

Promoting School Connectedness For Adolescents Who Experience Multiple  
Victimization

By

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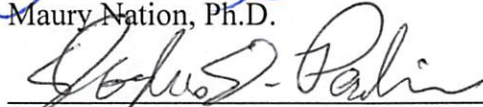
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To Jerome, Akira, Sammy, Chester, Demetrius, Adam, Claire, Mark, Leann, Jamila,  
Lavern and all else who I've seen experience a lot of violence and victimization growing  
up. I tried my best to support you then, and I'm still working on it.

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## Introduction

Several studies indicate that previous peer victimization is a consistent and strong predictor of future victimization for adolescents and that victimization leads to a multitude of problematic social, emotional, behavioral, and school-related outcomes (Grove, Farrell, Farrington, & Johnson, 2010; Reijntjes, Kamphuis, Prinzie, & Telch, 2010; Reijntjes, et al., 2011). However, there is growing evidence that peer multiple victimization (PMV) is a distinct phenomenon that may place adolescents at greater risk for poor outcomes (Arseneault, Bowes, & Shakoor, 2009; Grove et al., 2010; Rosen, Milich, & Harris, 2009; Spano, Rivera, & Bolland, 2010). Also, despite concern about PMV, there are few studies that have identified competencies that may promote resiliencies or otherwise lead to positive outcomes for adolescents who experience PMV.

Among school-related outcomes, extant research suggests that adolescent victims struggle to remain connected with their school environments (O'Brennan & Furlong, 2010). This finding is particularly worrying because strong school connectedness is integral to positive youth development (Catalano, Kosterman, Hawkins, Newcomb, & Abbott, 1996; Rice, Kang, Weaver, & Howell, 2008). That is, a lack of school connection may lead to worse psychosocial functioning (Rice et al., 2008; You et al., 2008), more antisocial behaviors (Brookmeyer, Fanti, & Henrich, 2006), and worse academic outcomes including learning (Pretty Conroy, Dugay, Fowler, & Williams, 1996). However, an emerging adolescent research suggests that social and emotional competencies are particularly relevant for enabling school connectedness (Durlak et al., 2011) and that these competencies are more likely absent for an adolescent who have been victimized (Rosen, Milich, & Harris, 2007). Collectively, these studies raise the possibility that social and emotional competencies might explain some of the association between PMV and

students sense of school connectedness.

However, literature gaps and problems persist. First, existing research does not clarify the degree to which PMV is associated with many negative outcomes including a lack of school connectedness. Second, extant literature primarily focuses on problematic outcomes associated with PMV and has yet to consider what factors might explain adolescent resilience in light of PMV. Specifically, the literature has not tested if social and emotional competencies explain variations in school connectedness among students who experience PMV. This study will address these gaps by specifically exploring associations among PMV, school connectedness, and social and emotional competencies. Additionally, results will provide suggestions for how educators might be able to support adolescents who experience PMV.

### **Peer Multiple Victimization**

Peer multiple victimization (PMV) is defined as the experience of violence on a regular, weekly or more frequent, basis by peers. Typically, 5-16% of U.S. adolescents experience peer violence this frequently at school every year (Nansel et al., 2001; Seals & Young, 2003; Solberg, Carlstrom, Howard, & Jones, 2007). Despite this low prevalence, recent evidence suggests three reasons for why PMV is a research-worthy phenomenon distinct from broad definitions of victimization.

First, much of victimization research suggests that victimization cumulatively impacts adolescents because adolescents may experience an emotional and cognitive cascade of internalizing (e.g., social anxiety and stress) and externalizing (e.g., aggressive and antisocial behaviors) problems each time they re-experience victimization (Bauman, 2008; Schwartz, Gorman, Nakamoto, & Toblin, 2005; Totura, Karver, & Gesten, 2013). For example, an adolescent who experiences frequent victimization might come to expect victimization and

hostility, feel socially anxious, and subsequently engage peers in more aggressive way that evokes more violence from peers than an adolescent who rarely experiences victimization (Rosen et al, 2009). Thus over time, adolescents who frequently experience victimization from their peers are at greater risk for worse outcomes across the lifespan than victims of occasional violence (Arseneault, Bowes, & Shakoor, 2009; Bowes et al., 2013; Spano, Rivera, & Bolland, 2010). Similarly, Spano et al. (2010) found that victims with frequent exposure to violence are 31.5 times as likely to engage in future violent behaviors than their peers with infrequent exposure to violence, suggesting a possible categorical distinction between experiences associated with infrequent and frequent victimization. And indeed other findings corroborate this pattern: victimization frequency contributes to both stability and magnitude of associations with other problematic outcomes of interest including poor academic achievement, school dropout, and delinquent behaviors (Finkelhor et al., 2007; Grove et al., 2010; Lauritsen & Quinet, 1995).

Second, evidence suggests a utility of operationalizing victimization as a frequency construct over type construct (e.g., physical, sexual, or verbal victimization) when considering the impacts of victimization. Various victimization-by-type constructs correlate with problematic outcomes approximately with the same magnitude (Nishna & Juvonen, 2005). In fact, evidence from a study that operationalized victimization-by-type suggests that observed differences emerge when, on average, an adolescent reports experiences of four or more types of victimization or four or more instances of a particular type of victimization in a year – thereby highlighting the utility of operationalizing victimization as a frequency construct (Finkelhor et al., 2007).

Third, educators and researchers struggle to identify adolescents who experience PMV; roughly one-fifth of adolescents, who experience PMV, do not report PMV experiences despite

both their peers and their teachers indicating otherwise (Juvonen & Graham, 2001). Rationales postulate adolescent privacy concerns, shame (Weiss, 2010), internalization of cultural and sociopolitical oppression (Poteat, Mereish, DiGiovanni, & Koenig, 2011), and fear of retribution among other reasons for adolescent's lack of PMV self-report. This finding suggests two relevant implications for this study. Researchers perhaps know less about adolescents who experience PMV because victimization research results likely obscure effects associated with PMV that are masked by a majority of adolescents who report infrequent victimization (Kochenderfer & Wardrop, 2001). And, a better understanding of the relationship of PMV to school climate and other contextual factors would help educators focus on what may have beneficial impacts on reducing PMV and its social and educational effects. To clarify, supports associated with contexts can reach more students, by virtue of their focus on contexts, including those who are reticent to self-report PMV.

Taken together, these issues demonstrate that PMV warrants deliberate and separate attention from infrequent victimization for both research and applied purposes. However, despite clear rationale for separate attention, a dearth of PMV literature impedes the development of victimization theories that promote resiliencies or otherwise lead to positive outcomes for adolescents who experience PMV.

