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Social Support and Self-Concept in Relation to Peer Victimization and Peer Aggression

LYNDSAY N. JENKINS and MICHELLE KILPATRICK DEMARAY

Peer victimization is an enduring problem in schools (Wang, Iannotti, & Nansel, 2009). The current study focused on relations among two ecological variables that may be related to involvement in peer victimization: self-concept and social support. The main goal of this study was to investigate relations among social support, self-concept, and involvement in peer victimization (both as a victim and aggressor). The sample included 251 students in Grades 3–5. There was a significant negative relation between social support and peer victimization ($\beta = -.22, p < .05$) as well as a significant, negative relation between self-concept and peer victimization ($\beta = -.24, p < .05$). For peer aggression, there was a significant negative relation between social support and peer aggression ($\beta = -.49, p < .001$) as well as a significant, positive relation between self-concept and peer aggression ($\beta = .23, p < .05$).

KEYWORDS social support, self-concept, peer victimization, peer aggression, elementary school students, self-esteem

Peer victimization is an enduring problem in schools, and some studies have reported that up to 36% of students are involved in peer victimization in some fashion (Wang, Iannotti, & Nansel, 2009). Peer victimization is defined as frequent exposure to peer aggression (Kochenderer & Ladd, 1996; Olweus, 1993). Bullying, a type of peer victimization, is also a significant problem in American schools (Espelage & Swearer, 2010). Bullying is a subset of peer aggression that, in addition to frequent victimization, also involves intent to harm and a power differential between the victim and the bully (Olweus, 1997). No matter the type of peer victimization, studies find that it is linked to a wide variety of negative outcomes (Hawker & Boulton, 2000; Stadler, Feifel, Rohrmann, Vermeiren, & Poustka, 2010). Studying aggression and peer victimization from an ecological perspective allows researchers to examine how characteristics of the environment are related to peer victimization. These environmental characteristics, or contextual variables, can range from individual and family traits to qualities of peer relations, schools, or communities. All of these different variables can impact youth and investigating relations among these contextual variables may help researchers understand the broad social ecology of peer victimization. Eventually, this research could guide prevention and intervention efforts to help thwart or remedy the effects of peer victimization.

The current study focused on relations with two ecological variables that may be related to involvement in peer victimization, either as the aggressor or victim: self-concept and social support. Why study social support and self-concept in relation to aggressive behaviors in schools? First, both of these constructs may be viewed as factors that contribute to resiliency. Positive self-concept may be viewed as an internal protective factor and social support as an external protective factor, but both contribute to minimizing the effect of stress on mental health (Dumont & Provost, 1999). In the general population, empirical studies have found moderate and significant relations between social support (especially parent and peer support) and self-esteem (Connors-Burrow, Johnson, Whiteside-Mansell, McKelvey, & Gargus, 2009; Stadler et al., 2010). There is also theoretical evidence that social support is positively related to self-concept. Social integration provided by social support is believed to provide a sense of self-worth and support from others may also increase feelings of control and self-esteem (Cohen, 1998). Both self-concept and perceptions of social support from peers and adults have been studied in relation to bullying and peer victimization in separate investigations (Connors-Burrows et al., 2009; Holt & Espelage, 2007; Kaukianinen et al., 2002; O'Moore & Kirkham, 2001); however, the goal of this study was to investigate interconnections among all of these variables and their relation to peer victimization and peer aggression among elementary school students (see Figures 1 and 2).

It is important to establish relations between contextual variables, such as self-concept and social support, and aggression and peer victimization among youth in elementary school, because much of the literature has focused on adolescent samples. The focus of middle school and high school is most likely due to higher

FIGURE 1 Proposed peer victimization model.

FIGURE 2 Proposed peer aggression model.

prevalence of peer victimization during this time. For example, Nansel et al. (2001) found that in a sample of sixth- through tenth-grade students, the middle school students were more likely to be victimized compared to ninth and tenth graders. During the middle school years, students in lower grades report experiencing more victimization than older students (Unnever & Cornell, 2004). Overall, there is a trend where reports of bullying decrease over the middle and high school years. On the flip side, younger elementary school students report less bullying than older elementary school students (Beran & Tutty, 2002). Taken together, bullying and victimization tends to increase during elementary school, peak during the early middle school years, and decrease through high school. Even though current estimates suggest there is less peer victimization occurring during the elementary school years compared to middle school, these preadolescent years are prime for taking steps to prevent peer victimization. Research to help understand the broader context of peer aggression and peer victimization during this time period is vital to be able to inform prevention and intervention strategies and programs.

