did not vary depending on friend victimization—in fact, on average victimization was unrelated to social anxiety ($b=0.062, p=.227$).

**Summary of results.** In summary, boys were protected from victimization-related increases in depressive symptoms across the 8th grade school year if they perceived their best friend to be more emotionally supportive (e.g., can talk to about problems; cares about my feelings). Although boys who were more victimized at the beginning of the year did not experience increases in social anxiety by the end of the year, boys who perceived their best friend as more victimized in the Fall of 8th grade experienced increased social anxiety by the end of the year.

For girls, whether or not their own victimization related to increased internalizing symptoms depended on both their perceptions of their best friend’s emotional supportiveness as well as their perceptions of their best friend’s victimization. Perceived best friend emotional support only protected victimized girls from internalizing symptoms *if* they also perceived their best friend to be nonvictimized. In contrast, if girls perceived their best friend to be victimized, perceptions of high levels of best friend emotional support exacerbated links between victimization and internalizing symptoms. In other words, perceptions of shared plight were detrimental when girls reported their best friendships as emotionally close and supportive.

**Discussion**

In light of inconsistent findings regarding the role of emotionally supportive friendships in the adjustment of victimized youth, and girls in particular, it is important to consider whether
the effects of friendship quality may vary depending on other friend characteristics. By investigating the independent and interactive effects of perceived best friendship quality and perceived best friend victimization, the current study provides a more nuanced understanding of the conditions under which friendships alleviate versus exacerbate the depression and anxiety of bullied adolescents. Additionally, by examining these patterns across two separate time points during the last year of middle school, I show that over and above preexisting mental health problems, perceptions of best friendship quality and best friend victimization contribute in important ways to the internalizing distress of victimized boys and girls.

Among boys, higher levels of perceived emotional support emerged as a protective factor for victimization-related distress. These findings provide support for a “stress-buffering” model of friendship proposed in prior research (Hodges et al., 1999; Schmidt & Bagwell, 2007). When boys perceived their best friend as someone they could talk to about their problems and count on to stick up for them, their victimization at the beginning of the 8th grade was less likely to predict increased depressive symptoms by the end of the school year. A similar pattern was found for victimized girls who perceived their best friend as nonvictimized. However, victimized girls perceiving high levels of emotional support showed increased depression and anxiety when they believed their best friend was also targeted by peers.

The finding that perceived best friend victimization mattered for victimized girls, but not boys, can be understood within past research on the nature and function of emotional support in boys’ versus girls’ friendships. In the context of boys’ friendships, intimacy may be expressed through companionship and shared activities, rather than high levels of emotional disclosure (Maccoby, 1998). As such, perceiving a best friend as both highly supportive and victimized may not negatively impact the day-to-day interaction patterns among victimized boys and their
friends. In contrast, because intimacy in girls’ friendships is often characterized by higher levels of self-disclosure (Berndt, 2002), emotionally supportive friendships between victimized youth may ultimately “backfire.” Although the current study did not test the direct mechanism by which perceived best friend victimization promotes distress, past research suggests that close relationships among youth experiencing similar social stress promote maladaptive coping behaviors such as co-rumination. Co-rumination typically involves revisiting problems and the negative emotions related to such problems, in turn increasing emotional distress (Byrd-Craven, Granger, & Auer, 2010; Hankin, Stone, & Wright, 2010; Rose, Carlson, & Waller, 2007; Starr & Davila, 2009). Of particular relevance to the current findings, despite its detrimental impact on adolescents’ emotional distress, co-rumination is also associated with more positive perceptions of friendship quality (Rose et al., 2007). Therefore, girls who share a common negative social experience (i.e., peer victimization) may be at high risk for validating and reinforcing each other’s negative emotions related to their shared plight.

The current findings shed light on some important theoretical questions. First, the results offer insights into inconsistent findings on friendship quality among victims of bullying by considering the role of perceived best friend victimization. Given that evidence suggests victims’ friendships can both help and hurt bullied youth, I posited that the relative impact of perceived emotional support will vary based on other friend characteristics. As such, the current study highlights the need to consider more than just friendship quality itself—it is critical to understand who victims befriend and how a best friend’s social experiences may impact the effectiveness of their social support. Additionally, as discussed above, these results suggest meaningful differences in the form and function of emotional support within the friendships of boys and girls, particularly those who are victimized by peers. Thus, the protective function of emotionally
supportive best friendships for victimized youth varies depending on both adolescent characteristics (i.e., sex) and perceived characteristics of best friends (i.e., victimization).

There were also several limitations to the current study. First, I relied exclusively on self-report data. Although my primary interest was in adolescents’ own perceptions of their victimization and best friendship characteristics (i.e., quality, friend victimization), shared method variance may contribute to the findings. For example, youth’s own victimization was related to their perceptions of their best friends’ victimization. As such, it will be important for future studies to also consider adolescents’ friends’ self-perceptions of victimization and use analytic approaches that account for potential dependencies within friendship dyads (e.g., actor-partner interdependence modeling). Additionally, I focused on adolescents’ best friendships to be consistent with most past research on friendship quality and isolate the effects of perceived quality and perceived characteristics of a specific, close friendship. However, it is not unusual for youth, even those who are victimized by peers, to have more than just one friend (Pellegrini, Bartini, & Brooks, 1999; Smith, Talamelli, Cowie, Naylor, & Chauhan, 2004). Examining characteristics of adolescents’ broader friendship networks might further help identify the conditions under which friendships can help versus hurt victimized adolescents. For example, although perceiving a best friend as victimized appears to be maladaptive in the context of girls’ highly intimate best friendships, it is possible that higher average levels of victimization experienced by an adolescents’ entire friend group (rather than just a best friend) could protect youth from feeling singled out or alone. Indeed, victimized adolescents experience less distress if many of their classmates are also bullied (Bellmore, Witkow, Graham, & Juvonen, 2004), insofar as sharing social plight with similar others can alleviate the sense that “there is something wrong with me” (Schacter & Juvonen, 2015). Thus, there may be differential effects of victimization
experienced by adolescents’ broader social reference group versus victimization experienced by their very best friend. Finally, although the short-term longitudinal design across the 8th grade year allowed for a conservative test of victimization and friend effects over and above preexisting internalizing symptoms, it nevertheless raises questions about the role of friendships in adolescents’ adjustment over longer time intervals. Studies that consider how victimization experiences vary over multiple time points across entire schooling periods, and how friendships affect students’ related adjustment outcomes, will be critical for better understanding the developmental progression of adolescents’ positive and negative peer relationships.

Although friendships are often considered universally protective, the current findings underscore that, particularly among girls, even high quality friendships are not necessarily a panacea for victimized youth. These results also suggest that intervention programs designed to increase social support for victims must carefully consider the nature of this support and incorporate elements that teach adaptive support strategies within close friendships. Interventions that select at-risk (e.g., victimized) adolescents for group-based programs may facilitate peer contagion effects, which ultimately undermine the intervention goals (Dishion & Tipsord, 2011). Rather than creating new contexts for vulnerable youth to further reinforce one another’s emotional distress, it will be important for such programs to capitalize on peer influence processes to promote positive behaviors. For example, broadly educating students how to engage in productive problem-solving, rather than problem-focused interpersonal interactions (e.g., corumination), could help teach and reinforce more positive coping strategies within close friendships, particularly among girls who perceive both themselves and their best friend as victimized by peers.
Table 1
Correlations Between Main Predictors and Outcomes for Boys and Girls.

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall 8\textsuperscript{th} Grade</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Victimization</td>
<td>--</td>
<td>0.222**</td>
<td>0.311**</td>
<td>0.392**</td>
<td>0.333**</td>
<td>0.344**</td>
<td>0.264**</td>
</tr>
<tr>
<td>2. Best Friend Emotional Support</td>
<td>0.168**</td>
<td>--</td>
<td>0.098*</td>
<td>0.208**</td>
<td>0.138**</td>
<td>0.153**</td>
<td>0.103*</td>
</tr>
<tr>
<td>3. Best Friend Victimization</td>
<td>0.267**</td>
<td>0.187**</td>
<td>--</td>
<td>0.209**</td>
<td>0.291**</td>
<td>0.190**</td>
<td>0.267**</td>
</tr>
<tr>
<td>4. Depressive Symptoms</td>
<td>0.428**</td>
<td>0.184**</td>
<td>0.208**</td>
<td>--</td>
<td>0.351**</td>
<td>0.634**</td>
<td>0.316**</td>
</tr>
<tr>
<td>5. Social Anxiety</td>
<td>0.361**</td>
<td>0.223**</td>
<td>0.240**</td>
<td>0.462**</td>
<td>--</td>
<td>0.318**</td>
<td>0.650**</td>
</tr>
<tr>
<td><strong>Spring 8\textsuperscript{th} Grade</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Depressive Symptoms</td>
<td>0.387**</td>
<td>0.140**</td>
<td>0.199**</td>
<td>0.735**</td>
<td>0.385**</td>
<td>--</td>
<td>0.377**</td>
</tr>
<tr>
<td>7. Social Anxiety</td>
<td>0.298**</td>
<td>0.250**</td>
<td>0.232**</td>
<td>0.371**</td>
<td>0.673**</td>
<td>0.433**</td>
<td>--</td>
</tr>
</tbody>
</table>

*Note.* Correlations for boys above the diagonal, and correlations for girls below the diagonal. **\(p<.001\); *\(p<.01\)
Table 2
*Main Effects Multilevel Models Predicting Boys’ and Girls’ Spring of 8th Grade Depressive Symptoms and Social Anxiety*

<table>
<thead>
<tr>
<th>Fall 8th Grade</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Depressive Symptoms</td>
<td>Social Anxiety</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.205(.01)***</td>
<td>1.784(.03)***</td>
</tr>
<tr>
<td>African American</td>
<td>-0.006(.02)</td>
<td>-0.009(.07)</td>
</tr>
<tr>
<td>Asian</td>
<td>-0.022(.02)</td>
<td>0.161(.09)</td>
</tr>
<tr>
<td>White</td>
<td>-0.047(.02)**</td>
<td>0.049(.04)</td>
</tr>
<tr>
<td>Other</td>
<td>0.025(.03)</td>
<td>0.010(.04)</td>
</tr>
<tr>
<td>Internalizing Outcome</td>
<td>0.544(.05)***</td>
<td>0.600(.05)***</td>
</tr>
<tr>
<td>Victimization</td>
<td>0.042(.02)**</td>
<td>0.045(.03)</td>
</tr>
<tr>
<td>Perceived Best Friend Emotional Support</td>
<td>-0.001(.01)</td>
<td>-0.007(.02)</td>
</tr>
<tr>
<td>Perceived Best Friend Victimization</td>
<td>0.014(.01)</td>
<td>0.078(.02)***</td>
</tr>
</tbody>
</table>

Note. Standard errors in parentheses. ***p<.001, **p<.01, *p<.05
Table 3.
Final Multilevel Models Predicting Boys’ and Girls’ Spring of 8th Grade Depressive Symptoms and Social Anxiety

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th></th>
<th>Girls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall 8th Grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Depressive Symptoms</td>
<td>Social Anxiety</td>
<td>Depressive Symptoms</td>
<td>Social Anxiety</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.202(.01)***</td>
<td>1.793(.03)***</td>
<td>0.301(.01)***</td>
<td>1.830(.039)***</td>
</tr>
<tr>
<td>African American</td>
<td>-0.008(.02)</td>
<td>-0.015(.07)</td>
<td>0.017(.03)</td>
<td>0.061(.07)</td>
</tr>
<tr>
<td>Asian</td>
<td>-0.021(.02)</td>
<td>0.161(.08)</td>
<td>0.028(.02)</td>
<td>0.190(.06)**</td>
</tr>
<tr>
<td>White</td>
<td>-0.047(.02)</td>
<td>0.047(.04)</td>
<td>-0.033(.02)</td>
<td>0.126(.05)**</td>
</tr>
<tr>
<td>Other</td>
<td>0.022(.03)</td>
<td>0.007(.04)</td>
<td>0.018(.02)</td>
<td>0.105(.05)*</td>
</tr>
<tr>
<td>Internalizing Outcome</td>
<td>0.532(.05)***</td>
<td>0.601(.05)***</td>
<td>0.686(.03)***</td>
<td>0.596(.03)***</td>
</tr>
<tr>
<td>Victimization</td>
<td>0.041(.01)**</td>
<td>0.045(.03)</td>
<td>0.040(.02)*</td>
<td>0.043(.03)</td>
</tr>
<tr>
<td>Perceived Best Friend Emotional Support</td>
<td>-0.001(.01)</td>
<td>0.000(.02)</td>
<td>-0.003(.01)</td>
<td>-0.099(.02)**</td>
</tr>
<tr>
<td>Perceived Best Friend Victimization</td>
<td>0.016(.01)</td>
<td>0.071(.02)**</td>
<td>0.024(.01)*</td>
<td>0.062(.022)**</td>
</tr>
<tr>
<td>Victimization X Best Friend Support</td>
<td>-0.023(.01)***</td>
<td>0.018(.03)</td>
<td>-0.003(.02)</td>
<td>-0.022(.04)</td>
</tr>
<tr>
<td>Victimization X Best Friend Victimization</td>
<td>0.005(.02)</td>
<td>-0.008(.04)</td>
<td>0.030(.02)</td>
<td>0.039(.03)</td>
</tr>
<tr>
<td>Best Friend Support X Best Friend Victimization</td>
<td>0.007(.013)</td>
<td>0.046(.03)</td>
<td>-0.012(.02)</td>
<td>-0.042(.05)</td>
</tr>
<tr>
<td>Victimization X Best Friend Support X Best Friend Victimization</td>
<td>--</td>
<td>--</td>
<td>0.061(.02)**</td>
<td>0.116(.03)***</td>
</tr>
</tbody>
</table>

Note. Standard errors in parentheses. ***p<.001, **p<.01, *p<.05
Figure 1. Significant interaction between victimization and perceived best friend emotional support predicting boys’ depressive symptoms.
Figure 2a. Significant interaction between victimization and perceived best friend victimization predicting depressive symptoms for girls perceiving high levels of best friend emotional support.

Figure 2b. Nonsignificant interaction between victimization and perceived best friend victimization predicting depressive symptoms for girls perceiving low levels of best friend emotional support.

Note. X-axis ranges from 1 SD below the mean (low victimization) to 1 SD above the mean (high victimization). Given negative skew of perceived friend victimization, simple slopes plotted at no friend victimization, average, and high (+1 SD) friend victimization.
Figure 3a. Significant interaction between victimization and perceived best friend victimization predicting social anxiety for girls perceiving high levels of best friend emotional support.