### **Peer Multiple Victimization and School Connectedness**

School connectedness can be a key factor for explaining adolescent resilience (Resnick et al., 1997). This construct is particularly important during adolescence when the need for interpersonal connection with peers and adults intensifies and adolescents seek to develop their social identities and roles within their communities (Buhrmester, 1990). An adolescent lacks school connectedness when they do not believe that adults and other peers in their school care for

them as individuals and their learning – and they are connected when they believe they do (Blum & Libbey, 2004). Researchers often use school attachment, school bonding, and school belonging to indicate constructs similar to school connectedness (Blum & Libbey, 2004). Adolescents who lack connection with their school are less likely to adopt a school's norms, values, attitudes, beliefs, and expectations (Hirschi, 1969); in turn, they are less likely to adopt positive schemas associated with prosocial emotions, self-efficacy, and academic mindsets (e.g., that embody grit, tenacity, and interest) that school settings promulgate (Catalano et al., 1996; Rosen et al., 2007). Likewise, they are less likely to engage in behaviors consistent with positive school norms because they have less investment in their social associations and thus the positive values held by those associations (Catalano et al., 1996). Other theories suggest that school connectedness may protect youth by linking school connectedness with involvement in meaningful roles at school, opportunities for creative and academic engagement, and greater perceived safety (Whitlock, 2006). Several studies illustrate the impact of connectedness on development, indicating that poor school connectedness associates with poor psychosocial outcomes (Rice, Kang, Weaver, & Howell, 2008; You et al., 2008), increases in aggressive behaviors (Brookmeyer, Fanti, & Henrich, 2006; Resnick et al., 1997), poorer relationship skills (Catalano et al., 2004), and decreases in academic performance (Pretty, Andrewes, & Collett, 1994; Pretty, Conroy, Dugay, Fowler, & Williams, 1996) for adolescents with exposure to violence.

Adolescents who experience PMV likely develop a lack of connection with their school environments for multiple reasons. Foremost, they likely do not want to be in spaces where they regularly experience abuse. They may develop an implicit expectation for victimization and may feel overwhelmed by anxious and stressed emotions in spaces where they have experienced

victimization (Rosen et al., 2007; Schippell, Vasey, Cravens-Brown & Bretveld, 2003). In turn, they are more likely to avoid and feel distanced from spaces associated with victimization to reduce negative arousal (Murphy & Eisenberg, 2002). Additionally, they are more likely to attribute hostile intent to peer's behaviors in spaces they associate with victimization – even if the behaviors are ambiguous (Rosen et al., 2007; Schwartz et al., 1998); and subsequently they may avoid and feel at odds with others in these spaces (Murphy & Eisenberg, 2002). Assuredly, multiple studies have demonstrated that frequent victims of violence tend to engage in increased rates of avoidant or reactively aggressive behaviors and that those who employ these responses are more likely to be victimized again and feel less connected with those around them (Olewus, 1978, Schwartz et al., 1998). And finally, these issues associated with victimization have long-term consequences. Over time, frequent victims are more likely to suffer rejection from their peers and struggle with emotional and social regulation such that they are less likely to feel connected with their social environments (Brookmeyer, Fanti, & Henrich, 2006; Eisenberg, Fabes, Carlo, & Karbon, 1992; Wilton, Craig, & Pepler, 2000). In essence, PMV likely intensifies and can co-occur with social and emotional issues that can exacerbate social relations, which comprise connections with dominant social environments like schools.

Notwithstanding clear justification for associations between PMV and a lack of school connectedness, some adolescents who experience PMV likely do not experience poor outcomes, thus attenuating the associations between PMV and lack of school connectedness. Social and emotional learning (SEL) theorists have proposed social emotional and cognitive competencies can promote an adolescent's ability to develop relationships and experience connections at school (Payton et al., 2000). These competencies—self-awareness, self-management, social awareness, relationship skills, and responsible decision-making—may provide students with

skills that allow them to form important relationships despite their victimization.

Correspondingly, a dearth of these competencies can hinder developing connections.

The first indicator of these competencies, self-awareness, is defined as correctly identifying affective and cognitive responses to stressors. Crucially, self-awareness provides behavior-specifying information that can be used to help form stronger relationships with teachers, peers, and other school actors (Froming, Nasby, & McManus, 1998). For instance, if an adolescent is in conversation with a teacher and feels stressed, but knows both that the stress is related to a previous victimization instance and that they also might simultaneously desire connections, they might be able to both talk about it with the teacher and also correctly attribute the stress to the victimization and not the teacher. However, given the frequency of PMV, the stress associated with PMV may overwhelm adolescents such that they are less likely to be aware of any additional feelings.

An adolescent may engage in a second indicator of these competencies, self-management - defined as the ability to regulate emotions, cognitive processes, and behaviors in different situations. By engaging self-management of social anxiety associated with experiences of victimization, for example, an adolescent may continue to engage in prosocial behaviors and/or participate in a social setting at school despite social anxiety arousal (Bandura, Caprara, Barbaranelli, Gerbil, & Pastoralì, 2003).

The third indicator of these competencies may also contribute to social relationships (McAllister & Irvine, 2000). Social awareness, the third indicator of these competencies, refers to the ability to understand and empathize with others from diverse perspectives, to understand social and behavioral norms, and to recognize supports in one's environment. If a student is able to empathize, or understand, a peer's perspective in a conflict, they may more likely be able to

respond in a way that addresses concerns relevant to their peer. Likewise, they may be more able to recognize relationship building opportunities if they are more socially aware of norms that govern social interactions (Cialdini & Trost, 1998).

To the degree to which an adolescent is able to make thoughtful, constructive, and respectful choices about personal behaviors, an adolescent may be more likely to develop healthy relationships. This fourth indicator, collectively called responsible decision-making, likely directly contributes to relationships. For instance, an adolescent who chooses to engage in prosocial behaviors despite experiencing stresses associated with peer social exclusion, is more likely to develop positive relationships than a similar student who chooses to engage in antisocial behaviors that can lead to additional exclusion (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007; Twenge, Baumeister, Tice, & Stucke, 2001).

And finally, the social skills that adolescents employ likely also impact the degree to which an adolescent may develop connections with individuals in their social environment. This fifth indicator refers to skills like active listening, verbal and nonverbal communication skills, cooperation skills, and negotiation skills (DeRosier, 2004). The degree to which an adolescent who experiences PMV might employ active listening or other social skills might also support their capacity to recover from victimization such that they develop some school connectedness. Taken together, as healthy connections accumulate, these connections may contribute to a broader sense of connectedness for adolescents, but if they do not accumulate, they may reify a lack of connection with their school.

