



Journal of Clinical Child & Adolescent Psychology

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/hcap20>

Peer Victimization and Peer Rejection During Early Childhood

Stephanie A. Godleski ^a , Kimberly E. Kamper ^b , Jamie M. Ostrov ^b , Emily J. Hart ^b & Sarah J. Blakely-McClure ^b

^a Research Institute of Addictions , University at Buffalo, SUNY

^b Department of Psychology , University at Buffalo, SUNY

Published online: 18 Aug 2014.



[Click for updates](#)

To cite this article: Stephanie A. Godleski , Kimberly E. Kamper , Jamie M. Ostrov , Emily J. Hart & Sarah J. Blakely-McClure (2014): Peer Victimization and Peer Rejection During Early Childhood, *Journal of Clinical Child & Adolescent Psychology*, DOI: [10.1080/15374416.2014.940622](https://doi.org/10.1080/15374416.2014.940622)

To link to this article: <http://dx.doi.org/10.1080/15374416.2014.940622>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Peer Victimization and Peer Rejection During Early Childhood

Stephanie A. Godleski

Research Institute of Addictions, University at Buffalo, SUNY

Kimberly E. Kamper, Jamie M. Ostrov, Emily J. Hart, and Sarah J. Blakely-McClure

Department of Psychology, University at Buffalo, SUNY

The development and course of the subtypes of peer victimization is a relatively understudied topic despite the association of victimization with important developmental and clinical outcomes. Moreover, understanding potential predictors, such as peer rejection and emotion regulation, in early childhood may be especially important to elucidate possible bidirectional pathways between relational and physical victimization and rejection. The current study ($N=97$) was designed to explore several gaps and limitations in the peer victimization and peer rejection literature. In particular, the prospective associations between relational and physical victimization and peer rejection over the course of 3.5 months during early childhood (i.e., 3 to 5 years old) were investigated in an integrated model. The study consisted of 97 (42 girls) preschool children recruited from four early childhood schools in the northeast of the United States. Using observations, research assistant report, and teacher report, relational and physical aggression, relational and physical victimization, peer rejection, and emotion regulation were measured in a short-term longitudinal study. Path analyses were conducted to test the overall hypothesized model. Peer rejection was found to predict increases in relational victimization. In addition, emotion regulation was found to predict decreases in peer rejection and physical victimization. Implications for research and practice are discussed, including teaching coping strategies for peer rejection and emotional distress.

Peer victimization has become an important focus of study for scholars who examine the etiology, course, and outcomes associated with various forms of psychopathology in children (e.g., Hodges & Perry, 1999; Juvonen & Graham, 2001). Peer victimization and aggression are major risk factors for psychopathology and are significant public health problems among children and adolescents, yet the early developmental pathways associated with these behaviors are not fully understood (Dodge, Coie, & Lynam, 2006). Despite clear advances in our field (Hawker & Boulton, 2000),

further study of the factors that are associated with the development of peer victimization is needed.

Crick and Grotpeter (1996) proposed two primary subtypes of peer victimization in their seminal study of school-aged children: overt (i.e., receipt of hitting as well as name calling) and relational. Overt victimization is now typically referred to as physical victimization (see Crick, Ostrov, & Kawabata, 2007) and includes the receipt of physical aggression (i.e., hitting, kicking, and pushing), whereas relational victimization is the receipt of aggression that was designed to “harm others through hurtful manipulation of or damage to their peer relationships (e.g., spreading mean rumors about a peer; retaliation against a peer by purposefully excluding her from one’s social group)” (Crick & Grotpeter, 1996, pp. 367–368). Crick and Grotpeter also found that rejected children were more likely to experience relational or