Note. X-axis ranges from 1 SD below the mean (low victimization) to 1 SD above the mean (high victimization). Given negative skew of perceived friend victimization, simple slopes plotted at no friend victimization, average, and high (+1 SD) friend victimization.
References


STUDY 3

Peer Victimization and Adolescent Adjustment across Middle School: Time-Varying Effects and the Moderating Role of Friends’ Victimization
Abstract

Although few adolescents are chronically victimized by peers over time, many more experience temporary victimization at some point during the middle school years. To investigate whether these more time-limited experiences of peer victimization are nevertheless associated with adjustment problems, the current study examined whether adolescents’ average peer victimization level (between-person effects) as well as fluctuations in victimization (within-person effects) across middle school related to their depressive symptoms, somatic complaints, self-blaming attributions, and perceived school safety. Recognizing the developmental significance of friendships among adolescents experiencing peer difficulties, the second aim of the study was to investigate whether the average victimization level of adolescents’ friends moderated links between their own victimization and adjustment. The ethnically diverse sample included 5,991 middle school students (52% girls) from 26 public middle schools surveyed at four time points between 6th and 8th grade. Results from three-level multilevel models revealed similar between- and within-person effects of victimization on adjustment difficulties. Moreover, these maladaptive associations were attenuated among youth with friends who were victimized by peers across middle school. The results of the study suggest that even temporarily victimized youth may have unmet mental health needs, and sharing social plight with similar others can offer robust protection for bullied youth.
Peer Victimization and Adolescent Adjustment across Middle School: Time-Varying Effects and the Moderating Role of Friends’ Victimization

It is well-established that experiences of peer victimization place adolescents at risk for a range of adjustment problems, including but not limited to psychological distress (e.g., depressive symptoms; Hawker & Boulton, 2000), maladaptive social cognitions (e.g., characterological self-blame; Graham & Juvonen, 1998), and feeling unsafe at school (Graham, Bellmore, & Mize, 2006). Whereas only a small proportion of adolescents experience chronic victimization over time (Nylund, Bellmore, Nishina, & Graham, 2007), far more experience victimization at some point across their years of schooling (e.g., Hoover, Oliver, & Hazler, 1992; Kochenderfer-Ladd & Waldrop, 2001; Sheppard, Giletta, & Prinstein, 2016). The observation that adolescents experience changes in their victimization over time raises the possibility that even brief periods of victimization could place youth at risk for adjustment difficulties (Kochenderfer-Ladd & Waldrop, 2001; Nishina & Juvonen, 2005). However, most research presumes that the plight of the most victimized youth is somewhat stable over time and focuses on testing a severity hypothesis—whether adolescents with higher levels of victimization are at risk for worse adjustment than those with lower levels of victimization. As such, we know more about who is at risk (i.e., the most victimized) and less about the circumstances under which adolescents are at risk for adjustment problems across the middle school years. It is thus critical to investigate whether experiencing relative increases in victimization at any point in time during middle school, even if just temporarily, is also related to adolescents’ adjustment difficulties.

The current study is guided by both theoretical (Abela & Hankin, 2009; Laursen & Hoff, 2006) and methodological (Curran & Bauer, 2011) perspectives emphasizing the importance of studying individual differences as well as intrapersonal variability in social stressors across
development. The dominant framework for studying the negative impact of peer victimization among adolescents has been a *nomothetic approach,* wherein the focus is on individual differences, and social experiences (e.g., level of victimization) are presumed to differentiate individuals. While this between-person approach offers insight into the adjustment of students experiencing more or less victimization compared to their peers, it does not capture how changes in an adolescent’s social experiences over time (i.e., *within-person fluctuations* in peer victimization) correspond to changes in their adjustment. An *idiographic approach,* on the other hand, asks whether an individual’s adjustment is affected by increases or decreases in his or her own levels of social stress, thus presuming that an individual’s experiences and adjustment vary across time (Abela & Hankin, 2009). Studies examining the effects of peer victimization through an idiographic lens, however, are sparse. As such, the first goal of the current study was to investigate not only whether students who typically experience more victimization across middle school also experience more adjustment difficulties (between-person effects), but also whether students who experience more victimization than usual during any given school year experience more adjustment problems than usual (within-person effects).

To further understand how victimization experiences are related to students’ adjustment difficulties, it is also critical to consider the proximal relational context in which these social experiences occur. That is, as social comparisons become increasingly common during the adolescent years (Eccles & Midgley, 1989; Ruble, Alvarez, Bachman, & Cameron, 2004), youth may be especially tuned in with the social experiences of their friends. In the case of peer victimization, it may be particularly important to consider if adolescents tend to affiliate with friends who have been bullied. Sharing the plight of peer victimization with friends is likely to affect victims’ well-being (Brendgen et al., 2013). Thus, the current study also investigates
whether the relations between students’ peer victimization and adjustment difficulties vary depending on whether their friends have experienced similar social mistreatment across the three years of middle school.

Below, I first review past research documenting the negative effects of peer victimization from a nomothetic (between-person) approach, then turning to the relatively small body of literature considering peer victimization effects from an idiographic (within-person) approach. Thereafter, I review past research on the role of friends’ victimization and how it may interact with students’ own victimization (either chronic or temporary) to predict adjustment. Finally, I conclude by discussing the adjustment outcomes considered in the current analyses and reviewing the major study aims and hypotheses.

Nomothetic Versus Idiographic Approaches to the Study of Peer Victimization

As mentioned above, studies that examine individual differences in peer victimization (i.e., between-person variation) provide robust evidence for longitudinal associations between peer victimization and problematic adjustment outcomes among adolescents. For example, within this nomothetic tradition, prospective longitudinal studies (see McDougall & Vaillancourt, 2015 for review) show that compared to their nonvictimized peers, victimized youth experience heightened risk for emotional distress (e.g., depressive symptoms; Reijntjes, Kamphuis, Prinzie, & Telch, 2010), physical health problems (e.g., somatic complaints; Biebl, DiLalla, Davis, Lynch, & Shinn, 2011), maladaptive internal attributions for victimization (e.g., characterological self-blame; Graham & Juvonen, 1998; Schacter & Juvonen, 2015), and feeling unsafe at school (Esbensen & Carson, 2009). In addition to the aforementioned studies wherein victimization at one time point has predicted student maladjustment at a later time point, novel analytic approaches have given rise to group-based longitudinal approaches for studying
victimization-related adjustment. For example, researchers have used latent class analysis to identify victim subgroups that are distinguished by their victimization patterns over time (e.g., chronically victimized versus declining victimization). By comparing student adjustment as a function of subgroup membership, researchers study whether certain longitudinal patterns of victimization are associated with better or worse outcomes. A consistent finding from this work is that students who experience repeated victimization over time (i.e., chronic victims) are at higher risk for negative outcomes compared to students who experience decreasing victimization or no victimization over time (Baly, Cornell, & Lovegrove, 2014; Bradshaw, Waasdorp, & O’Brennan, 2013; Ladd, Ettekal, & Kochenderfer-Ladd, 2017; Nylund et al., 2007; Rosen et al., 2009). Interestingly, some studies also document the negative effects of experiencing increasing (rather than chronic) victimization over time, such that students who move from nonvictim to victim status are at risk for increased adjustment problems (Ladd et al., 2017). These findings suggest that experiencing changes in victimization could be just as distressing as experiencing consistently high levels of victimization. However, because latent class approaches are ultimately guided by assumptions about individual differences in victimization trajectories, considerably less is known about how changes in victimization experiences across time (i.e., within individual changes) relate to changes in adjustment.

Given that peer victimization is only moderately stable across adolescence (Cillessen & Lansu, 2015; Pouwels, Souren, Lansu, & Cillessen, 2016 for review), there are many youth for whom these negative experiences may “come and go” rather unsystematically across time. However, only a few studies to date have attended to the role of within-person changes in peer victimization and how such fluctuations in negative social experiences are related to well-being over time. Research within this idiographic framework suggests that within-person changes in
adolescents’ victimization experiences do indeed contribute to their psychological and school-related problems. For instance, in a longitudinal study tracking students across five time points during and after high school, Leadbeater, Thompson, and Sukhawathanakul (2014) used latent growth curve models to identify within-person (time-varying) links between victimization and internalizing symptoms from adolescence to young adulthood. They found that at times when youth experienced more victimization, they also reported more depressive symptoms and anxiety. Daily diary studies also provide insight into the negative consequences of within-person changes in peer victimization within a short time interval. For example, Nishina and Juvonen (2005) found that 6th grade students experienced greater anxiety, humiliation, and school dislike on days that they were victimized compared to days that they were not victimized. Together these studies suggest that within-person fluctuations in victimization can have a significant impact on students’ emotional well-being and perceptions of their school environments, at least over the course of the high school years or on a day-to-day basis during middle school.

Whether fluctuations in students’ victimization across the three years of middle school similarly relate to adolescents’ fluctuations in adjustment difficulties, both in terms of previously tested outcomes (e.g., depressive symptoms; negative school perceptions) as well as other victimization correlates (e.g., somatic complaints, self-blame), remains unknown. Studying these patterns during the middle school years is also developmentally significant insofar as this is a time when bullying behavior tends to increase in prevalence (Pellegrini & Bartini, 2000; Pellegrini & Long, 2002) and when adolescents’ experiences of peer victimization oftentimes changes from year to year (Ryoo, Wang, & Swearer, 2015).
Peer Victimization Experienced by Friends

As youth spend increasingly more time with peers during the early adolescent years, these social relationships become especially important in shaping adolescents’ psychosocial adjustment (Larson & Richards, 1991; Dishion, Nelson, & Bullock, 2004). Friends not only serve as a source of support and guidance, but they also comprise adolescents’ proximal social reference group and thus impact the way that adolescents come to make sense of their own social experiences (Berndt, 1992). In addition to evidence that merely having friends is important for promoting youth well-being (Hodges, Boivin, Vitaro, & Bukowski, 1999), developmental scholars also emphasize the importance of considering the characteristics or social experiences of these friends (Bagwell & Schmidt, 2011). This becomes particularly relevant when studying peer victimization, insofar as friends who are themselves targets of peer abuse may not be able to provide the same types of social provisions as friends that are socially well-adjusted and integrated in the peer group (Prinstein & Giletta, 2016).

A number of studies have examined the impact of friends’ victimization on the adjustment of adolescents who are victimized by peers, although they all focus on individual differences (i.e., between-person effects) in victimization and adjustment. From these studies, it remains unclear whether friendships with bullied peers provide the same protection offered by friendships with non-victimized peers or whether they even intensify the distress of youth who are victimized. There are competing hypotheses about risks and protection. On one hand, peer victimized adolescents may show increased distress if their friends are also bullied. According to emotional contagion hypotheses (Brendgen et al., 2013; Dishion & Tipsord, 2011), having victimized friends amplifies feelings of vulnerability among youth experiencing victimization themselves. That is, when both youth and their friends are mistreated by peers at school, their
emotions of anger or anxiety may be augmented and in turn contribute to future social risk (Bastiaansen, Thioux, & Keysers, 2009). Indeed, there is evidence that victimized adolescents are at increased risk for continued mistreatment over time if their friends are also more victimized (Echols & Graham, 2016; Sentse, Dijkstra, Salmivalli, & Cillessen, 2013), and victimized youth who engage in more negative, problem-focused discussions with their best friends experience worse internalizing symptoms (Guarneri-White, Jensen-Campbell, & Knack, 2015). Relatedly, Brendgen et al. (2013) demonstrated that friends’ victimization moderated concurrent associations between boys’ victimization and aggressive behavior, such that victimized boys showed greater externalizing behavior if their friends were also more victimized. These findings suggest that links between victimization and adjustment problems are particularly pronounced for students who affiliate with victimized friends.

However, there is also evidence suggesting that friendships with bullied peers offer protection for peer victimized youth by promoting adaptive social comparisons (e.g., not just me), referred to herein as the shared plight hypothesis (Brendgen et al., 2013; Taylor, Buunk, & Aspinwall, 1990). For example, Brendgen et al. (2013) found that higher levels of victimization among children’s friends buffered links between self-perceived victimization and concurrent depressive symptoms. Indirect support for this notion also comes from studies showing that children and adolescents in schools or classrooms where victimization is more common are less likely to experience victimization-related distress (Bellmore et al., 2004; Huitsing, Veenstra, Sainio, & Salmivalli, 2012). Similarly, in a daily diary study, Nishina and Juvonen (2005) found that students felt less humiliated on days that they experienced victimization if they also witnessed someone else being victimized. One potential explanation proposed in these past studies is that victimized youth are less likely to blame themselves for their own victimization when they
perceive low distinctiveness (i.e., “not just me”)—that is, sharing social plight (i.e., victimization) with friends could challenge characterological self-blaming attributions (e.g., “there’s something wrong with me”), just as being in a school with less victimization buffers links between victimization and self-blame (Graham & Juvonen, 1998; Schacter & Juvonen, 2015). However, the hypothesis that friends’ victimization may mitigate maladaptive attributions for victimization has yet to be directly tested, nor have any studies examined how friends’ victimization experiences across middle school moderate within-person associations between victimization and other adjustment difficulties (depressive symptoms, somatic complaints, perceived safety).

Therefore, the second aim of the study is to investigate the interactive effects of self-perceived victimization and friends’ victimization on student adjustment. That is, are bullied adolescents less likely to feel distressed when their friends have similarly been victimized by peers during middle school (between-person effect) and/or when their friends are also experiencing more victimization than usual (within-person effect)? Friends’ victimization as a between-person effect captures students’ tendency to affiliate with peers who have experienced peer mistreatment across the three years of middle school, whereas friends’ victimization as a within-person effect captures whether the victimization of adolescents’ friends’ during any given school year is higher or lower than usual. There is some evidence from past research that the typical characteristics of adolescents’ relational context (compared to time-varying changes in friends’ characteristics) appear to be more influential in shaping their adjustment (Rulison et al., 2010; Serdiouk, Berry, & Gest, 2016). We also know that in spite of changes in friends, youth tend to have friendships with peers who are similar to one another (Kindermann, 1993). As such, the average victimization level across all of adolescents’ friends from 6th to 8th grade is likely to be more impactful in affecting the well-being of either temporarily or more consistently victimized youth than temporary changes
in friends’ victimization (Dishion, Eddy, Haas, Li, & Spracklen, 1997; Rulison, Gest, Loken, & Welsh, 2010). For example, a student bullied during 8th grade may feel less alone or less at fault for being targeted if her friends were victimized earlier in middle school (e.g., 6th and 7th grade), even if the friends do not also exhibit increased victimization that same school year.

The Present Study

To gain a more nuanced understanding of peer victimization and its relation with students’ well-being across the three years of middle school, the current study investigates between- and within-person associations among peer victimization and adjustment difficulties across four time points, as well as how these associations vary depending on the victimization experiences of adolescents’ friends. To my knowledge, no studies have combined nomothetic and idiographic approaches to examine how peer victimization (and friends’ victimization) relate to adolescents’ depressive symptoms, somatic complaints, characterological self-blame, and perceived school safety across the three years of middle school. And yet, students’ adjustment should be affected not only by their average levels of victimization (i.e., between-person differences), but also by relative increases or decreases in these negative experiences across time (i.e., within-person differences; Abela & Hankin, 2009). Moreover, friends’ victimization has not been investigated as a moderator of links between within-person fluctuations in peer mistreatment and adjustment. In the current study the friend victimization effects are tested by examining a) friends’ victimization as a time-invariant moderator of links between peer victimization and adjustment difficulties (both between- and within-person) across middle school
and b) friends’ victimization as a time-varying moderator of within-person links between victimization and adjustment difficulties.²

The first main goal of the current study was to examine within-person relations between peer victimization and student adjustment difficulties across the three years of middle school (four distinct time points). In order to compare the pattern of within-person results with traditional, individual differences-focused approaches, I simultaneously consider between-person effects of victimization on adjustment. Specifically, I focus on four different adjustment outcomes: depressive symptoms, somatic complaints, characterological self-blame, and perceived safety at school. No past studies have examined whether within-person fluctuations in victimization relate to concurrent fluctuations in somatic complaints nor maladaptive attributions across middle school, despite evidence for long-term (between-person) associations between these constructs. Consistent with past studies, it was expected that students who, on average, experience more victimization across middle school show greater adjustment difficulties (i.e., between-person effects). Additionally, it was hypothesized that at times when students experienced greater peer victimization than usual, they would also experience more adjustment difficulties than usual (i.e., within-person effects)—that is, they would feel more depressed, report more physical complaints, blame themselves more, and feel less safe in school.