### **Prior Research**

Despite increased concern for adolescents who experience peer multiple victimization (Arseneault, Bowes, & Shakoor, 2009; Bowes et al., 2013; Kochenderfer-Ladd & Troop-Gordon,



2010; Spano, Rivera, & Bolland, 2010), there is a notable lack of rigorous research and reviews of research that examine either the relationship between PMV and school connectedness or mechanisms that might help explain this relationship. Instead, germane extant research utilizes observational research designs and focus on victimization, in general (as opposed to PMV).

The most relevant observational study of 866 fifth through twelfth grade students from California reported a negative correlation between affective school connectedness and victimization experienced more than once a month (You et al., 2008). Cross-sectional research of 1,253 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade students found that students who experience victimization are more likely to report feeling less connected with their schools across all grades (O'Brennan & Furlong, 2010). Similarly, evidence from four separate studies, with participants from the United States and Australia ranging in age from childhood through adolescence, suggests that students who reported greater connection with their schools are less likely to report victimization experiences (Iimori, 2003; Loukas & Pasch, 2013; Skues, Cunningham & Pokharel, 2005; Young, 2004). However, no studies to this author's knowledge have assessed how victimization relates with school connectedness.

Although there is no direct evidence, several studies suggest that competencies associated with social and emotional processing are relevant to victimization experiences and can lead to school connectedness. Rosen et al. (2007) assessed social cognitive and social affective patterns associated with children's frequent peer victimization to identify victim responses. Eighty-seven children were assessed in a laboratory on how they responded to the presence of a social threat. The authors found elevated affective processing for children with histories of frequent victimization in the presence of social threat. They concluded that these children were internalizing their victimization experiences and were less able to attend to and process

victimization-related stimuli. Put differently, there were less able to regulate an overwhelming negative emotional arousal in response to victimization. Other studies corroborate these results (Rosen, Milich & Harris, 2009; Schippell et al., 2003). For example, Rosen, Milich & Harris (2009) tested this hypothesis with a six-month longitudinal structural equation model and found similar support: they found that the more that children were victimized, the less likely they were able to regulate overwhelming negative emotional arousal. In turn, they increasingly identified as a victim, expected victimization again, and began to believe that they were not capable of engaging in effective conflict-solving strategies. Yet, the degree to which these results generalize to adolescents remains unclear; developmental research suggests that these results might be different for adolescents given their more mature and sophisticated cognitive skills and functioning that could mitigate deleterious outcomes (Romer, 2010). Following this line of inquiry, adolescent-appropriate positive social and emotional competencies that might support adolescents with histories of PMV would be a valuable contribution to this literature.

Reviews of research and studies also confirm that competencies associated with social and emotional processing are relevant to connectedness. A recent review of 14 school-based programs designed to increase connectedness highlighted a set of studies associated with the Seattle Social Development Project that connected an intervention that focused on emotional and social skills associated with connectedness (Chapman, Buckley, Sheehan, & Shochet, 2013). In a sample of 919 elementary students, students who received the intervention were more likely to report attachment and commitment to their school (Hawkins, et al., 1992). Similarly, 598 students ranging in age from 6 to 18 years, on average, reported greater attachment with their school if they participated in the intervention than their peers who did not (Hawkins et al., 1999). In addition to this review, several observational studies corroborate the connection between

social and emotional competencies and school connectedness. A study of 12,118 adolescents found that school connectedness positively associates with emotional well-being (Resnick et al., 1997). Similarly, 36,254 adolescents from Minnesota (Resnick, Harris, & Blum, 1993) and a large sample of 14- and 15-year-olds (Harrison & Narayan, 2003) reported the same associations, on average, in separate studies. However, no studies to the author's knowledge explore these relationships specifically for victimized or PMV samples.

In summary, no research assesses the relationship between PMV and school connectedness; although some evidence suggests that victimization is associated with a lack of school connectedness. This research does not clarify how victimization might relate with connectedness, but other evidence suggests that social and emotional competencies relate inversely with victimization experiences and positively with school connectedness.

### **Research Questions**

Given the dearth of literature that examines factors that might mediate or moderate the relations between PMV and school connectedness, this study examines the association between PMV and school connectedness, and whether social and emotional competencies contributed to this relationship in a diverse, district-wide sample of high school adolescents. This study addressed the following research questions:

- 1.) What are the relations between PMV and school connectedness?
- 2.) Do social and emotional competencies account for the relationship between PMV experiences and school connectedness?

### **Method**

#### **Sample**

Participants were 6,401 (47.3% females) in ninth (25.3%), tenth (29.3%), eleventh

(24.8%), and twelfth (20.6%) grades from 15 high schools representing a school district in the Southeast region of the United States. The sample was comprised of 41.7% African American, 36.2% Caucasian, 15.6% Latino/Hispanic, 5.5% Asian, and 1.0% Native American high school adolescents. Of this sample, 0.4% of students reported experiencing no form of peer victimization, 84.3% of students reported experiencing some form of peer victimization between once a year and once or twice every month, and 15.3% of students reported experiencing some form of peer victimization once a week or more frequently (i.e., peer multiple victimization).

### **Procedure**

Data were collected as a part of a federal U.S. Department of Education Safe and Supportive School award granted to a state's educational agency to support the improvement of schools' climates. The district, from which these data come from, opted to supplement the school climate survey with the social and emotional learning competencies survey.

Consent procedures were implemented based on district policy and waivers of consent were distributed to parents to notify that their child was to participate in a state initiated survey of school climate. Legal guardians were asked to inform schools if they did not want their children to participate in the survey. Participants were ensured anonymity and were allowed to stop participating in the survey at any time. Recruited schools administered the surveys in the spring of 2014 through an online survey system primarily in a classroom setup. De-identified data were collected and prepared by state entities before distributed to university partners for preparation, cleaning and analysis.

### **Measures**

**Multiple victimization.** The student victimization component consisted of eight student-reported items covering aspects of victimization experiences. They included: rumors, threatened,

physical violence, coercive behaviors, social exclusion, property damage, cyber violence, and general bullying behavior. Participants responded to the items (e.g., “how many times has someone... pushed you, shoved you, tripped you, or spit on you?”) on a five-point scale (*1 = Never, 2 = Once or twice this school year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost everyday*). Although this index has not been assessed against other similar indices, its items demonstrated a Cronbach’s alpha reliability score of 0.94. Responses scored *1, 2, or 3* were rescored to *0* to indicate the absence of an experience of multiple victimization. Responses scored *4 or 5* were rescored to *1* to indicate the presence of multiple victimization. A participant was included in the analyses as having experienced PMV if they received a *1* on any one or more of the aforementioned victimization items.