Correspondence should be addressed to Stephanie A. Godleski, Research Institute of Addictions, 1021 Main Street, Buffalo, NY 14203. E-mail: sgodleski@ria.buffalo.edu or Jamie M. Ostrov, 227 Park Hall, Department of Psychology, University at Buffalo, SUNY, Buffalo, NY 14260. E-mail: jostrov@buffalo.edu

physical victimization than children who were liked by their peers. Numerous studies (see Crick, Casas, & Nelson, 2002) have replicated and expanded on this early work supporting the utility and distinct behavioral and even physiological profiles of these two subtypes of peer victimization (e.g., Benjet, Thompson, & Gotlib, 2010; Crick & Bigbee, 1998; Crick, Casas, & Ku, 1999; Cullerton-Sen & Crick, 2005; Kliewer, Dibble, Goodman, & Sullivan, 2012; Rudolph, Troop-Gordon, & Flynn, 2009). The preponderance of this work on subtypes of victimization has focused on concurrent correlates of victimization with relatively few studies examining prospective predictors of victimization subtypes (cf. Sullivan, Farrell, & Kliewer, 2006). Researchers have previously documented the important link that behavioral problems, including aggression, predict increases in overt physical and verbal victimization (Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1999). However, understanding the predictors of both relational victimization as well as physical victimization is an area for continued work.

SOCIAL PROCESS MODEL

The sequential social process model of the causes of peer harassment suggests a theoretical framework that both aggression and peer rejection are associated with future victimization (Boivin, Hymel, & Hodges, 2001; Ostrov, 2008). As such, aversive social behavior (e.g., aggression) and rejected status may lead to further negative peer interactions such as victimization as well as a lack of positive social interactions (Boivin & Hymel, 1997). Past research has demonstrated both direct (i.e., from aggression to victimization) and indirect (i.e., via peer rejection) pathways between aggression and peer victimization (Boivin & Hymel, 1997). These models have been confirmed in studies that assessed relational aggression and relational victimization in early (Ostrov, 2008) and middle childhood (Ostrov & Godleski, 2013). That is, relational aggression has been found to predict future relational victimization during early and middle childhood (Ostrov, 2008; Ostrov & Godleski, 2013).

Theoretically, based on the social process model, peer rejection should impact peer victimization status (Boivin et al., 2001; see also Bierman, 2004; Bierman & Wargo, 1995; Perry, Kusel, & Perry, 1988). To explain the association between peer rejection and adjustment difficulties like peer victimization, Coie (1990) proposed that children who are rejected tend to have more negative interactions (such as exclusion and physical harassment) with their peer group due to their social status. Buhs and Ladd (2001) extended this model to kindergarten and found evidence for the association between peer rejection and negative treatment by peers. Perry, Hodges,

and Egan (2001) furthered this theory, proposing that rejected children often lack the friends or types of friends (e.g., socially dominant) needed to protect themselves against victimization. This vulnerability then makes these children easy targets for aggression.

Of importance, peer victimization and rejection are positively associated across time (Hodges & Perry, 1999), but they are conceptualized to be independent constructs (Perry et al., 1988). Peer victimization is often conceptualized to be a relationship factor (e.g., Nelson & Crick, 1999), whereas peer rejection represents a larger group-level social process. Past work has also shown links between peer acceptance and a lack of future victimization (e.g., Buhs, Ladd, & Herald, 2006) and between peer rejection and growth in victimization (e.g., Boivin & Hymel, 1997; Hodges & Perry, 1999). However, despite several studies showing concurrent and prospective associations between peer rejection and relational victimization (e.g., Crick et al., 1999; Cullerton-Sen & Crick, 2005; Nelson & Crick, 2002; Ostrov, 2008), no known studies have tested if peer rejection is associated with changes in relational victimization over time.