Incorporating both nomothetic and idiographic approaches to simultaneously examine between-subject and within-subject differences in peer victimization is critical insofar as it is one thing to presume that emotional distress and feeling unsafe at school are a plight of a few chronically

² I do not test time-varying friends’ victimization as a moderator of between-person victimization-adjustment links, insofar as these interaction patterns are not readily interpretable from a conceptual perspective (i.e., unclear why individual differences in victimization-adjustment links would vary as a function of within-person changes in friends’ victimization).
bullied youth and another to conclude that even temporary increases in peer maltreatment are associated with compromised well-being.

The second main goal of the study was to investigate how friends’ victimization moderates the associations between peer victimization experiences (at both the between- and within-person level) and well-being. Such analyses were intended to reconcile inconsistent findings from past research suggesting that victimized friends can be both detrimental (emotional contagion hypothesis) and protective (shared plight hypothesis). Friends’ victimization is tested as both a within- and between-person level moderator to determine whether relative changes in friends’ victimization as well as overall levels of friends’ victimization (i.e., across middle school) moderate students’ victimization-related adjustment. Based on past research (e.g., Rulison et al., 2010), it was expected that friends’ average victimization across middle school, rather than year-to-year changes in friends’ victimization, would emerge as a moderator of victimization-adjustment associations. That is, insofar as friends tend to be relatively similar to one another over time (Kindermann, 1993; Kindermann & Gest, 2009), having friends who have experienced peer victimization at some point across middle school may be a more critical than whether or not friends are experiencing more victimization than usual at any given time point (Rulison et al., 2010). Thus, in the second aim I investigate whether higher levels of average (between-person) friends’ victimization buffer the adjustment difficulties of youth experiencing a) more victimization than peers (between-person effects) and b) more victimization than their typical level (within-person effects). Additionally, I examine whether time-varying changes in friends’ victimization moderate within-person effects of victimization on adjustment (there was no reason to expect that time-varying friends’ victimization would moderate between-person effects of victimization on adjustment). In addition to examining internalizing distress and
negative school perceptions, by examining characterological self-blame I am able to directly test
the (shared plight) hypothesis that students are less likely to blame themselves for being
victimized if their friends have also been victimized by peers.

I focus here on the three years of middle school that are critical in shaping adolescents’
subsequent mental health and school adjustment trajectories. Relying on multiple sources of data
(self-reported victimization, peer nominations of friends), four time points, a large ethnically
diverse sample, and statistical methods that take into account the nested structure of the data and
control for time-related change in adjustment, the study provides a strong methodological
examination of victimization and friends’ victimization effects across middle school.
Additionally, by including multiple indicators of well-being (i.e., depressive symptoms, somatic
complaints, self-blame, perceived safety), I capture the breadth of psychological, physical, and
social cognitive outcomes that may be impacted by peer victimization. The study findings also
have important implications for understanding how to identify youth experiencing victimization
(e.g., increased somatic complaints) and developing interventions that meet the needs of youth
experiencing high, in addition to fluctuating, levels of victimization.

Method

Participants

The current study draws on data from 5,991 adolescents (52% female) who were part of a
large, longitudinal study of adolescent development across the middle school years (UCLA
Middle School Diversity Project). The sample was recruited from 26 urban public schools in
California that systematically varied in their ethnic composition. All school districts provided
permission to conduct the study, and during 6th grade recruitment all students and families
received informed consent and informational letters. Parental consent rates averaged 81.4% and
student assent rates averaged 83.1% across the schools. Only students who turned in signed parental consent and provided written assent participated. The number of participating students in each school ranged from 78 to 445 ($M=281.57$, $SD=111.68$). All participating students made the transition to middle school in the 6th grade school year.

Based on self-reported ethnicity in the Fall of 6th grade, the sample was 32% Latino/a, 20% Caucasian/White, 13% East/Southeast Asian, 14% Multiethnic/Biracial, 12% African American/Black, 3% Filipino/Pacific Islander, 2% Middle Eastern, 2% South Asian, and 2% other. Participants also came from families ranging in socioeconomic status as indicated by parental level of education (18% less than high school, 13% high school education or GED, 29% some college, 22% college degree, 19% graduate degree). The present study relies on data collected across four distinct time points: Fall of 6th grade, Spring of 6th grade, Spring of 7th grade, and Spring of 8th grade. Based on available victimization data (central predictor of interest), participation rates were 91% (6th grade fall), 91% (6th grade spring), 82% (7th grade spring), and 75% (8th grade spring), with 99% of the original sample providing victimization data at least once across the four waves. The lowest participation rate (i.e., in 8th grade) is comparable to other longitudinal studies among ethnically diverse students in urban school settings (Nylund et al., 2007; Seidman, Allen, Amber, Mitchell, & Feinman, 1994). Comparisons of students with and without data at the final wave (i.e., 8th grade) on baseline measures using independent-samples t-tests revealed that those missing data in 8th grade were more likely to experience victimization and adjustment difficulties (i.e., depressive symptoms, somatic complaints, self-blame, feeling unsafe) at the beginning of 6th grade. There was additional missing data on two outcomes in waves 2-4 due to the study’s planned missing design, which is discussed in more detail below. As described further in the analytic plan, inclusion of baseline data in all models
and utilization of appropriate missing data handling techniques allowed estimation among students who had any available data.

**Procedure**

Students were informed about confidentiality and reminded that participation was voluntary prior to participation and received cash or gift certificate compensation ($5 in the Fall and Spring of 6th grade and $10 in the Spring of 7th grade and 8th grade) after participation. Researchers read most items aloud as students followed along and completed the written questionnaires within a classroom setting.

**Measures**

Self-perceptions of victimization and friends’ victimization were assessed at all four waves and considered as both time-varying (Level 1) and time-invariant (cross-time average; Level 2) predictors (see Appendix F). Sex and ethnicity were included as time-invariant demographic covariates at Level 2, as was school diversity at Level 3. Four measures of adjustment difficulties were used as outcomes: depressive symptoms, somatic complaints, characterological self-blame, and perceived safety (see Appendix G). All outcome measures were assessed at all four waves with the exception of depressive symptoms, which was assessed at three waves (all except Spring of 6th grade).

**Peer victimization.** Perceptions of peer victimization were measured using items based on an instrument (Neary & Joseph, 1994) designed to reduce social desirability effects (Harter, 1982). For each item, students read two statements separated by the word “but” and were asked first to choose one of these options (e.g., some kids are not called bad names by other kids but other kids are often called bad names by other kids). After selecting one statement, students rated if it was “really true” or “sort of true,” such that each item was rated on a 4-point scale (from 1 to
Four). Three items that were included at all four waves of data collection were averaged to compute a victimization score for each student at each time point ($a_{W1}=.72$; $a_{W2}=.75$; $a_{W3}=.74$; $a_{W4}=.73$). The items asked about being called names, being the target of gossip, and being pushed around by others. In addition to this time-varying victimization variable, a time-invariant victimization score was computed by taking the mean victimization score of a student across the four waves ($M=1.95$, $SD=.64$).

**Friends’ victimization.** Using an unlimited nomination procedure, students were asked to list the names of their good friends in their grade at school at each wave of data collection. Presuming that unilateral friendships may be just as, if not more, influential as reciprocal ones and to capture characteristics of adolescents’ full friendship network (Vitaro, Boivin, & Bukowski, 2009; Juvonen & Ho, 2008; Echols & Graham, 2016), I rely on all outgoing nominations (i.e., nominations given) for the main analyses. Students on average nominated approximately 3 friends each wave ($M=3.07$, $SD=1.17$). Friends’ victimization was assessed using the self-reported peer victimization ratings of each nominated friend. To capture a time-varying estimate of friend’s overall victimization experiences, the self-reported victimization scores reported by friends were averaged across all friendship nominations for each participant at each wave. In addition, a time-invariant victimization score was computed by taking the mean friends’ victimization score of a student across the four waves ($M=1.93$, $SD=.42$), capturing the average victimization level of students’ friends over the course of three years (Rulison et al., 2010).

**Demographic control variables.** At the beginning of 6th grade, students self-reported their sex and ethnicity. Sex was represented as a dichotomous variable with boys as the reference group (boys=0, girls=1). Ethnicity was represented by four separate dichotomous dummy codes
(African American, Asian, White, Other), such that Latino students, as the largest ethnic group in the sample, served as the reference group.

**School-level ethnic diversity.** Given its known associations with victimization (more diversity related to less victimization; Juvonen, Nishina, & Graham, 2006; Juvonen, Kogachi & Graham, 2017) and the ethnic diversity of the sample, school-level diversity was controlled for in the main analyses. Simpson’s index (Simpson, 1949) was computed for each of the 26 schools in 6th grade as an indicator of diversity. This proportion score with scores ranging from 0 to 1 indicates the likelihood of two randomly drawn students from a given school being from different ethnic groups. Because scores did not substantially change within schools from year to year, diversity was treated as a time-invariant covariate.

**Depressive symptoms.** An adapted version of the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used to assess depressive symptoms (e.g., “I felt depressed,” “I felt sad,” “My sleep was restless”). Depressive symptoms was the only outcome assessed at only three, rather than four, waves of data collection. Participants were asked how often they had experienced each item in the past week. A 4-point scale was used (1=never or none of the time to 4=almost all the time). Eight items that students completed at all three waves of data collection were averaged into a composite at each wave, such that higher scores indicated greater depressive symptoms ($a_{W1}=.80; a_{W3}=.82; a_{W4}=.85$).

**Somatic complaints.** At each wave, participants rated how many times in the past 2 weeks they had experienced 5 somatic symptoms (e.g., headaches, poor appetite, sleep problems, upset stomach). Each symptom was rated on a 4-point scale (1 = not at all to 4 = almost every day). The symptoms included here were adapted from the larger list used in the National
Longitudinal Study of Adolescent Health (Add Health; Resnick et al., 1997; Udry & Bearman, 1998). Ratings were summed and averaged at each wave ($\alpha_{W1}=.73$; $\alpha_{W2}=.75$; $\alpha_{W3}=.75$; $\alpha_{W4}=.77$).

**Characterological self-blame.** Attributions for victimization experiences were assessed through vignettes; students responded to a different hypothetical victimization incident at each time point (see Graham & Juvonen, 1998). For example, in the Fall of 6th grade, students were presented with a scenario in which another student trips them in the lunch line, causing their food to spill all over their clothes, and all the other students in line to start laughing at them. For each of the scenarios, students rated on a 5-point scale (1=Definitely would not think to 5=Definitely would think) how much they agreed with 17 statements assessing different types of causal attributions. Here I specifically focused on six items capturing characterological self-blame (e.g., “more likely to happen to me than to other kids”; “know this will happen to me again”). At each wave, the six items were averaged into a composite, with higher scores indicating greater characterological self-blame ($\alpha_{W1}=.79$; $\alpha_{W2}=.80$; $\alpha_{W3}=.83$; $\alpha_{W4}=.84$).

**Perceived school safety.** School safety was measured at each wave using a 6-item subscale from the Effective School Battery (ESB; Gottfredson, 1984). Students responded to items such as “how often…do you feel safe at school?”, “are you afraid that someone will hurt or both you at school?” on a 5-point scale (1=always to 5=never). At each wave, the 6 items were averaged into a composite score with higher scores indicating greater sense of safety at school ($\alpha_{W1}=.74$; $\alpha_{W2}=.80$; $\alpha_{W3}=.80$; $\alpha_{W4}=.80$).

**Analytic Plan**

The data were analyzed using multilevel modeling (MLM) in MPlus 7.31 (Muthén & Muthén, 1998-2016). Specifically, I estimated three-level models with repeated measures (Level 1) nested within students (Level 2) who were nested within schools (Level 3). Multilevel
modeling accounts for dependency among observations from the same individual in addition to
the dependency among students who share the same school environment. There were missing
data on the analysis variables largely due to student absences and transferring between schools,
as well as the larger longitudinal study’s planned missing design. Planned missing designs are
advantageous insofar as they maximize data collection efficiency among large samples (Graham,
Taylor, Olchowski, & Cumsille, 2006). In the Spring of 6th, 7th, and 8th grade, participants
completed one of three questionnaires, each of which excluded a different set of measures. One-
third of participants had missing data on these particular measures. In the current analyses, only
self-reported depressive symptoms and somatic complaints were part of the planned missing
design. Missing data were handled using full information maximum likelihood (FIML)
estimation in Mplus version 7.31 (Muthén & Muthén, 1998-2016). The robust standard error
option (MLR) was used to correct for non-normality. By treating all observed predictors as
single-item latent variables, FIML estimation allows each individual to contribute whatever data
they have to the likelihood function. Methodologists currently regard maximum likelihood
estimation as a state-of-the-art missing data technique because it improves the accuracy and the
power of the analyses relative to other missing data handling methods (Schafer & Graham, 2002;
Enders, 2010).

A series of three-level multilevel models were estimated for each outcome: depressive
symptoms, somatic complaints, characterological self-blame, and perceived safety. Consistent
with suggested approaches for conducting multilevel analyses with repeated measures data
(Singer & Willett, 2003), model-building proceeded in several steps separately for each of the
outcomes prior to testing models that addressed the two main goals of the study. I first examined
a three-level unconditional means model (i.e., no predictors) and calculated the intraclass
correlation coefficient for the time-varying victimization predictor and each of the four outcomes (ICC). The ICC at the student level indicates the degree to which observations are correlated between versus within students, such that values closer to 1 indicate that most of the variation is between students, rather than within-students. The ICC at the school level indicates the degree to which observations are correlated between versus within schools, such that values closer to 1 indicate that most of the variation is between schools, rather than within schools.