**School connectedness.** Consistent with the Wingspread 2003 conference (Blum & Libbey, 2004), the dependent variable, school connectedness, was defined as “the belief by students that adults in the school care about their learning as well as about them as individuals”. It was operationalized such that multiple components contribute to school connectedness: affective sense of belonging to school, behavioral school participation, and cognitive justification of school’s utility in the participant’s life. The school connectedness subcomponent consisted of eight items that reflected these three sub components. Participants responded to the eight items (e.g., “I regularly attend school-sponsored events”, “I feel like... I’m a part of this school”, and “I think that my school is a good match for me”) on a five-point scale: *1 = strongly disagree* to *5 = strongly agree*. Items were equally weighted and averaged together to make this scale. Although this scale has not been assessed against other scales, its items demonstrated a Cronbach’s alpha reliability score of 0.83.

**Social and emotional competencies.** A total of 15 items from the American Institutes for

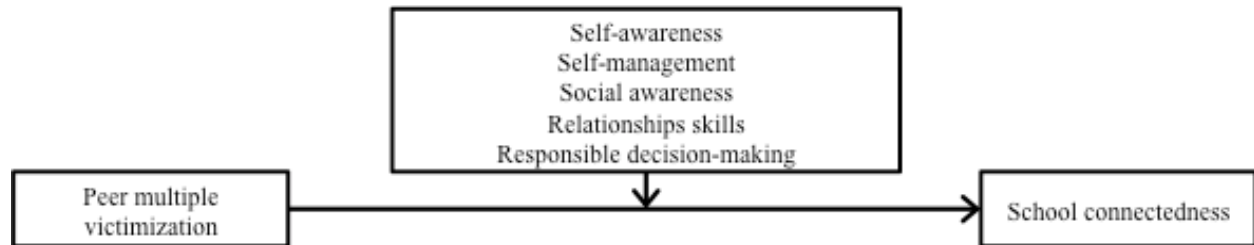
Research's assessment of SEL competencies were used to assess five inter-related indicators of cognitive, affective and behavior competencies: self-awareness (three items; Cronbach's alpha = 0.80), self-management (three items; Cronbach's alpha = 0.79), social awareness (3 items; Cronbach's alpha = 0.85), relationship skills (three items; Cronbach's alpha = 0.80), and responsible decision-making (three items; Cronbach's alpha = 0.78). Participants responded to the fifteen items (e.g., "I try to understand how other people feel and think") on a four-point scale: *1 = rarely* to *5 = almost always*. Items were equally-weighted and averaged together to create subscales.

**Control variables.** Three variables were used as controls in all analyses: gender, race/ethnicity, and grades. Gender was dichotomized (*0 = male* and *1 = female*). Participants indicated their race/ethnicity via one of five responses: African American, Caucasian/White, Asian/Pacific Islander, Hispanic, and Native American/Alaskan. Responses were dichotomized into *0 = Non-white* and *1 = White*. Finally, participants indicated the grade level that they were in. All were high school students in either ninth, tenth, eleventh, or twelfth grade.

### **Analytic Strategy**

Missing data techniques were not used to prepare the dataset for analyses because less than three percent of the data from all variables used in these analyses were missing. The author estimated a series of general linear and multilevel models – all of which controlled for race, gender, and grade. Participant-level models were first estimated using a hierarchical multiple regression framework in which PMV predicted school connectedness (Hayes, 2013). Following this initial estimation of a direct effect, all indicators of social and emotional competencies were included as covariates in a model predicting school connectedness. Next, each social emotional competency indicator was separately included in a model in which PMV was regressed on to

school connectedness to assess differential contribution of each indicator. Next, an interaction term between PMV and the indicator of the social and emotional competency was included in the model.



*Figure 1.* Conceptual model.

Multilevel models were then used in this study to account for any dependency due to the nested nature adolescents within schools. That is, the assumptions of homoscedasticity and uncorrelated errors within the general linear models are not tenable within schools because we expect that contributions to variance to differ based on which school and adolescents is part of. Multilevel models were built first with estimating a null model with no school level variables to determine how strongly the data within each school resemble one another (i.e., the intraclass correlation coefficient) (Snijders & Bosker, 2012). Then, all indicators of social and emotional competencies were included as covariates in a model predicting school connectedness. Finally, models that assessed the relationships mapped in Figure 1 were estimated with random intercepts and slopes to account for dependence at the second-level. Throughout, significance tests were conducted and standardized regression coefficients were estimated to allow for comparison across models.

## **Results**

### **Correlations**

Descriptive statistics of all variables included in analyses are reported at the bottom of Table 1. Moreover, correlations and partial correlations (accounting for the influence of control

variables) between all variables included in analyses are also reported in the same table. Partial correlations suggest that adolescents who reported the experience of PMV were likely to disagree with statements that suggested that they were connected with their school ( $r(6,401) = -.18, p < .05$ ) and report employing less social and emotional competencies ( $r_s = -.09, -.08, -.09, -.10$ , and  $-.09$ , for self-awareness, self-management, social awareness, relationship skills, and responsible decision-making, respectively). However, across all students in the sample, social and emotional competencies positively correlated with school connectedness ( $r_s = .27, .29, .33, .31$ , and  $.29$ , for self-awareness, self-management, social awareness, relationship skills, and responsible decision-making, respectively).



Table 1

*Partial and Bivariate Pairwise Correlations and Descriptive Statistics from the Safe and Supportive Schools School Climate Survey*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Peer multiple victimization	1.00	-.18 *	-.09 *	-.09 *	-.09 *	-.10 *	-.09 *			
2. School connectedness	-.18 *	1.00	.27 *	.29 *	.33 *	.31 *	.29 *			
<i>Competencies</i>										
3. Self-awareness	-.10 *	.26*	1.00	.67 *	.57 *	.63 *	.67 *			
4. Self-management	-.09 *	.29*	.67 *	1.00	.59 *	.67 *	.68 *			
5. Social awareness	-.09 *	.32*	.57 *	.59 *	1.00	.73 *	.67 *			
6. Relationship skills	-.10 *	.30*	.63 *	.67 *	.74 *	1.00	.74 *			
7. Responsible decision-making	-.09 *	.28*	.67 *	.69 *	.67 *	.74 *	1.00			
<i>Control variables</i>										
8. Gender	.03 *	.04*	-.03 *	.02	-.10 *	-.06 *	-.04 *	1.00		
9. Race/ethnicity	.02	.07*	.00	.01	.10 *	.06 *	.04 *	.01	1.00	
10. Grade	-.05 *	-.05*	.05 *	.07 *	.04 *	.07 *	.07 *	-.02	-.03 *	1.00
<i>M</i>	0.14	2.44	3.34	3.10	3.33	3.24	3.34	0.45	0.36	10.41
<i>SD</i>	0.35	0.80	0.72	0.79	0.76	0.75	0.71	0.50	0.48	1.08
<i>Range</i>	0-1	1-5	1-4	1-4	1-4	1-4	1-4	0-1	0-1	9-12

Note.  $n = 6,401$ .