EMOTION REGULATION, PEER VICTIMIZATION, AND PEER REJECTION

In addition to understanding aversive interpersonal factors leading to peer victimization, it is also important to consider individual factors (Hodges & Perry, 1999). Emotion regulation difficulties are another risk factor that has been found to be predictive of both peer victimization (e.g., Shields & Cicchetti, 2001) and peer rejection (e.g., Pope & Bierman, 1999). Consistent with the social process model, it has been theorized that dysregulated behavior by children, such as an inability to respond appropriately in emotionally arousing situations (Pope & Bierman, 1999), may particularly provoke victimization or rejection from other peers (Shields, Ryan, & Cicchetti, 2001). Past research has shown that children who were rated by teachers as emotionally dysregulated (e.g., "has temper tantrums") at school increased in their levels of relational victimization across time (Giesbrecht, Leadbeater, & Macdonald, 2011) and that inability to regulate negative emotions effectively may play an important role in future victimization (Hanish et al., 2004; Pope & Bierman, 1999; Rosen, Milich, & Harris, 2012). On the other hand, socially skilled behaviors are predictive of lower levels of victimization (Card & Hodges, 2008). As such, emotion regulation capacity, a marker of social competence, may be an important factor to consider in order to determine unique associations between peer rejection and victimization within the current study.

Of importance, the role of emotion regulation as a risk factor particularly within the context of relational victimization and relational aggression is understudied, with minimal work controlling for the other form of victimization or aggression (e.g., Garner & Hinton, 2010; Rosen et al., 2012).

RELATIONAL AND PHYSICAL VICTIMIZATION AND PEER REJECTION

The extant literature on subtypes of peer victimization would be advanced with a focus on how peer rejection and relational victimization are associated across time. That is, past studies have not clearly delineated the direction of effect between peer rejection and relational victimization, and there has been a call for more work to address this issue (Ostrov, 2008). The aforementioned social process model posits that peer rejection leads to increases in peer victimization over time given that rejected children are easier targets for victimization (e.g., they are less likely to have others defend them or may have behavioral tendencies that produce negative peer attitudes; Boivin & Hymel, 1997; Boivin et al., 2001; Ostrov, 2008). However, it is also conceivable that the reverse direction of effect holds. That is, peer victimization and emotion dysregulation may promote increases in peer rejection over time. Children who experience peer harassment and maltreatment may have difficulty meeting developmentally salient tasks and may not be viewed as preferred playmates by others given that they may have difficulty expressing developmentally appropriate emotions/regulating their emotions. In fact, both physical and relational victimization have been found to increase a child's likelihood of peer rejection (e.g., Crick & Bigbee, 1998; Hanish & Guerra, 2002). Thus, the present study will work to untangle these findings through examination of both directions of effect with relational and physical victimization. Given the well-documented small to moderate links between aggression and both peer rejection and victimization (e.g., Ostrov, 2008), especially in regards to the association between relational aggression and victimization, relational and physical aggression will be statistically controlled for in the current study.

DEVELOPMENTAL CONSIDERATIONS

The present study is one of an increasing number that has addressed the present topic of peer victimization subtypes in early childhood (e.g., Crick et al., 1999; Garner & Lemire, 2007; Nelson, Yang, Coyne, Olsen, & Hart, 2013; Ostrov, 2008). The growing literature on early childhood peer victimization has demonstrated the

utility of examining relational victimization and associated correlates among young children. For example, past studies have shown clear associations between relational victimization and peer rejection status in a large sample of Italian preschoolers (Nelson et al., 2013). Arguably, early childhood is an important developmental period for understanding the onset and subsequent course of peer victimization (e.g., Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003; Crick et al., 1999; Dhami, Hoglund, Leadbeater, & Boone, 2005) as children are undergoing important changes in their social perspectives and relationships given the introduction of more peer relationships (Rubin, Bukowski, & Parker, 2006). Children's ability to regulate their behavior and emotions is also increasingly developing during this period, and mastery of these key developmental tasks is associated with more positive social outcomes (e.g., Onchwari & Keengwe, 2011). This early period of peer relationship formation helps to set the stage for later peer relationships and social competence (Herrod, 2007). Further, given that victimization even in the early school years can be particularly damaging (Eslea & Rees, 2001) and peer identification as a victim may be stable once in middle childhood (Kochenderfer-Ladd, 2003), understanding the early childhood individual and interpersonal risk factors of peer rejection and victimization (i.e., relational and physical) may provide important information for future prevention and intervention. The present short-term longitudinal study will contribute to the burgeoning developmental and clinical literature on this topic that previously was primarily focused on the study of school-aged children and adolescents (e.g., Crick & Grotjaper, 1996; Dhami et al., 2005; Nelson & Crick, 2002).