Social Support Related to Peer Victimization and Peer Aggression

Social support has been defined as one's perceptions of supportive behaviors from individuals in their social network (e.g., parents, teachers, classmates, close friends, school) that enhance functioning and/or may buffer them from adverse outcomes (Malecki & Demaray, 2006). The peer victimization literature has shown that children not involved in peer victimization consistently report that they perceive more social support compared to students who experience victimization or perpetrate peer victimization. Rigby (2000) investigated relations among social support and peer victimization for adolescents and found negative correlations between victimization and social support from best friends, classmates, and teachers. Prior work has found that middle and high school students not involved in bullying report more social support from peers (Holt & Espelage, 2007) and parents and teachers (Connors-Burrow et al., 2009, Demaray & Malecki, 2003), and in most cases bully/victims report the least amount of support from all sources. For example, Demaray and Malecki (2003) found that relative to a comparison group not involved in bullying, students who were categorized as bully/victims reported significantly less total social support (0.71 effect size), less parent support (0.58 effect size), and less classmate support (0.67 effect size).

Researchers have also studied social support as a buffer in the relations between peer victimization and a variety of negative outcomes. For example, Stadler and colleagues (2010) investigated the buffering role of parental and school support on the mental health of adolescents. They found that school support buffered victimized adolescents against general mental health problems for both males and females; parental support acted as a buffer for victimized females. Davidson and Demaray (2007) found that social support from teachers, classmates, and the school buffered the relation between victimization and internalizing distress for males and parent support buffered the relation between victimization and internalizing distress for females.

Self-Concept Related to Peer Victimization and Peer Aggression

Self-concept refers to domain-specific, cognitive judgments of ability (Schunk, Pintrich, & Meese, 2008). The current literature suggests that, in general, youth who are victimized tend to endorse lower behavioral, emotional, social, physical, and academic self-concepts (Lopez & DuBois, 2005; O'Moore & Kirkham, 2001; Salmivalli, 1998), while aggressors endorse above average physical and social self-concepts and slightly above average emotional self-concept (O'Moore & Kirkham, 2001; Salmivalli, 1998). Kaukianinen et al. (2002) found that higher self-concept scores were significantly related to increased bullying behavior, but there were no significant relations between self-concept scores and victimization. Andreou (2001) found significant negative correlations between victimization and the scholastic, social, athletic, physical appearance, and behavior conduct self-concept domains and global self-worth. There were also significant negative correlations between bullying behavior with the scholastic, social, and behavioral self-concept domains and global self-worth. In each of these studies, self-concept was measured via a self-report rating scale that contained different domains of self-concept (e.g., social, academic, physical).

Harter's conceptualization of self-concept assumes that self-concept is comprised of not only specific domains of competence (academic, social, etc.), but also a separate, global judgment of their self-worth (Harter, 1985). In comparison to self-concept, the literature examining the relation between self-esteem and

peer victimization is much larger. Even so, there is a lack of consistency in the findings regarding self-esteem among aggressors of peer victimization. For example, it is well documented that victims have poor self-esteem (Austin & Joseph, 1996; Neary & Joseph, 1994), but there is no consensus in the literature about self-esteem of bullies. Reports range from findings that bullies do not have poor self-esteem (Olweus, 1993) to support for bullies having high self-esteem (Pearce & Thompson, 1998) to results indicating no relation between self-esteem and bullying (Rigby & Slee, 1991; Slee & Rigby, 1993).

The Current Study

The main research question in this study addressed the viability of a proposed model that hypothesized that social support and self-concept are related to peer victimization and peer aggression. Two separate models were tested, one for peer victimization (see Figure 1) and one for peer aggression (see Figure 2). Prior studies suggest that there is a negative relation between social support and peer victimization (Demaray & Malecki, 2003; Rigby 2000), as well as a negative relation between self-concept and peer victimization (Andreou, 2001; Salmivalli, 1998). For peer aggression, on the other hand, it was predicted that there would be a negative relation between social support and peer aggression (Demaray & Malecki, 2003), but a positive relation between self-concept and peer aggression (Kaukianinen et al., 2002).

METHOD

Participants

There were 251 participants from one suburban elementary school near Chicago, IL. The school consists of approximately 550 kindergarten through sixth-grade students. The data were gathered as part of a school-wide assessment and included all of the third- through fifth-grade students (see Procedures section). The sample was equally distributed by gender (males = 49.6% and females = 50.4%) and included 65.7% White students, 7.3% Asian American, 6.9% biracial, 3.4% African American, 3% American Indian, 1.7% Latino/a, and 9.9% other ethnicities. This distribution is representative of the school and district from which the sample was taken. The school has approximately 8% of its students from families with low-income (based on free and reduced-cost lunch records). More detailed participant characteristics are in Table 1.