Partial correlations (controlling for gender, race/ethnicity, and grade) are above the diagonal and bivariate pairwise correlations are below.

\*  $p < .05$

## Hierarchical Multiple Regression Models

A series of hierarchical multiple regression models assessed the ability of PMV to predict school connectedness without accounting for school-level effects (see Table 2). Results are shown as regression coefficients with corresponding standard errors and 95% confidence intervals. In the first analyses, the author first estimated the direct effect between PMV and school connectedness controlling for race, gender, and grade. There was a direct, negative relationships between PMV and school connectedness such that those who experienced PMV were more likely to report poorer school connectedness ( $B = -0.18$ , 95% CI [-0.24, -0.12],  $p < .001$ ). The author next added all social and emotional competencies as covariates to assess the differential contribution of each competency on school connectedness: self-awareness ( $B = 0.04$ , 95% CI [0.00, 0.08],  $p < .001$ ), self-management ( $B = 0.10$ , 95% CI [0.06, 0.13],  $p < .001$ ), social awareness ( $B = 0.19$ , 95% CI [0.16, 0.23],  $p < .001$ ), relationship skills ( $B = 0.05$ , 95% CI [0.01, 0.10],  $p < .001$ ), and responsible decision-making ( $B = 0.04$ , 95% CI [-0.00, 0.08],  $p < .001$ ). Take together, this indicates that social awareness and self-management make larger positive contributions on school connectedness than the other indicators such that the greater the report of social awareness or self-management, the greater the report of school connectedness.

Given the theoretical relevance of the competencies and their high multicollinearity, the indicators of the social and emotional competencies were then added separately to each model of PMV predicting school connectedness. These variables accounted for approximately an additional 10-11% of variance in predicting school connectedness from the direct effect model: self-awareness model,  $R^2 = .095$ ,  $F(3,6397) = 167.98$ ,  $p < 0.001$ ; self-management model,  $R^2 = .110$ ,  $F(3,6397) = 196.85$ ,  $p < 0.001$ ; social awareness model,  $R^2 = .130$ ,  $F(3,6396) = 239.02$ ,  $p < 0.001$ ; relationship skills model,  $R^2 = .115$ ,  $F(3,6396) = 207.51$ ,  $p < 0.001$ ; and responsible

decision-making model,  $R^2 = .106$ ,  $F(3,6395) = 190.28$ ,  $p < 0.001$ .

To avoid collinearity with an interaction term, the competency variables were centered and an interaction item was created between each centered competency and PMV in the remaining models (Aiken & West, 1991). Results indicated a suppression effect for the relationship between PMV and school connectedness (i.e., the magnitude of association between the variables increased). PMV significantly and negatively associated with school connectedness in the following models: self-awareness model ( $B = -0.36$ , 95% CI [-0.41, -0.31],  $p < .001$ ), self-management model ( $B = -0.35$ , 95% CI [-0.40, -0.30],  $p < .001$ ), social awareness model ( $B = -0.34$ , 95% CI [-0.39, -0.28],  $p < .001$ ), relationship skills model ( $B = -0.34$ , 95% CI [-0.34, -0.29],  $p < .001$ ), and responsible decision-making model ( $B = -0.35$ , 95% CI [-0.41, -0.30],  $p < .001$ ). Thus, PMV was still significantly and negatively associated with school connectedness such that those who reported PMV experiences reported poorer school connectedness. Indicators of social and emotional competencies were also associated with school connectedness: self-awareness ( $B = 0.33$ , 95% CI [0.24, 0.41],  $p < .001$ ), self-management ( $B = 0.29$ , 95% CI [0.21, 0.36],  $p < .001$ ), social awareness ( $B = 0.27$ , 95% CI [0.19, 0.34],  $p < .001$ ), relationship skills ( $B = 0.27$ , 95% CI [0.20, 0.35],  $p < .001$ ), and responsible decision-making ( $B = 0.31$ , 95% CI [0.23, 0.40],  $p < .001$ ). Here, the indicators were not entered into the same equation and each independently and positively predicted poor school connectedness. The addition of the interaction term significantly added very little ability (see Table 2) to explain the association between PMV and school connectedness for only one of the five models - the social awareness model  $R^2 = 0.001$ ,  $F(1,6394) = 7.373$ ,  $p < 0.01$ . In the presence of the interaction between PMV and social and emotional competencies, only one model demonstrated that the conditional effect of PMV on lack of school connectedness was impacted: social awareness ( $B = 0.06$ , 95% CI [0.00, 0.12],  $p$

<.05). The magnitude of this coefficient indicates that there was little interaction, even though the interaction was statistically significant. These results were nearly identical to a model that also included the other social and emotional competencies as covariates ( $B = 0.06$ , 95% CI [0.00, 0.12],  $p < .05$ ) indicating that the inclusion of all indicators of social and emotional competencies do not help explain any patterns associated with the relationship between PMV and school connectedness. In conclusion, despite theoretical reasoning for the particular relevance of social and emotional competencies to adolescents who experience PMV, the second set of results provided little evidence that social and emotional competencies were particularly relevant for the school connectedness of adolescents who experienced PMV beyond those that did not.

### **Multilevel Models**

Intraclass correlation coefficients (ICC's) were initially calculated using a null school connectedness model that did not include predictors. This model estimated the amount of variance that occurred between schools to be at 9.05%, which suggests that school connectedness scores vary somewhat based on what school an adolescent attends. Moreover, this estimation indicates a multilevel data structure and thus justifies the use of multilevel models to help explain contributions to school connectedness (Snijders & Bosker, 2012).