PRESENT STUDY

The current study extends prior literature by focusing on the novel question: Do peer rejection and emotion regulation lead to changes in relational victimization during early childhood? Moreover, we examined if these patterns hold when controlling for physical victimization, physical aggression, and relational aggression, simultaneously within a path model. Further, we attempt to replicate past findings (e.g., Hodges & Perry, 1999) that peer rejection leads to changes in peer victimization. We extend this work by controlling for relational victimization during this important developmental period and by examining these questions within an integrated path model to examine increases in future peer rejection and victimization (i.e., relational and physical) together. Similarly, a path model allows for investigation of the reverse direction of effect from peer victimization to peer rejection. That is, we tested whether relational

victimization promotes increases in peer rejection, controlling for concurrent physical victimization, aggression subtypes, and emotion regulation skills.

The current short-term longitudinal study relied on multiple methods and informants (e.g., observational, research assistant, and teacher report) to address these empirical questions with children attending early childhood centers. In addition, statistical models were conservative in order to isolate the unique prospective associations between these peer-based developmental phenomena. Given the objectives of the study, we hypothesized that teacher report of peer rejection and emotion regulation would each uniquely predict prospective research assistant report of relational victimization and physical victimization while controlling for all of the aforementioned covariates. Further, given the exploratory reverse paths, we hypothesized that victimization would uniquely predict prospective teacher report of peer rejection.

METHOD

Participants

A total of 97 (42 girls) preschool children were recruited from four early childhood schools located in the northeast of the United States and were on average 45.22 months old ($SD = 6.99$). The overall parental consent rate was 80%. Children were from relatively diverse ethnic backgrounds: 5.2% were African American/Black, 12.4% were Asian/Pacific Islander/Indian, 58.8% were Caucasian/White, 2% were Hispanic/Latino, 12.4% were multiracial, 1.0% were Native American, and 8.2% were from other ethnic backgrounds or unknown. Attrition for the study was relatively small (15%; eight boys, seven girls) and caused by families moving away from the participating schools or area. Using Hollingshead's (1975) four-factor index 9-point scoring system (i.e., 9 = executives and professionals, 1 = service workers), each parent's reported occupation was given a corresponding value (range = 2–9). If information was available for more than one parent, the highest score was assigned to that family. Parent education information was not collected, and thus the total factor scores are not available. However, according to Hollingshead's occupational codes, the median occupation score was 6, indicating that a typical family may be classified in the fourth highest occupation group (i.e., 6 = technician, semiprofessionals, and small business owners), suggesting that the sample was primarily middle class.

According to teacher report, the children attended the child-care centers for an average 5.37 hr per day ($SD = 3.29$) on an average of 3.66 days per week

($SD = 1.26$). Teachers reported knowing the participants for on average 9.90 months at Time 1 ($SD = 8.23$, range = 3–39 months). At Time 1, teacher's reported having been employed at the school for an average of 56.54 months ($SD = 48.78$). Approximately 46% of teachers had a bachelor's degree and 19% had a master's degree. This data set was used in a prior manuscript, but there was no overlap in the measures or research questions previously addressed (see Ostrov, Kamper, Hart, Godleski, & Blakely-McClure, 2014).

Measures

Observations of Aggression

Observations of children's physical and relational aggression were made using focal child sampling with continuous recording during periods of free play in the classroom, in gym, and on the playground (Crick et al., 2006; Ostrov & Keating, 2004) but primarily in the classroom. Each child was observed for 10 min per assessment by a trained research assistant with only one observation session of a given child per day. Over two 8-week periods, eight observations of each focal child were conducted on each child per time point for a total of 80 min of observation (160 min across both time points).