Measures

CHILD AND ADOLESCENT SOCIAL SUPPORT SCALE (CASSS)

The CASSS (Malecki, Demaray, & Elliott, 2000) is a 60-item instrument that measures perceived social support of children in Grades 3–12. It has five subscales that correspond to five sources of social support: parents, teachers, classmates, close friend, and school. Each subscale measures four types of social support: emotional, informational, appraisal, and instrumental. The CASSS measures the frequency of each socially supportive behavior on a 6-point scale ranging from 1 (never) to 6 (always). Malecki and Demaray (2002) published reliability and validity information. Reliability for the CASSS is strong for internal consistency overall ($\alpha = .96$) and on each subscale ($\alpha = .93$ to $.96$). In the current study, internal consistency for the total score was $\alpha = .95$. Test–retest reliability for the CASSS ranges from .75 to .78, according to Malecki and Demaray. Validity was examined by correlating the CASSS total score with the total score from the Social Support Scale for Children (SSSC; Harter, 1985) and the total score from the Social Support Appraisals Scale (SSAS; Dubow & Ullman, 1989) with significant correlations for each, $r = .55$, $p < .001$, and $r = .56$, $p < .001$, respectively. A factor analysis of the CASSS (Malecki, Demaray, & Elliott, 2004) was conducted on data from 586 students in Grades 5–12, which found a five-factor structure corresponding to the parent, teacher, classmate, close friend, and school subscales.

SELF-PERCEPTION PROFILE FOR CHILDREN (SPPC)

The SPPC (Harter, 1982) is a 36-item measure of six areas of perceived competence and self-adequacy in children in Grades 3–12. It consists of six separate subscales that measure: domain-specific competence (i.e., scholastic competence, athletic competence), self-adequacy (i.e., social acceptance, physical

appearance, behavioral conduct), or an overall feeling of self-esteem (i.e., global self-worth). Items are rated on a 4-point scale where students indicate which statement is most like them and to what degree the statement is true or not true of them. Harter (1985) reported adequate internal consistency with coefficients on all subscales ranging from .71 to .84. Harter also reported a factor analysis that yielded a six-factor structure corresponding to the six subscales of the measure. In the current study, internal consistency alpha coefficients ranged from .69–.79.

TABLE 1 Demographic Characteristics of Participants

Characteristics	Total	
	<i>n</i>	%
Gender		
Male	115	49.6
Female	117	50.4
Race/ethnicity		
Asian American	17	7.3
African American	8	3.4
Biracial	16	6.9
White	153	65.9
Indian	7	3.0
Latino	4	1.7
Other	23	9.9
Grade		
Third	82	35.3
Fourth	80	34.5
Fifth	70	30.2

PEER VICTIMIZATION/AGGRESSION QUESTIONNAIRE

The peer victimization/aggression questionnaire included six items assessing victims of peer victimization and six items assessing peer aggression. Both scales were comprised of six items, which included relational victimization and physical victimization. The relational victimization items included, “Someone at school called you names,” “Someone teased or made fun of you,” and “Someone said mean things about you behind your back.” The physical victimization items consisted of, “Someone said that they would hurt you or do bad things to you”; “Someone hit, kicked, pushed, attacked, or physically hurt you in another way”; and “Someone followed you or jumped you and made you think they might hurt you.” For peer aggression, the content of the items remained the same, but items were reworded to assess engagement in the activity for the aggressor (e.g., “I called someone at school names” or “I said I would hurt someone or do bad things to them”). Students rated each statement on a scale consisting of 1 (never), 2 (about once per month), 3 (2 to 3 times per month), 4 (about once per week), and 5 (2+ times per week). Five of the six questions have been used in prior published research on bullying and peer victimization with some slight wording modifications (Demaray & Malecki, 2003), and were originally based on other surveys, including the Bully Survey (Swearer, 2001) and The National School Crime and Safety Survey (Kingsry, 2001).

In the current study, a measurement model was created and tested via structural equation modeling (SEM) for the six items in the peer victimization and peer aggression scales. For both the peer victimization and peer aggression scales all six items were significant indicators ($p < .001$) of their respective constructs, which indicates that each item served as an adequate item for the intended scale. See SEM results in Tables 4 and 5 for specific data on the relation of each item to the relevant construct (i.e., victimization, aggression) in the measurement model. For the current study, internal consistency was calculated and the alpha for the peer victimization scale was .72 and the alpha for the peer aggression scale was .71.

Procedures

Data for the current study were collected as part of a school initiated social– emotional assessment. Upon completion of the data collection, university IRB approval was obtained for research access to the extant data. Since the data were collected as part of a school-wide evaluation, notices were sent home to parents regarding the nature of the data collection and were informed that they could request that their child not participate by contacting the school office. One parent asked that their child not participate in the evaluation. Surveys were administered to each grade level with adults available to answer any questions. Items for all surveys were read aloud.