Next, PMV was added to the model that included competency indicators as covariates and control variables to identify the contribution of each variable in the presence of the others: PMV ( $B = -0.26$ , 95% CI [-0.32, -0.19],  $p < .001$ ), self-awareness ( $B = 0.05$ , 95% CI [0.02, 0.09],  $p < .001$ ), self-management ( $B = 0.12$ , 95% CI [0.08, 0.15]  $p < .001$ ), social awareness ( $B = 0.16$ , 95% CI [0.13, 0.20],  $p < .001$ ), relationship skills ( $B = 0.03$ , 95% CI [-0.01, 0.07],  $p > .05$ ), and responsible decision-making ( $B = 0.03$ , 95% CI [-0.01, 0.07],  $p > .05$ ). A similar pattern (to the hierarchical multiple regression models) emerged highlighting the importance of self-

management and social awareness for school connectedness after accounting for any school level dependency. Again, given theoretical justifications and multicollinearity, separate models were estimated in which each competency was entered into a model with PMV predicting school connectedness. Each of these models used fixed intercepts and slopes and all proved significant; because they were significant, intercepts and slopes were allowed to vary randomly between schools, and the interaction between PMV and each competency was added (see Table 2). With school-level variance accounted for, PMV significantly and negatively associated with school connectedness in the following models: self-awareness model ( $B = -0.28$ , 95% CI  $[-0.35, -0.21]$ ,  $p < .001$ ), self-management model ( $B = -0.28$ , 95% CI  $[-0.37, -0.18]$ ,  $p < .001$ ), relationship skills model ( $B = -0.26$ , 95% CI  $[-0.50, -0.02]$ ,  $p < .05$ ), and responsible decision-making model ( $B = -0.28$ , 95% CI  $[-0.35, -0.21]$ ,  $p < .001$ ). Notably, school-level variance contributions reduced the suppression effect observed in the hierarchical multiple regression models by about half. This was possibly an artifact of the dependency associated with social and emotional competencies at the school level, and partly emphasizes the importance of all constructs in the model at the individual level. The competencies were also associated with school connectedness: self-awareness ( $B = 0.29$ , 95% CI  $[0.24, 0.31]$ ,  $p < .001$ ), self-management ( $B = 0.26$ , 95% CI  $[0.17, 0.34]$ ,  $p < .001$ ), social awareness ( $B = 0.20$ , 95% CI  $[0.12, 0.29]$ ,  $p < .001$ ), relationship skills ( $B = 0.21$ , 95% CI  $[0.12, 0.30]$ ,  $p < .001$ ), and responsible decision-making ( $B = 0.26$ , 95% CI  $[0.18, 0.35]$ ,  $p < .001$ ). These values were similar to the hierarchical multiple regression model results and continue to suggest strong significance of social and emotional competency indicators for predicting greater school connectedness. The interaction between PMV and the competencies demonstrated a conditional effect between PMV and school connectedness for two models: social awareness model ( $B = 0.08$ , 95% CI  $[0.02, 0.14]$ ,  $p < .01$ ) and relationship skills model ( $B$

= 0.06, 95% CI [0.00, 0.12],  $p < .05$ ). The small magnitude of these values indicates that that indicators of school connectedness did not explain much additional variation in school connectedness for adolescents who experience PMV.

Table 2  
*Predicting School Connectedness Model Results*

Variables	B (SE)		95% CI		B (SE)		95% CI		B (SE)		95% CI				
<i>Direct effect</i>															
PMV	-.18*** (0.02)		[-0.24, -0.12]												
<b>Hierarchical multiple regression models</b>	Model 1: <i>Self-awareness</i>		Model 2: <i>Self-management</i>		Model 3: <i>Social awareness</i>		Model 4: <i>Relationship skills</i>		Model 5: <i>Responsible decision-making</i>						
	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI			
<i>Conditional effect</i>															
PMV	-0.36*** (0.03)	[-0.41, -0.31]	-0.35*** (0.03)	[-0.40, 0.30]	-0.34*** (0.03)	[-0.39, -0.28]	-0.34*** (0.03)	[-0.34, -0.29]	-0.35*** (0.03)	[-0.41, -0.30]					
Competency	0.33*** (0.04)	[0.24, 0.41]	0.29*** (0.04)	[0.21, 0.36]	0.27*** (0.04)	[0.19, 0.34]	0.27*** (0.04)	[0.20, 0.35]	0.31*** (0.04)	[0.23, 0.40]					
PMV × Competency	-0.04 (0.03)	[-0.10, 0.03]	-0.00 (0.03)	[-0.06, 0.06]	0.06* (0.03)	[0.00, 0.12]	0.03 (0.03)	[-0.03, 0.10]	0.00 (0.03)	[-0.06, 0.07]					
<b>Multilevel models</b>	Model 1: <i>Self-awareness</i>		Model 2: <i>Self-management</i>		Model 3: <i>Social awareness</i>		Model 4: <i>Relationship skills</i>		Model 5: <i>Responsible decision-making</i>						
	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI	B (SE)	95% CI			
Intercept	0.35*** (0.06)	[0.23, 0.47]	0.35*** (0.06)	[0.23, 0.47]	0.34*** (0.05)	[0.21, 0.46]	0.34*** (0.05)	[0.22, 0.45]	0.35*** (0.05)	[0.25, 0.46]					
PMV	-0.28*** (0.03)	[-0.35, -0.21]	-0.28*** (0.03)	[-0.37, -0.18]	-0.26 (0.03)	[-0.79, 0.27]	-0.26* (0.03)	[-0.50, -0.02]	-0.28*** (0.03)	[-0.35, -0.21]					
Competency	0.29*** (0.02)	[0.24, 0.31]	0.26*** (0.04)	[0.17, 0.34]	0.20*** (0.04)	[0.12, 0.29]	0.21*** (0.05)	[0.12, 0.30]	0.26*** (0.04)	[0.18, 0.35]					
PMV × competency	-0.01 (0.03)	[-0.07, 0.05]	0.01 (0.03)	[-0.05, 0.07]	0.08** (0.03)	[0.02, 0.14]	0.06* (0.03)	[0.00, 0.12]	0.03 (0.03)	[-0.03, 0.10]					

Note: All models include 3 control variables listed in Table 1. B = regression coefficient. SE = standard error.