The first main goal of the study was to examine adolescents’ depressive symptoms, somatic complaints, characterological self-blame, and perceived safety across middle school as a function of time (4 waves), peer victimization, and demographic and school-level covariates (i.e., sex, ethnicity, school diversity). Although the main focus was on identifying the novel within-person effects of victimization on adjustment, between-person effects of (average) victimization were also included and examined as a point of comparison. Therefore, in the next model, all the aforementioned time-varying (Level 1) and time-invariant (Level 2) predictors were added to the model to determine whether both between-person differences and within-person fluctuations in victimization related to students’ adjustment outcomes across middle school, while controlling for time-related change. At Level 1, I included a linear time slope (i.e., $t_{tij}$) and victimization ($Vict_{tij}$) as time-varying predictors. The time variable (i.e., wave of data collection) was expressed as the number of waves since the start of the study (i.e., centered at 0). Centering time in this way expressed the intercept of the MLM as a baseline (Fall of 6th grade) adjustment outcome score. Because the first two time points occurred in the same school year, the time variable was coded such that 6th grade Fall=0, 6th grade Spring=.5, 7th grade Spring=1.5, and 8th grade Spring=2.5. Additionally, given that self-reports of depressive symptoms were collected at all times but 6th grade Spring, these models only accounted time across three waves (Fall 6th,
Spring 7th, Spring 8th). To capture the time-varying effects of victimization at Level 1, I used within-person centering (Singer & Willet, 2003), also known as group-mean centering (Bryk & Raudenbush, 2002). Each student’s yearly victimization score was expressed as a deviation from his or her overall average victimization score. Therefore, a positive value indicates that a student’s victimization was higher than his or her average victimization level, whereas a negative value indicates that a student’s victimization was lower than his or her average victimization level.

I also included each student’s average victimization ($\bar{V}ict_{ij}$) at Level 2 as a time-invariant predictor. The overall mean of victimization is a between-person effect (i.e., average across middle school), so it was grand-mean centered at Level 2. That is, I subtracted the overall mean (i.e., across the sample) for victimization from students’ own victimization mean. Therefore, a positive value for Level 2 victimization indicates that a student was on average more victimized across middle school (higher than sample average), whereas a negative value indicates that a student was on average less victimized (lower than sample average). By group-mean centering Level 1 victimization and including its cross-time mean at Level 2, I ensured that time-varying effects captured purely within-student variability, whereas the time-invariant effects captured purely between-student variability. I also controlled for Level 2 student demographic characteristics: sex ($Sex_{ij}$) and ethnicity ($Eth1 - 4_{ij}$). Both demographic variables were dummy coded, such that the reference group for sex was boys, and the reference group for ethnicity was Latino (largest ethnic group in the study). At Level 3, I controlled for grand-mean centered school-level ethnic diversity ($Div_j$) and modeled a random intercept, allowing the mean levels of the outcomes to vary randomly across schools ($\mu_{00j}$). An equation representing a prototypical main effects model is presented below.
\[ Y_{ij} = \gamma_0 + \gamma_1 t_{ij} + \gamma_2 Vict_{ij} + \gamma_3 \overline{Vict}_{ij} + \gamma_4 Sex_{ij} + \gamma_5 Eth1_{ij} + \gamma_6 Eth2_{ij} + \gamma_7 Eth3_{ij} + \gamma_8 Eth4_{ij} + \gamma_9 Div_j + \mu_{00j} + r_{0ij} + \varepsilon_{tij} \]

The second main goal of the study was to test friends’ victimization as a moderator of victimization-adjustment links. To address this aim (interactive effects of victimization and friends’ victimization), final models included the lower-order within-person effect of friends’ victimization (\(FrVict_{tij}\)), between-person effect of friends’ victimization (\(FrVict_{tij}\)), and three two-way interaction terms. As with self-perceived victimization, friends’ victimization at Level 1 was centered within person, whereas friends’ victimization at Level 2 was grand-mean centered. Specifically, I examined: 1) within-person victimization X within-person friends’ victimization (\(\gamma_{12}\)), 2) within-person victimization X between-person friends’ victimization (\(\gamma_{13}\)), and 3) between-person victimization X between-person friends’ victimization (\(\gamma_{14}\)). An equation representing a prototypical final model is presented below.

\[ Y_{ij} = \gamma_0 + \gamma_1 t_{ij} + \gamma_2 Vict_{ij} + \gamma_3 \overline{Vict}_{ij} + \gamma_4 Sex_{ij} + \gamma_5 Eth1_{ij} + \gamma_6 Eth2_{ij} + \gamma_7 Eth3_{ij} + \gamma_8 Eth4_{ij} + \gamma_9 Div_j + \gamma_{10} FrVict_{tij} + \gamma_{11} \overline{FrVict}_{tij} + \gamma_{12}(Vict_{ij})(FrVict_{tij}) + \gamma_{13}(Vict_{ij})(FrVict_{tij}) + \gamma_{14}(Vict_{ij})(FrVict_{tij}) + \mu_{00j} + r_{0ij} + \varepsilon_{tij} \]

**Results**

Below I first present descriptive analyses, reviewing bivariate correlations between victimization and the four adjustment outcomes across the four time points of the study. Results from multilevel models are then presented in several steps. First, I present findings from unconditional means models for each outcome. I then present the results from a main effects model separately for each outcome, followed by the results from final models with interaction effects separately for each outcome.
Stability Correlations

Table 1 presents bivariate correlations between the main time-varying variable (victimization) and adjustment difficulties across the four study time points (three for depressive symptoms). As seen in the table, there was moderate stability in victimization from the Fall to Spring of 6th grade \((r=.451, p<.001)\), Spring of 6th grade to Spring of 7th grade \((r=.475, p<.001)\), and Spring of 7th grade to Spring of 8th grade \((r=.467, p<.001)\). Victimization at the beginning middle school was also related to victimization at the end of middle school \((r=.335, p<.001)\). These moderate stability coefficients suggest that although students victimized at one time point were more likely to be victimized at other time points, there was also variability in victimization from wave to wave. There was also moderate stability in the adjustment outcomes across consecutive school years, with correlations ranging from .487 to .536. Not surprisingly, depressive symptoms and somatic complaints (i.e., internalizing symptoms) at each wave were also somewhat strongly correlated. Between- and within-person correlations between the main study variables aggregated across all four waves (time-invariant) are presented in Appendix H.

Multilevel Models

Table 2 depicts the results of unconditional means models for the main time-varying predictor (victimization) and the four different adjustment outcomes, including variance estimates at all three levels of analysis and corresponding intraclass correlations at the student and school level (ICCs). The ICC for victimization at the student level was .379 and at the school level was .044, indicating that almost 60% of the variation in victimization was within students. This further corroborates the idea that victimization exhibits considerable within-person variability and highlights the need to account for both its between- and within-person effects in the analyses. The ICC statistics also indicated substantial variation at both Level 1 (within
students) and Level 2 (between students) for all adjustment outcomes (see Table 2). There was considerably less variability in victimization and the adjustment outcomes at Level 3, indicating that the majority of variance in these variables was within or between students, rather than between schools.

**Main effects models.** As seen in Table 3, there were several between-person differences in adjustment difficulties based on demographic and school factors. Compared to boys, girls experienced greater depressive symptoms, somatic complaints, and characterological self-blame, but felt safer in school. In terms of ethnic differences, compared to Latino students, White students experienced greater depressive symptoms, and both White and African American students reported more somatic complaints. African American students had significantly lower levels of characterological self-blame compared to Latino students, who in turn had lower levels of self-blame compared to Asian students. Whereas African American students felt safer in school than Latinos, Latinos felt significantly safer than Asians, Whites, or students identifying as another ethnic group. Finally, students on average felt safer in schools with higher levels of ethnic diversity.

Consistent with findings from past research, the results revealed significant individual differences (i.e., between-person effects) in peer victimization effects for all outcomes. Specifically, students who reported greater average victimization across middle school (compared to the overall sample) also reported higher levels of depressive symptoms, somatic complaints, characterological self-blame, and feelings of unsafety at school. Moreover, there was evidence for significant within-person victimization effects for all outcomes, while taking into
account the time trajectories of adjustment difficulties. That is, increases in peer victimization (relative to the participants’ average level) were related to higher levels of concurrent depressive symptoms, somatic complaints, characterological self-blame and perceptions of a less safe school environment. In other words, both experiencing more victimization across middle school, relative to the whole sample, and experiencing increases in victimization, relative to one’s average level, were related to feeling more depressed, physically ill, blameworthy for being bullied, and unsafe at school.

**Testing friends’ victimization as a moderator.** Focusing first on the time-varying (i.e., within-person) effects, there were no significant within-person victimization X within-person friends’ victimization interactions for any outcome, and this interaction term was therefore excluded from all final models to achieve parsimony. There was only one significant main effect of time-varying friend victimization; students felt less safe during school years when their friends were experiencing more victimization than usual (i.e., more than average friends’ victimization across middle school). Turning to the time-invariant (i.e., between-person) effects, for all outcomes there were significant between-person victimization X between-person friends’ victimization interactions at Level 2 (see Table 4). That is, although students who experienced more peer victimization across middle school were less well-adjusted, this in part depended on whether their friends were more or less victimized across middle school. Tests of simple slopes revealed that although students who were more victimized across middle school experienced greater depressive symptoms, somatic complaints, blamed themselves more, and felt less safe at

---

1 Supplementary analyses also tested within-person victimization X between-person victimization interactions. There was only one significant effect, suggesting that within-person increases in victimization were most strongly related to perceived safety for students experiencing higher average levels of victimization.
school, these associations were significantly attenuated when students’ friends were more victimized (compared to less victimized) across middle school. Supporting the shared plight hypothesis, higher (as opposed to lower) average friends’ victimization partially buffered youth from experiencing peer victimization-related adjustment difficulties.

Specifically, although students who were more victimized across middle school experienced, on average, more depressive symptoms, this association was significantly attenuated for students with friends who were, on average, more victimized (+1SD, $b=.225$, $p<.001$) compared to less victimized (-1SD, $b=.295$, $p<.001$) across middle school (see Figure 1).

Similarly, although students who were more victimized across middle school reported, on average, more somatic complaints, this link was significantly weakened for students with friends who were, on average, more victimized (+1SD, $b=.221$, $p<.001$) compared to less victimized (-1SD, $b=.280$, $p<.001$) across middle school (see Figure 2). The same pattern emerged for characterological self-blame—although students who were more victimized across middle school were more likely to endorse characterological self-blame, this link was significantly weakened for students with friends who were, on average, more victimized (+1SD, $b=.492$, $p<.001$) compared to less victimized (-1SD, $b=.614$, $p<.001$) across middle school. That is, victimized youth whose friends were also victimized by peers were less likely to blame themselves for being bullied. Finally, although more victimized students reported, on average, feeling less safe at school, the association was significantly attenuated for students with friends who were, on average, more victimized (+1SD, $b=-.333$, $p<.001$) compared to less victimized (-1SD, $b=-.377$, $p<.001$. Together, these findings support the shared plight hypothesis.

For all outcomes except somatic complaints (i.e., depressive symptoms, characterological self-blame, perceived safety), there were also significant within-person victimization X between-
person friend victimization interactions. This cross-level interaction between a time-varying predictor and a time-invariant moderator indicates that changes in students’ peer victimization experiences (relative to their average victimization) at any given time point were related to their concurrent adjustment, depending on whether their friends were on average more or less victimized across middle school. That is, although within-person increases in victimization (experiencing more victimization than usual) were related to concurrent increases in depressive symptoms, self-blame, and feelings of unsafety at school, these associations were significantly attenuated for students with friends who were, on average, more victimized (compared to less victimized) across middle school.

Although students experienced relative increases in depressive symptoms during years that they experienced relative increases in victimization, this association was attenuated for students with friends who were, on average, more (+1 SD, \( b = .066, p < .001 \)) as opposed to less (-1 SD, \( b = .127, p < .001 \)) victimized across middle school. As seen in Figure 3, although students experienced relative increases in characterological self-blame during years that they experienced relative increases in victimization, this link was weakened for students with friends who were, on average, more (+1 SD, \( b = .138, p < .001 \)) compared to less (-1 SD, \( b = .234, p < .001 \)) victimized across middle school. Finally, although students experienced relative decreases in perceived safety at school during years when they experienced relative increases in victimization, this link was weakened for students with friends who were, on average, more (+1 SD, \( b = -.108, p < .001 \)) compared to less (-1 SD, \( b = -.182, p < .001 \)) victimized (see Figure 4). That is, when students typically had friends who were more, as opposed to less, victimized over the three years of middle school, fluctuations in their own victimization (i.e., experiencing more victimization than
usual) were less strongly related to adjustment difficulties. These findings again support the shared plight hypothesis.²

In sum, average level of friends’ victimization across middle school, but not within-person changes in friends’ victimization, emerged as a robust protective factor for students experiencing a) higher overall levels of victimization across middle school and b) increases in peer victimization (relative to their average victimization) at any given time point, and these findings were relatively consistent across the four outcomes. When students had friends who were on average more (as opposed to less) victimized across middle school, their own victimization across middle school was less strongly related to their average depressive symptoms, somatic complaints, characterological self-blame, and perceived (un)safety from 6th to 8th grade. Additionally, when students had friends who were on average more, as opposed to less, victimized across middle school, increases in their own victimization from year to year were less strongly related to their concurrent depressive symptoms, characterological self-blame, and perceived (un)safety. However, students who experienced increases in peer victimization (relative to their average) were more likely to report somatic complaints, regardless of friends’ average victimization.

Discussion

Although the past decade has seen a growth in multiwave studies examining individual differences in peer victimization and its negative consequences, longitudinal investigations of intraindividual variability in adolescents’ peer victimization experiences and adjustment

² Supplemental moderation analyses were conducted to test for sex or ethnic differences in the victimization X friends’ victimization interaction effects. There were only significant differences for depressive symptoms, indicating that friends’ victimization attenuated victimization-depression links most strongly for girls, compared to boys.
outcomes remain sparse. However, scholars have documented the instability of peer victimization during adolescence (Kochenderfer Ladd & Ladd, 2001; Nylund et al., 2007) and thus emphasized the need for longitudinal studies that take into account within-person changes in negative social experiences (Leadbeater et al., 2014; Rulison, et al., 2010). Relatedly, despite widespread recognition that adolescents’ peer relationships, and friendships in particular, are salient developmental contexts for peer victimization (Ostrov & Kamper, 2015), relatively little is known about how friends’ experiences with peer victimization may contribute to adolescents’ own victimization-related adjustment difficulties over time. The current study was designed to address these gaps in the literature. The results highlight the ways in which both individual differences and within-person changes in peer victimization experiences across time are related to adolescents’ depression, somatic problems, self-blaming attributions, and perceived safety at school.

**Time-Varying Versus Time-Invariant Effects of Peer Victimization**

The findings regarding between-person differences are consistent with a large literature within a nomothetic framework indicating that students who experience higher levels of victimization relative to peers experience greater maladjustment. In addition to finding support for previously well-established links between victimization and depressive symptoms and negative school climate perceptions (i.e., feeling unsafe), the results add to a growing body of work documenting the way students’ physical health and maladaptive attributions are related to their negative social experiences (Biebl et al., 2011; Graham & Juvonen, 1998; Schacter, White, Chang, & Juvonen, 2015). The findings highlight how experiences of peer victimization are related to a number of different adjustment difficulties during adolescence, a time when youth are increasingly concerned with being accepted by their peers and fitting in with grademates
(Blakemore & Mills, 2014; Simmons & Blyth, 1987). Students who were typically pushed around, made fun of, or excluded by peers during middle school were not only more vulnerable to emotional distress and feeling unsafe at school, but they were also more likely to report symptoms of physical illness and view themselves as blameworthy for being targeted.