Data Analysis Plan

The research questions were answered using SEM. SEM is advantageous for these analyses because the main constructs in the study are comprised of several observed variables (Hoyle & Smith, 1994). Structural models for both peer victimization and peer aggression were examined using Amos (Version 16.0.1; Arbuckle, 2007) and all parameters were estimated using maximum likelihood estimation. Based on a recommendation by Bollen and Long (1993), χ^2 and several indices were used to assess the overall fit of the proposed models, including: relative χ^2 (CMIN/df), comparative fit index (CFI; Bentler, 1990), and root mean square error of approximation (RMSEA; Steiger, 1990). The χ^2 is sensitive to sample size where large samples are more likely to have a significant χ^2 , indicating poor fit, where, in fact, the data may fit the model better than indicated by the χ^2 value (Hu & Bentler, 1995); therefore, it is important to consider other information when evaluating the fit of a model. Carmines and McIver (1981) consider relative χ^2 ratios between 3 and 1 to be indicative of acceptable fit when comparing the hypothetical model to the sample data. A rule of thumb suggests CFI values should be greater than .90 and RMSEA values should not exceed .10, with values between .05 and .08 indicating adequate fit and values between .08 and .10 suggesting mediocre fit (Browne & Cudeck, 1989).

RESULTS

See Table 2 for means and standard deviations on all of the study variables. The main research questions were if there were significant relations among social support, self-concept, and peer victimization and peer aggression. The research questions were answered using SEM. In the two proposed models, there were four latent constructs: social support, self-concept, peer victimization, and peer aggression. The social support construct was comprised of five indicators corresponding to the five sources of social support, parents, teachers, classmates, close friend, and school. The self-concept construct had six indicators: scholastic competence, social acceptance, athletic competence, physical appearance, behavioral conduct, and global self-worth.

TABLE 2 Means and Standard Deviations of Main Study Variables

Variables	<i>M</i>	<i>SD</i>
CASSS		
Total	286.16	43.36
Parent	60.18	9.11
Teacher	61.52	11.22
Classmate	48.97	14.03
Close friend	60.43	12.65
School	55.01	113.20
SPPC		
Scholastic competence	17.29	4.09
Athletic competence	18.82	4.19
Social acceptance	17.81	4.03
Physical appearance	18.48	4.51
Behavioral conduct	18.79	3.93
Global self-worth	19.77	3.45

Note. CASSS = Child and Adolescent Social Support scale; SPPC = Self-Perception Profile for Children.

The peer victimization construct and the peer aggression construct each had six indicators corresponding to different behaviors related to experiencing peer victimization and engaging in peer aggression.

MEASUREMENT AND STRUCTURAL MODEL FOR PEER VICTIMIZATION

In order to test relations between social support, self-concept, and peer victimization a full measurement and structural model was tested (see Figure 3). The measurement model was tested first to determine if the observed variables were appropriate indicators of their respective latent constructs. Results indicated that each of the observed variables were significantly related to their respective latent variables, but the overall fit of the model was not adequate as suggested by evaluating the fit indices, $\chi^2 = 263.44$ (116), $p < .001$, CMIN/df = 2.271, CFI = .85, RMSEA = .07. Modification indices indicated that the addition of three covariances between error terms would improve the fit of the model. Each covariance was added based on information provided by the modification indices, as well as for substantive reasons (i.e., covariances were correlated between the physical victimization items).

Examination of the structural model for peer victimization revealed significant relations between social support, self-concept, and peer victimization, in the predicted direction (see Table 3). Specifically, there was a significant negative relation between social support and peer victimization ($\beta = -.22$, $p < .05$) as well as a significant, negative relation between self-concept and peer victimization ($\beta = -.24$, $p < .05$). Additionally, the covariance between self-concept and social support was significantly related ($B = 7.75$), as predicted. Overall, the model fit the data adequately well when examining the fit indices, $\chi^2 = 207.41$ (113), $p < .001$, CMIN/df = 1.836, CFI = .90, RMSEA = .06. The predictors in the model accounted for 15.8% of the variance in peer victimization.

FIGURE 3 Structural model for self-concept, social support, and peer victimization. * $p < .05$. ** $p < .01$. *** $p < .001$.