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

## Discussion

Adolescents who experience PMV are at greater risk for developing an array of problematic outcomes (Reijntjes, Kamphuis, Prinzie, & Telch, 2010; Reijntjes, et al., 2011; Rosen et al., 2009). However, studies are yet to identify competencies for adolescents who that may moderate the poor outcomes associated with the experience PMV. Given presented theoretical justifications, evidence of the important role school connectedness plays in positive youth development (Brookmeyer et al., 2006; Catalano et al., 2004; Resnick et al., 1997; Rice, Kang, Weaver, & Howell, 2008; You et al., 2008), and that five indicators of social and emotional competencies may promote an adolescent's ability to develop school connectedness, this study assessed two hypotheses. Specifically, this study examined whether PMV relates with school connectedness and if social and emotional competencies might attenuate the relationship between PMV and a lack of school connectedness for high school adolescents.

Results overwhelmingly supported the hypothesis that adolescents who experienced PMV (victimization experiences weekly or more frequently) would experience lower school connectedness controlling for race/ethnicity, gender, and grade. This size of this relation was significantly smaller than expected. Theoretically, adolescents who experience PMV were expected to express a strong lack of connection to a place where they are victimized on a weekly or more frequent basis; empirical evidence suggests stronger associations between victimization, in general, with school connectedness for boys  $r(227) = -.27, p < .001$  (Loukas & Pasch, 2013), and ethnic and minority youth  $r(3757) = -.33, p < .001$  (Poteat et al., 2011). However, one study found a similarly-sized association between affective school connectedness and victimization experienced monthly or more frequently for elementary, middle, and high school youth  $r(183) = -.21, p < .001$  (You et al., 2008). Given the inclusion of control variables, observed suppression



effect with the inclusion of SEL items, and the influence of second-level analyses in this study, the aforementioned empirical evidence should be viewed with a degree of skepticism borne from a lack of partitioning variance as this study has performed.

Further investigation of the observed effect from this study reveals, on average, that adolescents who experienced PMV reported less school connectedness by half a standard deviation. That is, while on average adolescents report a strong agreement with items that suggest that they are connected with their schools, adolescents who experienced PMV, more often than not, reported modest agreement with or neutral attitudes towards such items. This finding contradicts some of the alarming negative rhetoric associated with PMV and underscores some of the resources and strengths available to support adolescents who experience PMV. In other words, victimization experienced on a weekly basis may only represent some of influential experiences on adolescents' lives at school — likely among other potentially positive and supportive experiences. Moreover, these initial results also provide evidence for exploring peer multiple victimization (15.3% of sample) separately from peer infrequent victimization (84.3% of sample) given that very few adolescents in the sample reported experiencing no instances of victimization (0.4% of sample) and thus these analyses were effectively tests between frequent and infrequent victims. In sum, this result is among the first to demonstrate that adolescents who experience PMV are particularly at-risk for reporting less school connectedness above and beyond adolescents who experience infrequent victimization.

Separately, results from initial analyses also corroborated previous evidence that links social and emotional competencies with school connectedness (Bandura et al., 2003; Froming, Nasty, & McManus, 1998; Payton et al., 2000). However, it was among the first to make the associations among adolescents, which is significant because adolescents are expected to socially

and emotionally mature as they develop past childhood (Buhrmester, 1990). All competencies demonstrated similar correlations with school connectedness both in magnitude and direction (see Table 2) and demonstrated multicollinearity (see Table 1). However, when entered as covariates in one regression model predicting school connectedness, social awareness demonstrated effectively twice as much predictive power as the next strongest predictor, self-management, and roughly four times as much predictive power as the rest of the social and emotional competencies. This greater predictive power may be due to an alignment of social awareness (i.e., ability to empathize with others, and recognize school resources and supports) with school connectedness.

These results have multiple implications for researchers and practitioners. First, social and emotional competencies demonstrate significant relevance to adolescents' school connectedness. That is, this study is among the first to find that support for social and emotional competencies may be an effective means for promoting school connectedness and all of the positive developmental outcomes associated with the construct for adolescents. Moreover, given the greater relative magnitude of the effect associated with social and emotional competencies as compared with PMV, the size difference of these relations suggests that SEL competencies are important to school connectedness independent of victimization status and thus supports a growing research and applied emphasis of social and emotional competencies as a way of improving student outcomes. Second, although the competencies are theorized as inter-related within the social and emotional learning framework, the finding that social awareness is particularly important for school connectedness, is among the first to suggest that some of these competencies may be more relevant than the other four social and emotional competencies for school connectedness. Put differently, this evidence contradicts programmatic (based on the

social and emotional learning framework) insistence that all competencies are crucial for achieving outcomes. Instead, some competencies may be more important than others for particular outcomes (e.g., this study: school connectedness) and for particular age groups (e.g., this study: adolescents). This implication is particularly important for schools because many school practitioners are spending limited resources on programs that employ the whole SEL framework (Durlak, Weissberg, & Pachan, 2010), with little consideration of nuance. Also, in effect, development of effective interventions may depend on identifying, testing, and evaluating direct relationships between features of the intervention and particular elements of social and emotional competencies. Third, given the high multicollinearity between competencies and the differential contribution to a particular outcome—school connectedness in this study—the social and emotional learning theoretical framework may benefit from research that further nuances the “inter-related” nature of the constructs. It might benefit from identifying which competencies are particularly relevant for particular contexts, populations, or specific ends. It might also benefit from identifying if underlying constructs drive its efficacy, given its demonstrated high multicollinearity.

Accounting for sources of variance through interactions and multilevel analyses also yielded useful information. Although the interaction between social awareness and PMV was significant, the effect was small and plots of the interaction suggest that social awareness might be slightly more helpful for adolescents who report both PMV and high levels of social awareness. But again, that effect might be due to the demonstrated greater contribution of social awareness, above and beyond the other competencies, to school connectedness, independent of victimization experience.

Results from the hierarchical multiple regression models also demonstrated a strong

suppression effect in which the relation of PMV and school connectedness increased from the direct effect to roughly double that magnitude in the hierarchical multiple regression model conditional effect. Multiple features likely account for this increase. First, the introduction of social and emotional competencies likely contributed to this increase because the social and emotional competencies are fundamentally related with both PMV and school connectedness; both PMV and school connectedness represent social phenomena. Second, these models do not account for school-level effects and it is possible that the inclusion of social and emotional competencies might magnify these school-level differences and strengthen the association between PMV and school connectedness. To account for these possibilities, a set of multilevel models clarified if each social and emotional competency contributed to school connectedness for adolescents who experienced PMV and both accounted for school-level dependency and tested for the individual contribution of each competency. Results indicated that adolescents who experienced PMV were still likely to report less school connectedness, and that self-awareness, self-management, and social awareness all also significantly related with school connectedness; the results also suggested that the school the adolescent attended might explain part of that relationship. In effect, school-level dependence accounted for roughly half or slightly more of the suppression effect. One way to interpret this finding and the reduced significance of PMV for predicting school connectedness in the presence of social awareness and relationship skills, is that school-level connectedness and support for these competencies may have a strong impact on adolescents' individual reports of school connectedness, independent of PMV. Alternatively, the experience of victimization may be less impactful in schools with different levels of PMV. Logically, an adolescent who experiences PMV in a school with a lot of violence may attribute their experience of PMV to a characteristic of the external environment, whereas, an adolescent

who experiences PMV in a school with little violence may attribute their experience of PMV to some personal characteristic. Either way, these results demonstrate that school contexts matter.