Whereas these between-person effects replicate past research that examines individual differences in victimization-related maladjustment, findings regarding the within-person effects of victimization provide evidence that adds to a growing literature suggesting that even temporary experiences of peer victimization (or increases in such experiences) are associated with a range of negative outcomes among adolescents (e.g., Leadbeater et al., 2014; Nishina & Juvonen, 2005). Although past studies have found that within-person changes in victimization contribute to students’ emotional distress across the high school years (i.e., depressive symptoms; Leadbeater et al., 2014) and negative school perceptions on a day-to-day basis (i.e., perceived safety; Nishina & Juvonen, 2005), the current study replicated and extended these findings among a sample of early adolescents across the three years of middle school. The results revealed that during school years when students are harassed and ridiculed by peers more than was typical for them across middle school, they also felt more depressed and less safe at school. That is, it is not just youth who are generally more victimized by peers over the course of middle school that experience risk for psychological distress, but even time-limited exposure to victimization can place students at risk for emotional difficulties. Importantly, supplementary moderation analyses indicated that these within-person changes did not largely vary as a function of students’ average victimization (i.e., within-person victimization X between-person victimization interactions); the only exception was for perceived safety, wherein the within-person victimization effect was weaker, though still significant, for students with lower average
victimization. This finding suggests that when youth come to understand their experiences of victimization, they not only make social comparisons with their peers that then contribute to distress (e.g., “this isn’t happening as much to other kids..”), but they may also make within-person temporal comparisons (e.g., “this didn’t happen to me last year..”). Together these results highlight the importance of studying peer victimization within an idiographic framework and corroborate past research suggesting that adolescents’ psychological well-being is affected by changes in their own levels of social stress (Abela & Hankin, 2009; Zeiders, Umaña-Taylor, Updegraff, & Jahromi, 2015).

The current study also offered novel evidence that within-person fluctuations in victimization are related to students’ concurrent somatic complaints and characterological self-blaming attributions. That is, when adolescents experienced increases in victimization (relative to their average level of victimization), they felt more physically sick (e.g., nauseous, headaches), and they were more likely to attribute their victimization to stable, internal, and uncontrollable causes (i.e., characterological self-blame). Given that the etiology of adolescents’ somatic health complaints is often poorly understood (Watson et al., 2003), the finding that adolescents experiencing more somatic symptoms than usual during school years when they were victimized more than usual highlights that interpersonal stress is closely related to adolescents’ health (Fuligni et al., 2009; Nishina, Juvonen, & Witkow, 2005). Additionally, the finding that within-person increases in victimization predict higher levels of concurrent characterological self-blame suggests that adolescents’ causal attributions are not necessarily static, or “trait-like”, social cognitions, but rather that negative social experiences increase the accessibility of maladaptive explanations for experiencing peer victimization (i.e., self-blame).
When students experience more victimization than is typical for them, this likely contributes to the sense, at that given time point, that there is “something wrong with me”.

**Protective Effects of Friends’ Victimization**

The most novel and possibly provocative contribution of the current study was identifying friends’ victimization as a moderator of victimization-related adjustment problems. Although students who were more victimized across middle school also reported more adjustment difficulties, such links were weaker among students with friends who also experienced peer victimization during middle school. Additionally, cross-level interaction effects demonstrated that individual differences in friends’ victimization moderated even the within-person associations between victimization and adjustment difficulties. That is, although students experiencing more victimization than usual also reported worse adjustment than usual, these associations were attenuated (with the exception of somatic complaints) among youth whose friends were, on average, more victimized across middle school. Despite the fact that past studies have provided inconclusive evidence regarding the moderating effects of friends’ victimization (e.g., Brendgen et al., 2013), the current results provide strong support for the shared plight hypothesis: for students that experience peer mistreatment, whether temporarily or consistently, it is adaptive to have friends who have gone or are going through similar social experiences.

Results from the model examining characterological self-blame as an outcome offer novel and critical insight into how friends’ victimization can serve a buffering role—the between- and within-person effects of victimization on characterological self-blame (more victimization, more self-blame) were weakened among students who had friends that were more victimized. Students are likely to ask themselves “why me” when victimized, and friends serve as an important reference group as bullied youth come to understand this question (Chen &
Graham, 2012). The current findings suggest that students may engage in social comparisons with their friends; affiliating with peers going through the same social difficulties as oneself appears to facilitate more adaptive attributions and an understanding that “this isn’t about who I am”. Relatedly, downward social comparisons with friends who have experienced similar or even worse peer mistreatment could alleviate students’ sense of personal responsibility for their own victimization (Taylor et al., 1990). This finding is important because no studies have directly tested whether friends’ victimization can alleviate self-blaming attributions, despite suggesting this as a plausible explanation. Relatedly, the results provide an important extension of past research that has documented the negative consequences of deviating from school-level or classroom-level social norms (e.g., Bellmore et al., 2004; Graham, Bellmore, Nishina, & Juvonen, 2009). That is, here I highlight the risks incurred by students who deviate from their own victimization norms as well as the victimization norms of their friends. Not only did students feel worse during school years that they experienced more victimization than was typical for them, but victimized youth also showed greater adjustment difficulties when they were alone in their plight.

Additionally, higher levels of friends’ victimization attenuated associations between victimization and internalizing distress, as well as negative school perceptions. For example, the sense that “we’re in this together” might not only help to ward off feelings of despair and sadness (i.e., depressive symptoms), but also possibly provide students with a sense of solidarity and security in their everyday social environments, making them feel safer in school. Consistent with principles of homophily (Kandel, 1978) and research demonstrating similarity in the victimization levels among adolescent friends (e.g, Sentse et al., 2013), youth may feel more bonded, and thus less vulnerable, when they are more similar to their friends—even if it means
that they are all encountering peer difficulties. Understanding how friends can modulate students’ physical responses (i.e., somatic complaints) to victimization is an interesting question that should be explored in future research. Although there is strong evidence from other research areas that social relationships and experiences have a significant impact on physical health in adulthood (Uchino, 2004), much less is known about the extent to which these processes operate similarly when considering peer victimization experiences among adolescents and their friends.

Finally, it is important to note that the current study did not provide any evidence for the moderating effects of within-person changes in friends’ victimization. This is consistent with past research which has found that the typical characteristics of adolescents’ friends over time, rather than relative changes in these characteristics, are most closely related to adolescents’ own well-being (e.g., Rulison et al., 2010). These findings suggest that students, despite being sensitive to their own changes in victimization, may not be closely tuned into fluctuations in their friends’ victimization experiences from year to year. Rather, affiliating with peers who tend to experience higher levels of victimization or have been bullied at some point across middle school appears to be most important for alleviating adolescents’ own victimization-related distress.

**Limitations and Strengths of the Study**

There are several limitations of the current study. First, this study focused specifically on concurrent associations between victimization and adjustment difficulties, limiting conclusions about causality. However, testing these associations is nevertheless critical for understanding how temporary increases in experiences of harassment or exclusion may be accompanied by higher levels of adjustment difficulties, particularly given that adolescents’ exposure to victimization can vary considerably over time. Also, to capture friends’ victimization I averaged the self-reported victimization scores of all students nominated by a participant as friends.
(Echols & Graham, 2016; Brendgen et al., 2013). Although this approach provided me with an index of friend victimization that is free from shared method variance and captured the characteristics of an adolescents’ full friendship network, it also limited my ability to examine other characteristics of these friendships. For example, I did not take into account variation in the quality of friendships across middle school or consider whether average friends’ victimization reflected characteristics of the same versus different friends from year to year. However, we know friendships are quite unstable across the middle school years (Bowker, 2004) and that even if the identity of friends changes, there is often stability in the characteristics of these peers (Dishion et al., 1997). Hence, the index of average friend victimization used here should nevertheless meaningfully capture a student’s typical social reference group across middle school (Rulison et al., 2010). Additionally, friends’ influence may vary as a function of closeness and support within these friendships (Schacter & Juvonen, in prep). For example, whereas here I focused on the average victimization experienced by all of adolescents’ friends, sharing social stress (e.g., victimization) with close others in the context of a highly intimate best friendship could actually promote maladaptive coping, as proposed by emotional contagion hypotheses (e.g., Rose, 2002). In turn, it will be important for future studies to distinguish between different types of friendships (e.g., best versus all) and their relative quality when examining the effects of friend victimization.

Finally, given the focus on identifying within- and between-person patterns of victimization, the current study did not examine the role of school-level factors in shaping adolescents’ adjustment outcomes besides school ethnic diversity, which was included as a covariate. For example, as previously mentioned, schools with higher levels of victimization can offer protection for youth themselves victimized by promoting the sense that “it’s not just me”
(Schacter & Juvonen, 2015). Similarly, research on school ethnic context demonstrates that deviating from the norms of one’s ethnic group, much like deviating from one’s typical victimization experiences, can exacerbate the negative consequences of victimization (Graham et al., 2009). An important next step for future research will be to examine how student and friend characteristics interact with features of the school (ethnic) context to predict student well-being over time. Although victimized youth are more likely to blame themselves and feel distressed in school contexts where they deviate from the social norms (e.g., school where most kids are not bullied; school where your ethnic group is in numerical power), having friends who experience higher levels of victimization may nevertheless serve as a protective factor in these “risky” environments. Similarity in victimization among friends could buffer the negative consequences of being in a school context that promotes the sense that “it’s all my fault”.

Despite these limitations, the current study had several strengths, both in terms of methodological and theoretical contributions. In terms of methodological strengths, the analyses relied on an ethnically diverse sample of students, controlling for student sex and ethnic differences in the adjustment outcomes examined. Supplemental tests of ethnic and sex moderation suggest that the current results are largely robust across demographic groups. I also relied on data collected from multiple informants, including self-reports (i.e., self-perceived victimization, adjustment difficulties) and peer-reports (i.e., friends). In particular, relying on friends’ own reports of victimization offered an objective assessment of their social experiences. Finally, I capitalized on a longitudinal study design, allowing me to control for change in students’ adjustment across middle school and capture fluctuations in adolescents’ victimization from year to year. Relatedly, the results of the study highlight some of the benefits of using a multilevel modeling approach to address questions about how differences between and within
students contribute to adjustment. Although adolescents’ own victimization exhibits some continuity over time, there is also evidence that victimization can be relatively unstable over the course of middle school (e.g., Ryoo, et al., 2015); this is further supported by the current finding that victimization varied more within students compared to between them. Using MLM I was able to test how stable individual differences in victimization contributed to individual differences in adjustment, but also how within-person fluctuations (or deviations) from one’s “typical” victimization contributed to fluctuations in adjustment. Additionally, by testing three-level multilevel models, I not only account for dependencies in repeated measures among students, but also similarities among students attending the same schools.

**Implications and Conclusions**

Together, these findings have meaningful implications for understanding how to meet the social and emotional needs of bullied adolescents. While it is clear from past work that students who are more victimized across middle school represent a particularly high-risk group (Haltigan & Vaillancourt, 2014; Sheppard et al., 2016), the current findings also show that relative increases in victimization can be harmful, even among those not highly victimized by peers across time. Thus, these results underscore the need for school personnel, parents, and policymakers to be cognizant of not only who is at risk for adjustment difficulties, but also when the risk occurs. In turn, attending to changes in students’ behavior may help adults identify when youth are encountering concurrent social difficulties. For example, when students start reporting more physical complaints than usual, making more visits to the school nurse, or staying home from school feeling sick, this may be an important “red flag” indicator of concurrent social problems (Vernberg, Nelson, Fonagy, & Twemlow, 2011).
Relatedly, in terms of identifying appropriate and feasible targets for intervention among victimized youth, the current study highlights the value of understanding adolescents’ explanations for why they were bullied (i.e., causal attributions). Targeting and modifying victims’ maladaptive attributions offers an underutilized intervention method that can be administrated universally and without requiring the same resources as programs that individually target students’ mental health difficulties (e.g., depressive symptoms). Additionally, the current results show that adolescents’ attributions in part reflect the changing state of their negative social experiences (i.e., victimization), suggesting that interventions targeting adolescents’ attributions need to also be sensitive to the fluctuating nature of their victimization over time. Finally, given that affiliating with victimized friends across middle school alleviated the sense that “there’s something wrong with me” among victimized adolescents, attributional retraining methods may be most successful when they promote adaptive social comparisons and help students recognize that they are not alone in their plight. Thus, antibullying programs that aim to reduce the prevalence of victimization within schools should also recognize that, in doing so, they may leave those who continue to be victimized feeling particularly singled out and vulnerable.
Table 1. Correlations Among Victimization and Adjustment Difficulties (Main Time-Varying Variables) Across Four Waves

|------|-----|-------|-------|-------|------|-------|-------|-------|------|-------|-------|-------|     |-------|-------|      |
|      | W1  | W2    | W3    | W4    | W1   | W2    | W3    | W4    | W1   | W2    | W3    | W4    | W1  | W2    | W3    | W4   |
| Vic  |     |       |       |       |      |       |       |       |      |       |       |       |     |       |       |      |
| W1   | --  |       |       |       |      |       |       |       |      |       |       |       |     |       |       |      |
| W2   | .451| --    |       |       |      |       |       |       |      |       |       |       |     |       |       |      |
| W3   | .391| .475 | --    |       |      |       |       |       |      |       |       |       |     |       |       |      |
| W4   | .335| .396 | .467 | --    |      |       |       |       |      |       |       |       |     |       |       |      |
| Dep. |     |       |       |       |      |       |       |       |      |       |       |       |     |       |       |      |
| W1   | .268| .242 | .216 | .199 | --   |       |       |       |      |       |       |       |     |       |       |      |
| W2   | .152| .200 | .290 | .244 | .419 | --    |       |       |      |       |       |       |     |       |       |      |
| W3   | .117| .151 | .183 | .265 | 349  | .515 | --    |       |      |       |       |       |     |       |       |      |
| W4   |     |       |       |       |      |       |       |       |      |       |       |       |     |       |       |      |
| Som. |     |       |       |       |      |       |       |       |      |       |       |       |     |       |       |      |
| W1   | .194| .187 | .192 | .162 | .523 | .363 | .290 | --    |      |       |       |       |     |       |       |      |
| W2   | .156| .233 | .186 | .183 | .418 | .363 | .301 | .506 | --   |       |       |       |     |       |       |      |
| W4   | .087| .117 | .160 | .206 | .305 | .402 | .593 | .365 | .389 | .499 | --    |       |     |       |       |      |
| CSB  |     |       |       |       |      |       |       |       |      |       |       |       |     |       |       |      |
| W1   | .322| .276 | .256 | .213 | .278 | .173 | .082 | .188 | .141 | .137 | .038 | --    |     |       |       |      |
| W2   | .290| .393 | .304 | .268 | .246 | .214 | .126 | .169 | .205 | .179 | .084 | .515 | --   |     |       |       |      |
| W3   | .257| .294 | .366 | .281 | .189 | .233 | .120 | .146 | .152 | .199 | .089 | .446 | .487 | --   |     |       |       |      |
| W4   | .208| .234 | .269 | .336 | .178 | .224 | .233 | .150 | .131 | .188 | .193 | .378 | .415 | .536 | --   |     |       |      |
| Saf. |     |       |       |       |      |       |       |       |      |       |       |       |     |       |       |      |
| W1   | -.340|-.282|-.238|-.206|-.322|-.187|-.113|-.231|-.179|-.154|-.080|-.324|-.277|-.259|-.219|--    |      |
| W2   | -.286|-.350|-.249|-.239|-.292|-.241|-.148|-.215|-.257|-.182|-.092|-.291|-.363|-.284|-.235|-.536|--    |      |
| W3   | -.222|-.267|-.330|-.288|-.264|-.349|-.203|-.202|-.212|-.286|-.160|-.238|-.266|-.338|-.266|.435|.522|--    |      |
| W4   | -.181|-.214|-.231|-.345|-.216|-.255|-.244|-.163|-.183|-.182|-.208|-.154|-.194|-.221|-.295|.323|-.409|-.489|      |