TABLE 3 Unstandardized and Standardized Estimates, Standard Errors, and Significance Levels of the Final Measurement and Structural Model for Peer Victimization

Models	<i>B</i>	<i>SE</i>	β	<i>p</i>
Measurement model				
Social support				
Parent	1.00	—	0.53	—
Teacher	1.25	0.21	0.54	***
Classmate	2.03	0.29	0.70	***
Close Friend	1.60	0.25	0.62	***
School	1.95	0.28	0.72	***
Self-concept				
Global	1.00	—	0.89	—
Behavior	0.59	0.09	0.46	***
Physical	1.00	0.10	0.69	***
Social	0.72	0.09	0.54	***
Athletic	0.58	0.09	0.44	***
Scholastic	0.61	0.09	0.47	***
Peer victimization				
Item 1	1.00	—	0.79	—
Item 2	0.72	0.09	0.63	***
Item 3	0.57	0.09	0.50	***
Item 4	0.41	0.07	0.45	***
Item 5	0.44	0.08	0.45	***
Item 6	0.29	0.07	0.33	***
Structural model				
Social Support → Peer Victimization	−.05	0.02	−0.22	*
Self Concept → Peer Victimization	−.09	0.04	−0.24	**
Social Support → Self Concept	7.75	1.60	—	***

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

MEASUREMENT AND STRUCTURAL MODEL FOR PEER AGGRESSION

A similar model was proposed for peer aggression, thus a separate measurement and structural model was tested (see Figure 4). Results of the measurement model for peer aggression revealed that each of the pathways from the latent constructs to their respective indicators were significant and in the expected direction. However, the overall fit of the model could be improved, $\chi^2 = 265.32$ (116), $p < .001$, CMIN/df = 2.287, CFI = .85, RMSEA = .08. Modification indices indicated that the addition of six covariances between error terms would improve the fit of the model. Each covariance was added not only based on information provided by the modification indices, but also theoretical reasons (i.e., covariances among the victimization items).

The final structural model for peer aggression revealed significant relations between social support, self-concept, and peer aggression, as predicted (see Table 4). Specifically, there was a significant negative relation between social support and peer aggression ($\beta = -.49$, $p < .001$) as well as a significant, positive relation between self-concept and peer aggression ($\beta = .23$, $p < .05$). Additionally, self-concept and social support were related ($r = .52$), as predicted. Overall, the model fit the data adequately well when examining the fit indices, $\chi^2 = 2045.0$ (111), $p < .001$, CMIN/df = 1.847, CFI = .91, RMSEA = .06. Predictors in the model accounted for 17.3% of the variance for aggressors of victimization.

FIGURE 4 Structural model for self-concept, social support, and peer aggression. * $p < .05$. ** $p < .01$. *** $p < .001$.

DISCUSSION

In order to understand the broad social ecology of peer victimization, it is important that researchers study contextual variables that surround victimization from peers. The current study examined two contextual variables, perceived social support and self-concept, in relation to peer victimization and peer aggression.

Many of the previous studies involving social support and self-concept in the peer victimization literature have only examined statistically significant differences in the amount of reported competence among different domains of self-concept (Lopez & DuBois, 2005; O'Moore & Kirkham, 2001; Salmivalli, 1998) or perceived support from various sources (ConnorsBurrow et al., 2009; Demaray & Malecki, 2003; Holt & Espelage, 2007). While it is important to determine if victims or aggressors of peer victimization have different levels of self-concept or social support, the next step is to determine how these contextual variables may be linked with peer victimization and peer aggression.

The current study found that there was a positive relation between self-concept and peer aggression, meaning that higher (more positive) self-concept was related to more frequent engagement in aggressive acts towards peers. It is commonly thought that bullies (and other aggressive individuals) have low self-esteem (Olweus, 1993) and that bullies engage in aggressive acts to "make up" for the fact that they actually feel badly about themselves. Therefore, perpetrating aggression against their peers is thought to bolster their self-esteem. However, Baumeister, Smart, and Boden (1996) found evidence that high self-esteem is equally likely to lead to aggressive acts. They argue that violence results from a threat to a person's ego and that a person with an inflated or unstable self-esteem may react in an aggressive manner when their competence or ego is challenged. Baumeister et al. (1996) also pointed out that even though aggressive individuals are reporting high self-esteem, it may actually be a "superficial" cover-up that is designed as a defense mechanism against their truly negative appraisal of themselves.