Multilevel model results also demonstrated little evidence that social and emotional competencies were particularly relevant for the school connectedness of adolescents who experienced PMV. Interactions between PMV and social awareness and relationship skills both proved significant for predicting school connectedness. However, the effects were small and plots of these interactions suggested negligible additional impacts of the competencies for adolescents who experience PMV. Rather, these observed effects might be due to the greater observed contribution of social awareness to school connectedness. Furthermore, these findings were virtually unchanged in models that included the other social and emotional competencies as covariates. Thus, reifying the importance of social awareness for predicting adolescents' school connectedness independent of victimization experience.

This study's results must be interpreted within context of multiple limitations. First, the data used in this study were cross-sectional in nature and therefore causation among variables could not be empirically observed. Instead, the author used theoretical justifications to develop and assess models that predicted school connectedness. One reason for why the author suggested that PMV impacted school connectedness was that victimization research demonstrates that victimization impacts social and emotional functioning, and in turn, this social and emotional functioning enables or obstructs school connectedness. Given that PMV represents repeated experiences of victimization, orientations towards school connectedness likely develop over time with more PMV experiences - hence, the cumulative hypothesis mentioned earlier in this article. School connectedness could predict victimization; that is, an adolescent might have a strong sense of school connectedness because they have a variety of social and emotional skills that

support school connectedness, and by virtue of these skills, they might experience less victimization. But again, PMV is strongly related with the development of these skills and thus this author chose to structure the models as they appear in Figure 1. Moreover, outside of a causal argument, and particularly given the repeated nature of victimization in PMV, this study identifies an important level, social and emotional competencies (and in particular, social awareness) that may be effective for supporting school connectedness across the student population. And, because adolescents who report PMV also report lower school connectedness, these social and emotional competencies are especially important for these adolescents.

Second, the school connectedness items included in this study focus on perceptions of school connectedness, as a whole. It does not assess school connectedness in specific locations or groups (e.g., classrooms, hallways, sports teams), which may be particularly relevant to victimization. Victimization can occur in specific spaces, when routine victimization-supportive circumstances (e.g., motivated offender, lack of supervision, and proximity between the offender and victim, like a locker room on school grounds) tend to co-occur (Cohen & Felson, 1979). Future analyses of school connectedness and victimization should distinguish between these spaces. However, given that victimization often occurs in specific spaces, and that adolescents who experienced PMV in this study reported a general lack of school connectedness, the findings from this study appear to be particularly robust and concerning. To clarify, it appears that adolescents who experience PMV may feel less connected with their school in general—including learning spaces—as a result of victimization that may happen in specific spaces.

Third, adolescent reports, across most school research in general, are subject to social desirability and confirmation bias and subject to public relations initiated by school adults. Adolescents may want to report positive connectedness because they want to be viewed

favorably in the eyes of researchers, report in line with their desire to confirm that they are wanted and valued by their school, and potentially indicate connection based on messages that reinforce their school community regardless of their personal experience. In all cases, this bias does not necessarily invalidate the veracity of the reports, but rather encourages readers to remain vigilant with their interpretations.

Finally, given that roughly one-fifth of adolescents who experience PMV (equating to roughly 190 students in the present sample) don't report multiple victimization (Juvonen & Graham, 2001), triangulation of PMV reports would be helpful for identifying any systematic differences between these adolescents and those who report experiencing PMV. That is, PMV research would benefit from teacher, parents, and peer reports of PMV to better identify adolescents who experience PMV for a more systematic examination of related phenomena than that allowed by self-reports.

### **Conclusions**

Developing an understanding of social processes that lead to both negative and positive outcomes are developmentally critical for adolescents when they perceive a higher importance of peer relationships, peer approval, peer opinions, sensitivity to social exclusion and victimization, and begin to transition away from familial supports into young adulthood (Juvonen, Graham, & Schuster, 2003). In particular, adolescents who experience PMV may benefit from social and emotional competencies and school connectedness in spite of strong evidence that links the experience of victimization with overwhelming negative outcomes (Reijntjes, et al., 2010; Reijntjes, et al., 2011). Moreover, in contrast to most victimization research that focuses on negative outcomes, this study highlighted that adolescents who experience PMV also report resources and strengths that may promote resilience. It demonstrated that school connectedness

and competencies including self-awareness, self-management, social awareness, relationship skills, and responsible decision-making represent important components for understanding the impact of adolescents' PMV experiences in school. This study's findings also advance victimization research by focusing on adolescents who experience PMV, identifying ways in which practitioners and researchers might support their resilience and development towards positive outcomes, and highlighting features in need of future victimization research. Ultimately, this study provides evidence for a way that school practitioners and researchers may be able to support adolescents by focusing on promoting school connectedness through social and emotional competencies.



## Appendix

### Measures

#### **Multiple victimization.**

How many times has someone... at school this school year?

1. Made fun of you?
2. Spread rumors about you?
3. Threatened you with harm?
4. Pushed you, shoved you, tripped you, or spit on you?
5. Tried to make you do things you did not want to do, for example, give them money or other things?
6. Excluded you from activities on purpose?
7. Posted hurtful information about you on the internet, threatened or insulted you online purposefully excluded you?

Participants' responses were one of: *1 = Never, 2 = Once or twice this school year, 3 = Once or twice a month, 4 = Once or twice a week, and 5 = Almost everyday*

#### **School connectedness.**

Please indicate the degree to which you agree with these statements.

1. I think that this school is a place where I can learn and do well in my classes.
2. I feel like this school is a good match for me.
3. I feel like I look forward to going to school most days.
4. I feel like I am a part of this school.
5. I regularly attend school-sponsored events.
6. I regularly participate in extra-curricular activities offered through my school.
7. I have at least one teacher that takes time to listen to what I have to say.
8. I have at least one teacher that cares about me.

Participants' responses were one of: *1 = Strongly disagree, 2 = Disagree, 3 = Neither disagree or agree, 4 = Agree, and 5 = Strongly agree*

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