Note. Vic=Victimization; Dep.=Depressive Symptoms; Som.=Somatic Complaints; CSB=Characterological Self-Blame; Saf.=Perceived Safety. W1=Fall 6th Grade; W2=Spring 6th Grade; W3=Spring 7th Grade; W4=Spring 8th Grade. All ps<.001.
Table 2. *Variance Estimates and Intraclass Correlations for Dependent Variables: Time (e), Student (u), and School (v) Effects*

<table>
<thead>
<tr>
<th></th>
<th>Variances</th>
<th>Intraclass correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\sigma^2_e$</td>
<td>$\sigma^2_\mu$</td>
</tr>
<tr>
<td>Peer Victimization</td>
<td>.378</td>
<td>.248</td>
</tr>
<tr>
<td>Depressive symptoms</td>
<td>.207</td>
<td>.135</td>
</tr>
<tr>
<td>Somatic complaints</td>
<td>.209</td>
<td>.176</td>
</tr>
<tr>
<td>Characterological self-blame</td>
<td>.477</td>
<td>.396</td>
</tr>
<tr>
<td>Perceived safety</td>
<td>.236</td>
<td>.184</td>
</tr>
</tbody>
</table>

*Note.* $\sigma^2_e$=variance between waves of measurement; $\sigma^2_\mu$=variance between students; $\sigma^2_v$=variance between schools. All variances were statistically significant, with the exception of $\sigma^2_v$ for depressive symptoms. ICC=intraclass correlation. ICC$_1$=proportion of total variance at the student level: ICC$_1$=$\sigma^2_\mu/ (\sigma^2_e + \sigma^2_\mu + \sigma^2_v)$; ICC$_2$=proportion of total variance at the school level: ICC$_2$=$\sigma^2_v/(\sigma^2_e + \sigma^2_\mu + \sigma^2_v)$. 
Table 3.  
*Within- and Between-Person Effects of Victimization on Adjustment Outcomes.*

<table>
<thead>
<tr>
<th></th>
<th>Depressive Symptoms</th>
<th>Somatic Complaints</th>
<th>Characterological Self-Blame</th>
<th>Perceived Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.453(.02)***</td>
<td>1.647(.02)***</td>
<td>2.567(.03)***</td>
<td>4.268(.03)***</td>
</tr>
<tr>
<td><strong>Level 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>0.032(.01)***</td>
<td>0.002(.01)</td>
<td>-0.073(.01)***</td>
<td>0.021(.01)**</td>
</tr>
<tr>
<td>WP Victimization</td>
<td>0.095(.01)***</td>
<td>0.077(.01)***</td>
<td>0.182(.01)***</td>
<td>-0.143(.01)***</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>0.170(.01)***</td>
<td>0.225(.01)***</td>
<td>0.052(.02)**</td>
<td>0.031(.01)*</td>
</tr>
<tr>
<td>African American</td>
<td>-0.017(.02)</td>
<td>0.061(.03)*</td>
<td>-0.111(.03)***</td>
<td>0.061(.02)**</td>
</tr>
<tr>
<td>Asian</td>
<td>0.028(.03)</td>
<td>-0.038(.05)</td>
<td>0.117(.04)**</td>
<td>-0.179(.03)***</td>
</tr>
<tr>
<td>White</td>
<td>0.045(.02)*</td>
<td>0.054(.02)*</td>
<td>-0.007(.03)</td>
<td>-0.110(.02)***</td>
</tr>
<tr>
<td>Other</td>
<td>0.056(.03)</td>
<td>0.056(.02)*</td>
<td>0.027(.03)</td>
<td>-0.050(.02)*</td>
</tr>
<tr>
<td>BP Victimization</td>
<td>0.257(.02)***</td>
<td>0.248(.01)***</td>
<td>0.548(.02)***</td>
<td>-0.352(.01)***</td>
</tr>
<tr>
<td><strong>Level 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Diversity</td>
<td>0.140(.10)</td>
<td>-0.003(.10)</td>
<td>-0.195(.14)</td>
<td>0.651 (.21)**</td>
</tr>
<tr>
<td><strong>Random Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept (student)</td>
<td>0.104(.01)***</td>
<td>0.142(.00)***</td>
<td>0.287(.01)***</td>
<td>0.138(.01)***</td>
</tr>
<tr>
<td>Intercept (school)</td>
<td>0.000(.00)</td>
<td>0.000(.00)</td>
<td>0.000(.00)</td>
<td>0.009 (.00)***</td>
</tr>
<tr>
<td>Residual</td>
<td>0.203(.01)***</td>
<td>0.207(.01)***</td>
<td>0.459(.01)***</td>
<td>0.228(.01)***</td>
</tr>
</tbody>
</table>

*Note.* WP=within-person; BP=between-person. Standard errors listed in parentheses. **p<.001; *p<.01, *p<.05
Table 4.
Between-Person Friends’ Victimization as a Moderator of Between- and Within-Person Victimization Effects on Adjustment

<table>
<thead>
<tr>
<th></th>
<th>Depressive Symptoms</th>
<th>Somatic Complaints</th>
<th>Characterological Self-Blame</th>
<th>Perceived Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.458(.02)***</td>
<td>1.650(.02)***</td>
<td>2.573(.03)***</td>
<td>4.264(.03)***</td>
</tr>
<tr>
<td><strong>Level 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>0.032(.01)***</td>
<td>0.002(.01)</td>
<td>-0.073(.01)***</td>
<td>0.020(.01)**</td>
</tr>
<tr>
<td>WP Victimization</td>
<td>0.097(.01)***</td>
<td>0.077(.01)***</td>
<td>0.186(.01)***</td>
<td>-0.145(.01)***</td>
</tr>
<tr>
<td>WP Friends’ Victimization</td>
<td>-0.007(.01)</td>
<td>0.007(.01)</td>
<td>0.009(.01)</td>
<td>-0.030(.01)***</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>0.171(.01)***</td>
<td>0.226(.01)***</td>
<td>0.054(.02)**</td>
<td>0.031(.01)*</td>
</tr>
<tr>
<td>African American</td>
<td>-0.019(.02)</td>
<td>0.060(.03)*</td>
<td>-0.112(.03)***</td>
<td>0.062(.02)**</td>
</tr>
<tr>
<td>Asian</td>
<td>0.027(.03)</td>
<td>-0.036(.05)</td>
<td>0.121(.04)**</td>
<td>-0.178(.03)***</td>
</tr>
<tr>
<td>White</td>
<td>0.046(.02)*</td>
<td>0.061(.02)**</td>
<td>0.007(.02)</td>
<td>-0.112(.02)***</td>
</tr>
<tr>
<td>Other</td>
<td>0.056(.03)</td>
<td>0.059(.02)*</td>
<td>0.033(.03)</td>
<td>-0.050(.02)*</td>
</tr>
<tr>
<td>BP Victimization</td>
<td>0.260(.01)***</td>
<td>0.250(.01)***</td>
<td>0.553(.02)***</td>
<td>-0.355(.01)***</td>
</tr>
<tr>
<td>BP Friends’ Victimization</td>
<td>0.000(.02)</td>
<td>0.017(.02)</td>
<td>0.031(.03)</td>
<td>0.002(.02)</td>
</tr>
<tr>
<td>BP Victimization X BP Friends’ Victimization</td>
<td>-0.080(.02)***</td>
<td>-0.071(.02)**</td>
<td>-0.145(.03)***</td>
<td>0.052(.02)*</td>
</tr>
<tr>
<td><strong>Cross-Level Interaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP Victimization X BP Friends’ Victimization</td>
<td>-0.069(.02)***</td>
<td>-0.020(.01)</td>
<td>-0.114(.02)***</td>
<td>0.088(.02)***</td>
</tr>
<tr>
<td><strong>Level 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Diversity</td>
<td>0.132(.10)</td>
<td>0.000(.09)</td>
<td>-0.196(.14)</td>
<td>0.658(.21)**</td>
</tr>
<tr>
<td><strong>Random Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept (student)</td>
<td>0.104(.01)***</td>
<td>0.141(.01)***</td>
<td>0.285(.01)***</td>
<td>0.138(.01)***</td>
</tr>
<tr>
<td>Intercept (school)</td>
<td>0.000(.00)</td>
<td>0.000(.00)</td>
<td>0.000(.00)</td>
<td>0.009(.00)***</td>
</tr>
<tr>
<td>Residual</td>
<td>0.202(.01)***</td>
<td>0.207(.01)***</td>
<td>0.458(.01)***</td>
<td>0.228(.01)***</td>
</tr>
</tbody>
</table>

*Note.* WP=within-person; BP=between-person. Standard errors in parentheses.
Figure 1. Between-person victimization X between-person (BP) friends’ victimization interaction predicting depressive symptoms.

Note. X-axis represents full range of grand-mean centered between-person victimization variable (-.95 to 2.05).
Figure 2. Between-person victimization X between-person (BP) friends’ victimization interaction predicting somatic complaints.

Note. X-axis represents full range of grand-mean centered between-person victimization variable (-.95 to 2.05).
Figure 3. Within-person victimization X between-person (BP) friends’ victimization interaction predicting characterological self-blame.

Note. X-axis represents full range of group-mean centered within-person victimization variable (−2.25 to 2.25).
Figure 4. Within-person victimization X between-person (BP) friends’ victimization interaction predicting perceived safety.

Note. X-axis represents full range of group-mean centered within-person victimization variable (-2.25 to 2.25).
References


GENERAL DISCUSSION

Whereas experiences of peer victimization place adolescents at risk for a range of problematic adjustment outcomes, friendships function as developmentally significant peer relationships that offer myriad benefits to adolescents’ well-being and social competence. However, when friendships can alleviate the distress of victimized adolescents is not well understood. The current dissertation implemented a longitudinal approach to investigate if, when, and how friendships serve a protective function among adolescents who are victimized by peers across the middle school years. This approach allowed me to empirically test several theoretical assumptions that have guided much past research despite receiving limited empirical support—that victimized adolescents without friends experience heightened distress, that high quality friendships offer protection for bullied youth, and that having victimized friends is a liability for victimized adolescents. The current results suggest that friendless victims are buffered from psychological and social adjustment problems when they attend schools with more prosocial peers (Study 1), that the protective function of high quality friendships varies in part depending on whether youth perceive their best friend as victimized by peers (Study 2), and that affiliating with friends who experience similar negative social experiences during middle school can alleviate victimization-related emotional distress and self-blame (Study 3). This work highlights how the adjustment of peer victimized youth is shaped by a complex interplay of relational and contextual factors, providing a more nuanced understanding of the function of friendships among socially vulnerable adolescents. Moreover, together these studies advance our understanding of the social conditions under which victims of bullying fare relatively better (or worse) during a developmental period where peer relationships take on growing importance (Brown, Eicher, & Petrie, 1986).
Contributions of the Current Dissertation

Across the three studies, a central contribution of the current dissertation is that it highlights the dynamic nature of adolescents’ peer victimization experiences and corresponding adjustment. There is little debate that peer victimization is a prevalent problem during adolescence (Barker et al., 2008; Craig et al., 2009) and that victimized youth are at heightened risk for experiencing a range of negative mental health, social, and school adjustment problems (Juvonen & Graham, 2014). However, just as it is critical to understand the negative outcomes experienced by the bullied, it is also important to identify social factors that can alleviate their distress. Insofar as adolescents are frequently engaging in social comparisons and increasingly tuned in to the behavior and opinions of their peers (Ruble, 1983), the extent to which experiences of harassment or exclusion are harmful is in part contingent on characteristics of adolescents’ friends and the quality of their close relationships.

Indeed, the current findings highlight that the substantive meaning and impact of being picked on by peers is shaped by adolescents’ relational and peer contexts. For example, being victimized and friendless made students feel more anxious, lonely, and unsafe when they attended schools with less supportive peers, but not when they went to school with grademates who supported one another and stood up for the bullied (Study 1). Similarly, although close friendships characterized by self-disclosure and support were generally helpful for bullied youth, bullied girls who thought their best friend was also picked on felt even worse (Study 2). Study 3 perhaps most strikingly highlighted the socially dynamic nature of peer victimization, wherein students were less like to blame themselves for being victimized if they affiliated with friends who were, on average, more bullied across their three years of middle school. Together these findings suggest that the fundamental meaning of getting pushed around and excluded varies not
just as a function of who an adolescent is, but also who they spend time with, the nature of the relationship, and the behaviors of peers in their school. Despite a recognition that it is critical to consider multiple facets of adolescents’ social lives (Hartup, 1996), they are not frequently examined together within an interactive framework.

When different facets of peer relationships are examined in silos, the findings from these separate bodies of literature yield surprisingly inconsistent results relating to the function of friendships for the victimized, despite several theoretical assumptions about when and how friendships should be protective. For example, although there is a prevailing notion that lacking friends places victimized youth at heightened risk for distress, this finding initially documented by Hodges and colleagues (1999) among children has not been consistently replicated in subsequent work among adolescents (e.g., Erath, Flanagan, & Bierman, 2008; Kochel, Bagwell, Ladd, & Rudolph, 2017). Similarly, although a number of studies suggest that high quality friendships are important in protecting victimized youth from adjustment problems and provide some supporting evidence for this (e.g., Schmidt & Bagwell, 2007), research has also highlighted amplifying effects of high quality friendships for the victimized (e.g., Hodges et al., 1999). Together, these inconsistent sets of evidence suggest that having versus not having friends, having victimized versus non-victimized friends, and having higher versus lower quality friendships interact in nuanced ways. Thus, the adjustment outcomes of adolescents victimized by peers will be determined by a complex interplay between where they are, who they are friends with, and the qualitative characteristics of these relationships. Although this is not a novel theoretical proposition (see Hartup, 1996), this dissertation offers several novel empirical tests of such interactional patterns.
These three studies also corroborate and extend past research demonstrating the wide-ranging adjustment difficulties experienced by adolescents who are victimized by peers during early adolescence. Across the three studies, strict statistical controls were introduced in order to highlight how adolescents’ negative social experiences contribute to their distress, over and above preexisting adjustment difficulties in middle school (see Appendix A). This is important insofar as adolescents’ psychological and emotional problems (e.g., depressive symptoms, anxiety) tend to be relatively stable over time (Holsen, Kraft, & Vittersø, 2000; Reitz, Deković, & Meijer, 2005). The studies also incorporated different measurements of victimization, relying on both peer reports (Study 1) and self-reports (Studies 2 and 3). Although both peer- and self-identified victimization are related to adolescent maladjustment (e.g., Dawes, Chen, Farmer, & Hamm, 2017), peer-reported victimization is typically more closely related to students’ social maladjustment, whereas self-perceptions of victimization are more closely linked with students’ emotional maladjustment (Scholte, Burk, & Overbeek, 2013; Graham & Juvonen, 1998). In the current dissertation, Study 1 relied on peer reports to identify students with a victim reputation at school; this was important for understanding who may be in a position to receive support from grademates (i.e., those identified by grademates, rather than themselves, as someone who gets picked on) and identifying some of the social consequences of victimization (e.g., loneliness). In contrast, Study 2 and Study 3 relied on self-perceptions of victimization, a construct that was particularly relevant for predicting a range of negative psychological and emotional outcomes (e.g., depressive symptoms, somatic complaints) experienced by students who report feeling picked on and excluded by their peers during middle school. Additionally, because the measurement of self-perceived victimization relies on the same single source of data (i.e.,
individual student) across multiple time points, this index was particularly meaningful when identifying within-person fluctuations in victimization over time (Study 3).