TABLE 4 Unstandardized and Standardized Estimates, Standard Errors, Significance Levels, and Error Estimates of the Final Measurement and Structural Model for Peer Aggression

Models	<i>B</i>	<i>SE</i>	β	<i>p</i>
Measurement model				
Social support				
Parent	1.00	—	0.56	—
Teacher	1.22	0.20	0.55	***
Classmate	1.85	0.26	0.67	***
Close friend	1.52	0.23	0.61	***
School	1.91	0.26	0.74	***
Self-concept				
Global	1.00	—	0.84	—
Behavior	0.63	0.09	0.47	***
Physical	1.11	0.11	0.72	***
Social	0.78	0.10	0.55	***
Athletic	0.66	0.10	0.48	***
Scholastic	0.74	0.10	0.54	***
Peer aggression				
Item 1	1.00	—	0.70	—
Item 2	0.91	0.11	0.76	***
Item 3	0.46	0.08	0.46	***
Item 4	0.37	0.06	0.48	***
Item 5	0.50	0.08	0.48	***
Item 6	0.25	0.07	0.26	***
Structural model				
Social Support → Peer Aggression	−0.07	0.02	−0.48	***
Self Concept → Peer Aggression	0.06	0.03	0.24	*
Social Support → Self Concept	7.67	1.60	—	***

* $p < .05$. *** $p < .001$.

Results of the current study seem to support Baumeister et al.'s (1996) theory that high self-esteem is linked to engaging in aggressive behaviors, but in the current study self-concept, including several domains of competence as well as global self-worth, was the construct of interest. Future work should address which components of self-concept are most strongly linked to peer aggression. For example, high levels of self-worth or social competence may be more strongly linked with aggressive behaviors, but high levels of academic or physical competence may have no bearing on whether or not an individual is more likely to victimize their peers. Baumeister et al.'s work used the term self-esteem broadly, thus more work is needed regarding the specific domains of self-concept in order to have more definitive answer to the question of, is high or low self-esteem predictive of engagement in aggression?

Additionally, the current study found a negative relation between selfconcept and victimization, as well as between social support and both peer victimization and aggression. These results are not unexpected, as previous research has found similar results (Conners-Burrow et al., 2009, Demaray & Malecki, 2003; Holt & Espelage, 2007) with an adolescent sample. Thus, the current study found a similar pattern of results with an elementary sample. It seems logical that individuals who have a negative self-concept and lower perceived social support might also report being the victim of peer aggression. Similarly, individuals who engage in peer victimization have previously been shown to have low levels of social support.

Study Limitations

This study has several noteworthy limitations. The sample is based on one small Midwestern elementary school; thus, the results may not generalize to other populations or schools. Also, the sample, although somewhat diverse, was not representative of the United States. For example, African American and Latino

students were underrepresented in the sample and Asian American students were overrepresented. The school also had a relatively lower number of low-income students (8%). The data were also collected as part of a school-wide effort to focus on social-emotional issues in the school. Thus, there may have been something unique about the school given their focus on school-wide collection of data focused on social emotional issues.

Another potential limitation of the study was that it relied on self-reported data for each construct of interest. Although it is appropriate to measure self-concept, perceived social support, and peer victimization/peer aggression via self-report measures, this may be seen as a potential limitation of the data. All sources of data were student-reported and gathered via rating scales. Thus, bias and error may have influenced the results. It would have strengthened the study to have additional data from other sources or observational data on peer victimization/peer aggression. The current study's peer aggression/peer victimization measure has been used in prior research but does not have as much evidence of validity and reliability as the other measures in the study. It also had somewhat lower internal consistency in the current sample.

It would be beneficial to investigate the relations among the constructs in the study by gender. The sample was not large enough in the current study to warrant these analyses, but future research may want to include gender as a variable of interest given its importance with regards to social support, self-concept, and peer victimization.

Conclusions and Implications

Why are these findings important? First, much of the research examining the social ecology of peer victimization has focused on adolescents, most likely because the frequency of peer victimization seems to peak during the middle school years (Unnever & Cornell, 2004). However, in keeping with the push towards early intervention and prevention, research investigating the social context of peer victimization among younger children is vital. Understanding relations among important resiliency factors such as self-concept and social support can help guide early intervention efforts in elementary schools. The presence of significant relations among self-concept and social support with involvement in victimization prior to adolescence found in this study underscores the importance for research guiding these intervention and prevention efforts as well as highlights the need for early identification of aggressive behaviors towards peers.

Second, when examining aggression and peer victimization from an ecological perspective, the linkage between characteristics of the environment and aggressive behaviors can be observed. Both self-concept and social support can serve as protective factors and can contribute to resiliency during times of mental health stress (Dumont & Provost, 1999). This study found that higher reports of victimization were related to low social support and low self-concept, but higher reports of bullying were related to low social support and high self-concept. Though this study cannot address whether social support and self-concept impact aggression/victimization or vice versa, the relation between these variables could be cyclical. If that is the case, the results of this study could be interpreted two different ways. First, if a student is identified as being a victim of peer aggression, educators and parents should be aware of the risk of this student also experiencing low perceived social support and low levels of self-concept, especially given that both of these variables are linked of positive overall mental health (Conners-Burrows et al., 2009; Stadler et al., 2010). Second, if a student has little support from adults and peers in their life and also a low sense of competency and self-worth, they may be at risk for being the victim of peer victimization. Similarly, since this study found that higher peer aggression was associated with lower perceived social support and higher levels of self-concept, educators and parents should be cognizant of the risk factors associated with both.