Much like peer- and self-reports of victimization can offer unique insights into the consequences of peer difficulties, a number of methods are available for studying the friendships of adolescents, each with their strengths and weaknesses. For each of the current studies, friendship was measured in a different way to best address the conceptual questions of interest. For example, given the focus of Study 1 on identifying friendless victims of bullying, I determined whether students received any friendship nominations from classmates. Relying on peer reports of friendship offered a methodological solution to issues of over- or under-estimation of friendlessness when relying on reciprocal friendships or all outgoing nominations, respectively (Furman, 1996; Bagwell & Schmidt, 2011). Additionally, in Study 1 I presumed that a victimized student who is never chosen as a friend by grademates may be particularly socially isolated and would most benefit from prosocial peers at school. In contrast, because Study 2 focused specifically on how adolescents’ perceptions of support in their close friendships related to their well-being, a reliance on self-reports of a best friendship was well-suited for study. Moreover, this allowed a direct test of the hypothesis that girls who perceive a very close friend as both highly supportive and victimized might be at risk for heightened distress. Finally, given the longitudinal nature of Study 3 and the goal of identifying characteristics of adolescents’ full friendship network, I considered the average victimization of students’ friends across every school year.

Moreover, all three studies incorporated multilevel modeling techniques, allowing me to account for variability in adolescents’ well-being as a function of school-level factors (Study 1) and time-related change in student adjustment across middle school (Study 3). Although the
magnitude of effects across the studies was relatively small, this was likely in part due to the strict controls (e.g., baseline distress; Hodges et al., 1999) and focus on complex patterns of moderation (i.e., three-way interactions; McClelland & Judd, 1993). The use of multilevel modeling also allowed me to test novel questions about whether *intraindividual* variability in victimization experiences, in addition to stable individual differences in victimization, are related to *intraindividual* variability in adjustment outcomes (Study 3). The results in turn underscore that even temporary fluctuations in victimization across middle school (i.e., being more victimized than usual during a given school year) relates to students feeling more depressed, sick, unsafe, and at fault for being bullied. Friends’ victimization, in turn, was important in alleviating such maladaptive within-person associations.

**Shared Social Plight: Cost or Benefit?**

The current studies also raised interesting questions about the costs versus benefits of sharing social plight with friends. On one hand, findings from Study 2 suggest that victimized girls are most at risk for feeling depressed and anxious when they perceive their best friend as highly supportive and victimized. On the other hand, Study 3 demonstrates that victimized youth consistently benefit from affiliating with peers who experience(d) similar social problems. Several conceptual explanations and corresponding methodological differences between the two studies help reconcile the seemingly inconsistent findings about friend victimization.

First, the current findings suggest that sharing social plight with others may take on a qualitatively different meaning in the context of an intimate best friendship compared to adolescents’ friend groups at large. Indeed, whereas Study 2 focused on whether adolescents’ thought their best friends were emotionally supportive and picked on by peers, Study 3 captured the average victimization experienced by all of adolescents’ friends across the three years of
middle school. One possibility is that sharing social plight with a single best friend, particularly in the context of girls’ highly intimate relationships, promotes maladaptive coping responses that contribute to distress, rather than offering protection. Consistent with this notion, past research shows that victimized youth are more likely to experience emotional problems when they co-ruminate with a best friend (e.g., excessively dwell on problems; Guarneri-White et al., 2015), and co-rumination is more likely to occur in the context of high quality friendships (Rose, 2002). On the other hand, assessing victimization across all of an adolescent’s friends across middle school (Study 3) likely captures something more akin to one’s social reference group over time. Affiliating with peers who at some point have been victimized may help normalize the victimization experience and make bullied youth feel less alone or singled out in their experiences. That is, while talking about negative social experiences together (possibly excessively) may come to hurt more than help close friends, it may comfort victims when their friends have experienced similar social encounters and can relate to their plight. Such an explanation fits in with related literature documenting protective effects among victimized youth attending schools or being in classrooms where victimization is more common among peers (e.g., Bellmore et al., 2004) and the current finding (Study 3) that having more friends who have been victimized weakens the association between victimization and self-blame (Study 3).

Additionally, the studies raise interesting questions about the timing of adolescents’ and their friends’ victimization experiences. Whereas Study 2 considered how adolescents’ own victimization and best friendship characteristics at the beginning of 8th grade predicted internalizing symptoms at the end of 8th grade, Study 3 examined how the average victimization of adolescents’ friends across all three years of middle school influenced between- and within-person associations between victimization and adjustment difficulties. Although bullying
typically increases directly following the transition to middle school, there are decreases in prevalence in subsequent years (Nylund et al., 2007). Consequently, girls who perceive both themselves and their very close friend as bullied during the last year of middle school (Study 2) may feel especially distressed. Rather than making victimized students feel less alone in their negative social experiences, shared social plight at a time when being bullied is already non-normative could actually amplify the sense that “there is something wrong with us”. In contrast, Study 3 captures adolescents’ typical friendship context over the course of three years. Consistent or continued exposure to friends that are victimized, rather than having a friend that is also victimized at one specific point in time, may be most important in reinforcing the consoling sense that “we’re in this together”.

**Limitations and Future Directions**

There were several limitations of the current studies that raise important questions for future research. First, across the studies I did not take into account stability of adolescents’ friendships. Past research suggests that victimized youth not only experience difficulty initiating new friendships, but they also have trouble maintaining existing friendships (Ellis & Zarbatany, 2007). Examining the stability of adolescents’ friendships across the current studies could provide additional insight into the current patterns of results. For example, one possibility is that friendless victims benefit from a prosocial school environment, insofar as it provides more opportunities to make friends with supportive and considerate peers in the future. Relatedly, an interesting question stemming from Study 2 is whether girls’ close friendships in 8th grade were new relationships versus friendships that had been maintained across the middle school years. Although friendship stability is generally thought to be protective, it may be that the close friendships of victimized girls are most likely to promote cycles of co-rumination and
maladaptive interpersonal coping patterns when they remain stable over time. Alternatively, these 8th grade friendships between similarly victimized girls may reflect a growing lack of choice among youth with a history of victimization. Given that well-adjusted peers at school are likely to avoid affiliating with their bullied grademates (Hodges et al., 1997; Perry, Kusel, & Perry, 1988), youth who (continue to) experience victimization during their last year of middle school may only be able to find companionship with others on the social margins (Rodkin & Hodges, 2003). Future studies that track the identities of students’ best friends and the qualitative characteristics of such friendships across multiple time points will offer opportunities to understand the longitudinal interplay between changes in adolescents’ close friendships, the quality of these relationships, as well as the characteristics of these friends.

Additionally, although each study focused on conceptually relevant features of adolescents’ friendships, the current findings raise important questions about how constructs across the three studies may interact. For example, among girls who perceive their best friend as highly supportive and victimized, are there certain features of the broader school context (e.g., prosocial peer behavior) that could nevertheless protect them from distress? Does having victimized friends take on different meaning when students attend a school where bullying is more or less common in general? Despite the importance of simultaneously considering interactions between different features of adolescents’ friendships (e.g., quality, characteristics), their own social experiences and characteristics, and features of their broader peer context, this is also difficult to achieve within any one study. Thus, a challenge for future research will be finding ways to recognize and study the interactive nature of adolescents’ positive and negative social experiences within logistical and statistical constraints.
Even when testing three-way (and sometimes four-way) interaction effects, as in the current studies, there may nevertheless be unanswered questions about how these patterns further vary depending on student and school characteristics. It will be important for future studies to consider how other demographic factors, such as ethnicity, and other school or classroom context factors, such as diversity or teacher behaviors, may shape the meaning of both peer victimization and friendships. Although across the current studies I did not find evidence for moderation by ethnicity, this in part may have been due to low power (e.g., testing four-way interactions). Studies that incorporate similarly large, diverse samples, contextual variability (e.g., multiple schools), and a range of different measurement approaches for studying friendships will be best-suited to continue systematically testing these complex questions. For example, a growing body of literature concerning the role of the school ethnic context in the lives of victimized adolescents highlights the importance of ethnic diversity in promoting a sense of inclusiveness and decreasing students’ social vulnerability at school (Juvonen, Nishina, & Graham, 2006; Juvonen, Kogachi, & Graham, 2017). Indeed, in the current work, students in more ethnically diverse schools were more likely to feel safe at school. It is therefore critical to consider ways that increased heterogeneity in schools, both in terms of ethnicity and other student characteristics (e.g., sexual orientation; body weight), contribute to the well-being of the most vulnerable youth. School contexts that promote greater tolerance and acceptance of socially marginalized adolescents may facilitate opportunities for adolescents to develop supportive and fulfilling peer relationships, even in the face of social difficulties.

Going beyond the peer group, it may also be important to consider the role that teachers play in shaping adolescents’ social environments. For example, teachers’ willingness to intervene with bullying and promote prosocial interactions among their students may impact the
degree to which students with peer difficulties feel cared for and supported. Whether these different contextual factors (e.g., diversity, classroom support) that should promote increased tolerance for students who “stand out from the crowd” can also facilitate the adjustment of youth experiencing victimization and friendship difficulties has been relatively unexplored. Integrating existing knowledge about school-level factors into theoretical frameworks for studying friendships among victimized youth can further enrich our understanding of how adolescent social and emotional development differentially unfolds across varying social and structural contexts.

Finally, the current studies focused on adolescents’ experiences of peer victimization across a developmental period where concerns about fitting in with and being accepted by peers are heightened. Given that this increased sensitivity to peers coincides with increases in bullying prevalence following the transition to middle school (Pellegrini & Bartini, 2002), it is particularly significant to investigate the effects of peer victimization on student adjustment, as well as identify the social protective factors that can mitigate such adjustment difficulties, in middle school. Recognizing the increasing importance of peers during adolescence (Brown et al., 1986), however, also raises interesting questions about the developmental specificity of the current findings. For example, would attending schools with prosocial peers serve the same protective function for friendless victims during elementary school? Or is it specifically during middle school, when the norms of the broader peer group become increasingly salient and integral to adolescents’ self-perceptions, that these social contextual factors are particularly relevant? Answering these questions requires explicit age-related comparisons and studies that span multiple school transitions. Research that captures the longitudinal progression of adolescents’ social experiences (e.g., peer victimization) and the changing features of their peer
and school environments can provide us with rich insight into the continuities and discontinuities in youth’s peer relationships that in turn have important implications for their social, emotional, and psychological development over time.

**Implications for Interventions**

The results of these studies also have important implications for the design and implementation of multifaceted interventions that can meet the needs of socially vulnerable adolescents. Given the many negative effects of peer victimization on adolescent well-being and the many positive functions of friendships for youth adjustment, it is tempting to conclude that simply finding friends for victimized youth can offer a “quick fix” solution to their plight. Indeed, some interventions have implemented this friendship facilitation approach, and the current finding that friends can alleviate the anxiety of victims in less supportive school contexts suggests the potential utility of this method. However, there is limited evidence for the success of these “befriending” interventions (Bagwell & Schmidt, 2011; Smith, Ananiadou, & Cowie, 2003) and they require a targeted approach (i.e., identifying victims who are then matched with a well-adjusted “buddy”); this could further exacerbate victimized students’ stigmatization and ineptness within the peer group, especially in middle school. Moreover, even if these interventions can facilitate a supportive friendship between a victimized student and a grademate, such approaches do not necessarily shift the attitudes or behaviors of the entire peer group, which could result in continued mistreatment for victimized youth. In contrast, whole-school interventions focused on fostering more positive peer norms (e.g., defending victims) among the entire peer group have achieved success among victimized youth in childhood and adolescence. That is, by encouraging students to support one another and stand up for their bullied peers, these interventions not only successfully reduce overall rates of bullying (Kärnä et
al., 2011) but can also protect the most victimized youth from social and emotional distress (Juvenile, Schacter, Sainio, & Salmivalli, 2016). In light of the current findings that friendless victims of bullying can be protected from social-emotional adjustment problems in more prosocial school environments, interventions may be best-suited to help the most socially vulnerable youth by not only promoting specific healthy peer relationships (e.g., friendship facilitation), but also taking a school-wide approach that promotes more positive (e.g., prosocial) peer norms among the broader student body.

There are also potential challenges that arise from such school-wide intervention approaches. In light of the current evidence that sharing social plight with victimized friends across middle school can alleviate bullied students’ sense of emotional distress and self-blame, it is important to consider how well-intentioned efforts to reduce rates of bullying at school can backfire. That is, when interventions manage to successfully decrease the prevalence of bullying, students who nevertheless continue to be victimized may feel particularly singled out or alone in their experiences. It may be in these very contexts where victimized youth are most likely to end up in highly exclusive best friendships with bullied grademates, in turn facilitating maladaptive interactional patterns that contribute to feelings of social isolation and distress (e.g., Study 2). Consequently, given that the victimization experiences of adolescents’ friends influence their own victimization-related adjustment in both positive and negative ways, interventions must be sensitively tailored to promote an adaptive sense of shared plight with similar others (e.g., “we’re in this together and there’s nothing wrong with me”) and discourage maladaptive interpersonal coping strategies (e.g., co-rumination) that could arise in highly intimate best friendships. For example, targeting and modifying victims’ maladaptive attributions offers an underutilized intervention method that can be administrated universally and without requiring the same
resources as programs that individually target students’ mental health difficulties (e.g., depressive symptoms). Attributional retraining methods may be most successful when they promote adaptive social comparisons and help students recognize that they are not alone in their plight. It will also be important to recognize when shared social plight can come at a cost, as documented here in the context of girls’ highly intimate best friendships. Interventions that also focus on teaching youth more adaptive coping strategies, particularly in interpersonal contexts, could create opportunities for bullied adolescents to engage in constructive and supportive conversations with their victimized friends, rather than repeatedly discussing problems. Although by no means simple to implement, these multifaceted intervention approaches that incorporate efforts at multiple levels (e.g., adolescents, friends, peer group) should provide the most comprehensive approach to meeting the needs of socially vulnerable youth.

**Conclusions**

By examining friendship in different ways and across different peer contexts, the current dissertation highlights how adolescents’ peer relationships play a critical role in shaping their adjustment, but not always in the most intuitive ways. Although bullied youth are at increased risk for a range of negative outcomes, the current findings demonstrate that their distress is not inevitable. That is, these studies underscore that the psychological meaning of being bullied varies not just based on whether or not adolescents have friends, but also who their friends are, how close they are with these friends, as well as whether peers in their schools are generally kind and considerate of one another. The current studies offer an important theoretical contribution, highlighting the need to simultaneously consider interactions between the individual adolescent, their friends, and the context in which their peer interactions unfold. The findings in turn have important implications for understanding the opportunities and challenges that arise when
designing multifaceted intervention approaches to meet the developmental needs of socially vulnerable adolescents during the middle school years.
Appendix A

Organizational Table of Studies

<table>
<thead>
<tr>
<th></th>
<th>STUDY 1</th>
<th>STUDY 2</th>
<th>STUDY 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATASET</td>
<td>Middle School Diversity Project</td>
<td>Peer Project</td>
<td>Middle School Diversity Project</td>
</tr>
<tr>
<td>PARTICIPANT N</td>
<td>5,991</td>
<td>1,667</td>
<td>5,991</td>
</tr>
<tr>
<td>WAVES</td>
<td>6&lt;sup&gt;th&lt;/sup&gt; Spring → 7&lt;sup&gt;th&lt;/sup&gt; Spring</td>
<td>8&lt;sup&gt;th&lt;/sup&gt; Fall → 8&lt;sup&gt;th&lt;/sup&gt; Spring</td>
<td>6&lt;sup&gt;th&lt;/sup&gt; Fall, 6&lt;sup&gt;th&lt;/sup&gt; Spring, 7&lt;sup&gt;th&lt;/sup&gt; Spring, 8&lt;sup&gt;th&lt;/sup&gt; Spring</td>
</tr>
<tr>
<td>ANALYSIS APPROACH</td>
<td>Two-level multilevel models</td>
<td>Multivariate multilevel models</td>
<td>Three-level multilevel models</td>
</tr>
<tr>
<td>MAIN WITHIN- PERSON PREDICTORS</td>
<td>N/A</td>
<td>N/A</td>
<td>-self-perceived victimization</td>
</tr>
<tr>
<td>MAIN INDIVUAL- LEVEL PREDICTORS</td>
<td>-peer-reported victimization</td>
<td>-self-perceived victimization</td>
<td>-friends’ victimization</td>
</tr>
<tr>
<td></td>
<td>-received friendship nominations (yes versus no)</td>
<td>-perceived best friend emotional support</td>
<td>-perceived best friend victimization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-perceived best friend</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>emotional support</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-perceived best friend victimization</td>
<td></td>
</tr>
<tr>
<td>MAIN SCHOOL-LEVEL PREDICTORS</td>
<td>-school-level prosociality</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>OUTCOMES</td>
<td>-psychosocial distress (social anxiety, loneliness, perceived safety)</td>
<td>-internalizing symptoms: (depression, social anxiety)</td>
<td>-psychological distress (depressive symptoms, somatic complaints, perceived safety), attributions (characterological self-blame)</td>
</tr>
<tr>
<td>COVARIATES</td>
<td>-sex, ethnicity, 6&lt;sup&gt;th&lt;/sup&gt; grade psychosocial adjustment, SES, individual-level perceived peer prosocial behavior, school level diversity</td>
<td>ethnicity, Fall of 8&lt;sup&gt;th&lt;/sup&gt; grade internalizing symptoms</td>
<td>-sex, ethnicity, time-related change of adjustment outcome, school diversity</td>
</tr>
</tbody>
</table>
Appendix B

Study 1 Psychosocial Adjustment Outcomes Measures

Social Anxiety.

Prompt: *How much is each statement true for you?*

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Hardly ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I worry about what others think of me.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. I’m afraid that others will not like me.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. I am quiet when I’m with a group of people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. I’m afraid to invite others to do things with me because they might say no</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5. I feel shy even with kids I know very well</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>6. It’s hard for me to ask others to do things with me</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Loneliness.

Prompt: How do you feel at school?

<table>
<thead>
<tr>
<th></th>
<th>Always true</th>
<th>True most of the time</th>
<th>Sometimes true</th>
<th>Hardly ever true</th>
<th>Not true at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have nobody to talk to.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. I feel alone.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. I feel left out of things.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. There’s nobody I can go to when I need help</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5. I’m lonely at school</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Note. Items reverse coded for all analyses, such that higher values indicated greater loneliness at school.
Perceived school safety.

Prompt: *The following questions ask about how safe you feel in school. How often...*

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Most of the time</th>
<th>Sometimes</th>
<th>Hardly ever</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. do you feel safe at school?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. are you afraid that someone will hurt or bother you at school?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. do you feel safe during nutrition?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. do you feel safe in hallways or stairs?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5. are you afraid that someone will hurt or bother you in your school restrooms?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>6. do you feel unsafe during lunch?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

*Note.* Items 2, 5, and 6 were reverse coded such that higher scores indicate feeling more unsafe at school.
Appendix C

Study 1 Perceived Peer Prosociality Measure

Prompt: *How many students in your school...*

<table>
<thead>
<tr>
<th>Prompt</th>
<th>Almost all the students</th>
<th>Most</th>
<th>Some</th>
<th>A few</th>
<th>Hardly any</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. stand up for kids who are made fun of or bullied</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>2. help other kids even if they don’t know them well</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>3. are considerate of other people’s feelings</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>4. help resolve arguments between other kids</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>5. are nice to everyone, not just their friends</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

*Note.* Items reverse coded for all analyses, such that higher values indicated greater perceived peer prosocial behavior.
Appendix D

Study 2 Self-Perceived Victimization Measure

Prompt: *What am I like?*

<table>
<thead>
<tr>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>Sort of True for Me</th>
<th>Really True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some kids are not called bad names by other kids</td>
<td>BUT</td>
<td>Other kids are often called bad names by other kids</td>
<td>0</td>
</tr>
<tr>
<td>Some kids are not talked about badly (gossiped about) behind their backs</td>
<td>BUT</td>
<td>Other kids are often talked about badly (gossiped about) behind their backs</td>
<td>0</td>
</tr>
<tr>
<td>Some kids are often picked on by other kids</td>
<td>BUT</td>
<td>Other kids are not picked on by other kids</td>
<td>0</td>
</tr>
<tr>
<td>Some kids are not hit and pushed around by other kids</td>
<td>BUT</td>
<td>Other kids are often hit and pushed around by other kids</td>
<td>0</td>
</tr>
<tr>
<td>Some kids often get their things taken or messed up by others</td>
<td>BUT</td>
<td>Other kids do not get their things taken or messed up by others</td>
<td>0</td>
</tr>
<tr>
<td>Some kids are not laughed at by other kids</td>
<td>BUT</td>
<td>Other kids are often laughed at by other kids</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note.* Items 3 and 5 were reverse coded such that higher scores indicate greater victimization.
Appendix E

Study 2 Internalizing Symptoms Measures

Depressive Symptoms.

Prompt: For each question, choose the item that is most like how you have been feeling.

1. ___ I am sad once in a while
   ___ I am sad many times
   ___ I am sad all the time
2. ___ Nothing will ever work out for me
   ___ I am not sure if things will work out for me
   ___ Things will work out for me right
3. ___ I do most things right
   ___ I do many things wrong
   ___ I do everything wrong
4. ___ I hate myself
   ___ I do not like myself
   ___ I like myself
5. ___ I feel like crying everyday
   ___ I often feel like crying
   ___ I feel like crying once in a while
6. ___ Things bother me all the time
   ___ Things often bother me
   ___ Things bother me once in a while
7. ___ I look O.K.
    ___ There are some bad things about my looks
    ___ I look ugly

8. ___ I do not feel alone
    ___ I feel alone often
    ___ I feel alone all the time

9. ___ I have plenty of friends
    ___ I have some friends but I wish I had more
    ___ I do not have any friends

10. ___ Nobody really loves me
    ___ I am not sure if anybody loves me
        ___ I am sure that somebody loves me

Note. Items 2, 4, 5, 6, and 10 were reverse coded such that higher scores indicate greater depressive symptoms.
**Social Anxiety.**

Prompt: *How much is each sentence true for you?*

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Hardly ever</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I worry about what others think of me.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>2. I’m afraid that others will not like me.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>3. I worry about what others say about me.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>4. I worry that others don’t like me.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>5. I am quiet when I’m with a group of people.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>6. If I get into an argument, I worry that the other person will not like me.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>7. I’m afraid to invite others to do things with me because they might say no.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>8. I feel shy even with kids I know very well.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
<tr>
<td>9. It’s hard for me to ask others to do things with me.</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
<td>〇</td>
</tr>
</tbody>
</table>
Appendix F

Study 3 Self-Perceived Victimization Measure

Prompt: To understand how YOU feel about yourself, we ask you to choose between two statements in this section: “Some kids feel one way, BUT other kids feel a different way.” It’s perfectly OK to feel either way. You need to make TWO choices: A. First, CIRCLE which of the two statements is more like you. B. Then fill in the bubble ON THE SIDE OF YOUR CIRCLED STATEMENT to show if the statement is “sort of true” or “really true” for you.

<table>
<thead>
<tr>
<th>Really True for Me</th>
<th>Sort of True for Me</th>
<th>Sort of True for Me</th>
<th>Really True for Me</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some kids are not called bad names by other kids</td>
<td>BUT</td>
<td>Other kids are often called bad names by other kids</td>
<td></td>
</tr>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Some kids are not talked about badly (gossiped about) behind their backs</td>
<td>BUT</td>
<td>Other kids are often talked about badly (gossiped about) behind their backs</td>
<td></td>
</tr>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Some kids are not hit and pushed around by other kids</td>
<td>BUT</td>
<td>Other kids are often hit and pushed around by other kids</td>
<td></td>
</tr>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
## Appendix G

### Study 3 Adjustment Outcomes Measures

**Depressive symptoms.**

Prompt: *Think about how you felt in the past week. How often during the last 7 days did you have any of these feelings?*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Rarely or none of the time (less than 1 day)</th>
<th>A little (1-2 days)</th>
<th>Some of the time (3-4 days)</th>
<th>Almost all the time (5-7 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I was bothered by things that usually don’t bother me</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. I had trouble keeping my mind on what I was doing.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. I felt depressed.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. I felt afraid.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5. My sleep was restless.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>6. I felt sad.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>7. I could not “get going”.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Somatic complaints.

Prompt: Please rate how many times in the past two weeks you experience each of the following physical complaints, using the rating scale below.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Once or twice</th>
<th>A few times</th>
<th>Almost every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Headaches.</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. Very tired for no reason.</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. Stomachaches or pain.</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. Upset stomach/nausea.</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5. Poor appetite.</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Perceived school safety.

See Appendix B.
Characterological self-blame.

Wave 1 Prompt: “Imagine that you’ve just bought your lunch after waiting in line for a long time. There is a group of kids in the line and one of them sticks out their foot and trips you, as you are walking away. You’re not hurt, but most of your food spills on your clothes. The other kids in line start laughing at you.”

Wave 2 Prompt: “Imagine that as you get to school in the morning, a friend of yours comes up to you and tells you that there is a nasty rumor being spread about you. Later, as you are walking alone in the hallway on your way to class, a group of kids comes up to you and says the nasty rumor to your face really loud so that other students can hear. You tell them that the rumor isn’t true, but they don’t believe you and just keep repeating it to you. Then the bell rings and they start whispering and laughing as they walk away.”

Wave 3 Prompt: “Imagine that you accidentally drop your backpack in the hallway. Just then, a student walks by and grabs your backpack. The student and a friend start tossing it back and forth. You try to get it from them, but they just laugh and call you bad names in front of everyone. When the bell rings, they rush down the hall. On their way to class, they throw your backpack into a trash can filled up with all the garbage from lunch.”

Wave 4 Prompt: “Imagine that you are walking by yourself down the hall and toward your locker to get something out before your next class. As you get closer, you see a group of kids suddenly crowd around your locker with something in their hands. You can’t quite tell what they’re holding or what they are doing. As you approach, they stop what they’re doing, point at you, laugh, and then run away. You get to your locker and see that it has been spray painted with some mean and insulting words to you. You try to get the words off, but you can’t. Other kids pass by and laugh at you.”
**All prompts:** Below are some things that other kids say they would think in these types of situations. Try to imagine that the situation described above happened to you. Would you think this...

<table>
<thead>
<tr>
<th></th>
<th>Definitely would think</th>
<th>Probably would think</th>
<th>Not sure</th>
<th>Probably would NOT think</th>
<th>Definitely would NOT think</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. “Why do I always get into these situations?”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. “I know this will happen to me again.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. “These kids do this to me because other kids also treat me this way.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. “Kids do this to me because they know I won’t get them in trouble.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5. “This sort of thing is more likely to happen to me than to other kids.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>6. “If I were a cooler kid, I wouldn’t get picked on.”</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

*Note.* Items were reverse coded such that higher scores indicates greater self-blame.
Appendix H

Study 3 Between-Person and Within-Person Correlations for the Main Study Variables

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Victimization</td>
<td>--</td>
<td>0.284***</td>
<td>0.315***</td>
<td>0.286***</td>
<td>0.459***</td>
<td>-0.436***</td>
</tr>
<tr>
<td>2. Friends’ Victimization</td>
<td>0.066***</td>
<td>--</td>
<td>0.045**</td>
<td>0.074***</td>
<td>0.137***</td>
<td>-0.142***</td>
</tr>
<tr>
<td>3. Depressive Symptoms</td>
<td>0.024*</td>
<td>0.004</td>
<td>--</td>
<td>0.600***</td>
<td>0.292***</td>
<td>-0.355***</td>
</tr>
<tr>
<td>4. Somatic Complaints</td>
<td>0.061***</td>
<td>0.007</td>
<td>0.466***</td>
<td>--</td>
<td>0.232***</td>
<td>-0.292***</td>
</tr>
<tr>
<td>5. Self-Blame</td>
<td>0.103***</td>
<td>0.014*</td>
<td>0.217***</td>
<td>0.195***</td>
<td>--</td>
<td>-0.423***</td>
</tr>
<tr>
<td>6. Perceived Safety</td>
<td>-0.109***</td>
<td>-0.022**</td>
<td>-0.267***</td>
<td>-0.244***</td>
<td>-0.331***</td>
<td>--</td>
</tr>
</tbody>
</table>

Note. Between-person correlations are above the diagonal and within-person correlations (variables centered within-person) below the diagonal. ***p<.001; **p<.01; *p<.05
References


Hartup (Eds.), *The company they keep: Friendships in childhood and adolescence* (pp. 41-65). Cambridge, MA: Cambridge University Press.


Juvonen, J., Kogachi, K., & Graham, S. (2017). When and how do students benefit from ethnic diversity in middle school? *Child Development. Advance online publication. doi: 10.1111/cdev.12834*


190