Overall, the goal of this study was to examine important contextual variables, self-concept and social support, in relation to peer aggression and peer victimization among an elementary school sample. Results of this study underscore the importance of early identification, intervention, and prevention of aggressive behaviors. Though peer victimization peaks during the middle school years, this study found significant relations between protective factors, such as self-concept and social support, and peer aggression and peer victimization even at the elementary years. Finding that these patterns emerge in this young sample is concerning and emphasizes the significance of prevention of peer aggression at all grade levels.

REFERENCES

- Andreou, E. (2001). Bully/victim problems and their association with coping behavior in confliction peer interactions among school-age children. *Educational Psychology*, 21, 59–66. doi:10.1080/01443410125042
- Arbuckle, J. L. (2007). Amos (Version 2.0) [Computer program]. Chicago, IL: SPSS.
- Austin, S., & Joseph, S. (1996). Assessment of bully/victim problems in 8- to 11-year olds. *British Journal of Educational Psychology*, 66, 447–456. doi:10.1111/j.2044-8279.1996.tb01211.x
- Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review*, 103, 5–33. doi:10.1037//0033-295X.103.1.5
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238–246. doi:10.1037/0033-2909.107.2.238
- Beran, T. N., & Tutty, L. (2002). Children's report of bullying and safety at school. *Canadian Journal of School Psychology*, 17, 1–14. doi:10.1177/082957350201700201
- Bollen, K. A., & Long, J. S. (Eds.). (1993). *Testing structural equation models*. Newbury Park, CA: Sage. doi:10.1177/0049124192021002001
- Browne, M. W., & Cudeck, R. (1989). Single sample cross-validation indices for covariance structures. *British Journal of Mathematical and Statistical Psychology*, 37, 62–83. doi:10.1207/s15327906mbr2404_4
- Carmines, E. G., & McIver, J. P. (1981). Analyzing models with unobserved variables. In G. W. Bohrnstedt & E. F. Borgatta (Eds.), *Social measurement: Current issues* (pp. 65–115). Beverly Hills, CA: Sage.
- Cohen, S. (1998). Psychosocial models of the role of social support in the etiology of physical disease. *Health Psychology*, 7, 269–297. doi:10.1037/0278-6133.7.3.269
- Connors-Burrow, N. A., Johnson, D. L., Whiteside-Mansell, L., McKelvey, L., & Gargus, R. A. (2009). Adults matter: Protecting children from the negative impacts of bullying. *Psychology in the Schools*, 46, 593–604. doi:10.1002/pits.20400
- Davidson, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing-externalizing distress from bullying. *School Psychology Review*, 36, 383–405.
- Demaray, M. K., & Malecki, C. K. (2003). Perceptions of the frequency and importance of social support by students classified as victims, bullies, and bully/victims in an urban middle school. *School Psychology Review*, 32, 471–489.
- Dubow, E. F., & Ullman, D. G. (1989). Assessing social support in elementary school children: The survey of children's social support. *Journal of Clinical Child Psychology*, 18, 52–64. doi:10.1207/s15374424jccp1801_7
- Dumont, M., & Provost, M. A. (1999). Resilience in adolescents: Protective role of social support, coping strategies, self-esteem, and social activities on experience of stress and depression. *Journal of Youth and Adolescence*, 28, 343–363. doi:10.1023/A:1021637011732
- Espelage, D. L., & Swearer, S. M. (2010). A social-ecological model for bullying prevention and intervention: Understanding the impact of adult communities children live in. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.), *The handbook of bullying in schools: An international perspective* (pp. 61–72). New York, NY: Routledge.

- Harter, S. (1982). The perceived competence scale for children. *Child Development*, 53, 87–97. doi:10.2307/1129640
- Harter, S. (1985). *Manual for the Social Support Scale for Children*. Denver, CO: University of Denver.
- Hawker, D. S. J., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of crosssectional studies. *Journal of Child Psychology and Psychiatry*, 41, 441–455. doi:10.1111/1469-7610.00629
- Holt, M. K., & Espelage, D. L. (2007). Perceived social support among bullies, victims, and bully-victims. *Journal of Youth and Adolescence*, 36, 984–994. doi:5552/10.1007/s10964-006-9153-3
- Hoyle, R. H., & Smith, G. T. (1994). Formulating clinical research hypotheses as structural equations: A conceptual overview. *Journal of Consulting and Clinical Psychology*, 62, 429–440. doi:10.1037/0022-006X.62.3.429
- Hu, L., & Bentler, P. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 76–99). Thousand Oaks, CA: Sage.
- Kaukiainen, A., Salmivalli, C., Lagerspetz, K., Tamminen, M., Vauras, M., Maki, H., & Poskiparta, E. (2002). Learning difficulties, social intelligence and self-concept: Connections to bully-victim problems. *Scandinavian Journal of Psychology*, 43, 269–278. doi:10.1111/1467-9450.00295
- Kingery, P. (2001). *The national school crime and safety survey*. Washington, DC: Hamilton-Fish Institute. Retrieved from <http://kingeryenglishschool.org/Kingery/attach/29.pdf>
- Kochenderfer, B. J., & Ladd, G. W. (1996). Peer victimization: Cause or consequence of school maladjustment? *Child Development*, 67, 1305–1317. doi:10.2307/1131701
- Lopez, C., & DuBois, D. L. (2005). Peer victimization and rejection: Investigation of an integrative model of effects on emotional, behavioral, and academic adjustment in early adolescence. *Journal of Clinical Child and Adolescent Psychology*, 34, 25–36. doi:5552/10.1207/s15374424jccp3401_3
- Malecki, C. K., & Demaray, M. K. (2002). Measuring perceived social support: Development of the Child and Adolescent Social Support Scale. *Psychology in the Schools*, 39, 1–18. doi:10.1002/pits.10004
- Malecki, C. K., & Demaray, M. K. (2006). Social support as a buffer in the relationship between socioeconomic status and academic performance. *School Psychology Quarterly*, 21, 375–395. doi:10.1037/h0084129
- Malecki, C. K., Demaray, M. K., & Elliott, S. N. (2000). *The Child and Adolescent Social Support Scale*. Northern Illinois University: DeKalb, IL.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bully behaviors among US youth: Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association*, 285, 2094–2100. doi:10.1001/jama.285.16.2094
- Neary, A., & Joseph, S. (2000). Peer victimization and its relationship to self-concept and depression among school children. *Personality and Individual Differences*, 16, 183–186.
- O'Moore, M., & Kirkham, C. (2001). Self-esteem and its relationship to bullying behavior. *Aggressive Behavior*, 27, 269–283. doi:10.1002/ab.1010
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Cambridge, MA: Blackwell.

- Olweus, D. (1997). Bully/victim problems in school: Knowledge base and an effective intervention program. *The Irish Journal of Psychology*, 18, 170–190.
- Pearce, J. B., & Thompson, A. E. (1998). Practical approaches to reduce the impact of bullying. *Archive of Disease in Childhood*, 79, 528–531. doi:10.1136/adc.79.6.528
- Rigby, K. (2000). Effects of peer victimization in schools and perceived social support on adolescent well-being. *Journal of Adolescence*, 23, 57–68. doi:10.1006/jado.1999.0289
- Rigby, K., & Slee, P. T. (1991) Bullying among Australian school children: Reported behaviour and attitudes to victims. *Journal of Social Psychology*, 131, 615–622. doi:10.1080/00224545.1991.9924646
- Salmivalli, C. (1998). Intelligent, attractive, well-behaving, unhappy: The structure of adolescents' self-concept in relation to their social behavior. *Journal of Research on Adolescence*, 8, 333–354. doi:10.1207/s15327795jra0803_3
- Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2008). *Motivation in education: Theory research and applications* (3rd ed.). Upper Saddle River, NJ: Pearson.
- Slee, P. T., & Rigby, K. (1993). The relationship of Eysenck's personality factors and self-esteem to bully/victim behaviour in Australian school boys. *Personality and Individual Differences*, 14, 371–373. doi:10.1016/0191-8869(93)90136-Q
- Stadler, C., Feifel, J., Rohrmann, S., Vermeiren, R., & Poustka, F. (2010). Peer victimization and mental health problems in adolescents: Are parental and school support protective? *Child Psychiatry and Human Development*, 41, 371–386. doi:10.1007/s10578-010-0174-5
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25, 173–180. doi:10.1207/s15327906mbr2502_4
- Swearer, S. M. (2001). The bully survey (Unpublished manuscript). The University of Nebraska-Lincoln. http://www.targetbully.com/Bully_Survey.php
- Unnever, J. D., & Cornell, D. G. (2004). Middle school victims of bullying: Who reports being bullied? *Aggressive Behavior*, 30, 373–388. doi:10.1002/ab.20030
- Wang, J., Iannotti, R., & Nansel, T. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health*, 45, 368–375. doi:10.1016/j.jadohealth.2009.03.021