Observers consisted of 11 trained advanced undergraduate female and male students and three female graduate students. Observers underwent rigorous training involving education of the observational procedures, practice observations session using prerecorded videotapes of different social behaviors, and live practice reliability observations with a trained observer. Observers spent time in each classroom prior to conducting the observations and used a minimally responsive manner when collecting the data, thereby limiting issues with reactivity (Pellegrini, 2004, p. 96). In the current study, reactivity occurred at an average of 2.09 times per focal child across all of Time 1 ($SD = 2.21$) and 1.54 times per focal child across Time 2 ($SD = 1.82$) and was low over the course of the study (Atlas & Pepler, 1998; Crick et al., 2006; Ostrov, 2008).

During the 10-min observation session, observers recorded the focal child's display of the following behaviors: (a) physical aggression (e.g., hitting, pushing, kicking, taking objects from others) and (b) relational aggression (e.g., threats of friendship withdrawal, spreading rumors or malicious gossip, giving the "silent treatment" or covering the ears to signal ignoring, verbal or nonverbal exclusion from an activity). Behaviors were recorded as separate based on temporal breaks in the interactions during the session. Observers also recorded the sequence of separate behaviors as they proceeded through the session. To minimize concerns

with observer drift, reliability sessions were conducted throughout the study on 15% of the total observations across each time point. Intra-class correlation coefficients with absolute agreement were used, as they have been deemed appropriate for an assessment of reliability when data are noncategorical or when absences of behaviors are not marked (McGraw & Wong, 1996). In the current study, reliability was acceptable at both time points for observations of physical and relational aggression (intra-class correlation coefficients were greater than 0.71).

Research Assistant Report of Behavior

Immediately after the 8 weeks of observations had been completed and observers were not spending time within the classroom, they completed a number of questionnaires regarding the children's behavior. These research assistants' reports were collected to assess children's emotion regulation as well as physical and relational victimization and to reduce shared method variance with other study measures. Research assistant report has been found to be correlated moderately to strongly with teacher report in past research (Ostrov, Ries, Stauffacher, Godleski, & Mullins, 2008). The range of the observational data was restricted for naturalistic observations of relational victimization ($M = 0.29$, $SD = 0.54$, range = 0–2 at Time 1 and $M = .32$, $SD = .56$, range = 0–2 at Time 2) so in keeping with prior procedures that support the validity of this method (e.g., Murray-Close & Ostrov, 2009; Ostrov et al., 2008), the more global approach of research assistant reports of relational victimization were used instead. Upon completion of the observations at each time point (see earlier), one observer per classroom was randomly selected to complete reports for each participating child in the classroom whom they had previously observed. As research assistants had completed the observations for this study, they had several months of exposure to the children during training and observational data collection.

Research assistant ratings of victimization.

Research assistants completed a revised version of the Preschool Peer Victimization Measure–Teacher Report (Crick et al., 1999) at each time point. The measure used in the present study contains 12 items: four items assessing physical victimization ("This child gets pushed or shoved by peers"), four items assessing relational victimization ("This child gets left out of the group when someone is mad at them or wants to get back at them"), and four positively toned filler items. Research assistants rated how frequently focal children experienced physical or relational victimization on a 5-point scale ranging

from 1 (*never to almost never true*) to 5 (*always or almost always true*). Items within each category were averaged. Past research has shown acceptable reliability for this measure (Ostrov, 2008, 2010) and in the current study Cronbach's alpha were .90 and .90 for physical and relational victimization, respectively at Time 1 as well as .86 and .92 for physical and relational victimization at Time 2, respectively. Additional items were added to the original measure to increase the range of responses and improve the reliability of the measure. The content of these items came from a prior preschool aggression measure (Crick, Casas, & Mosher, 1997) and included one new item for relational victimization ("This child gets told 'you can't play' by peers when they are angry at him/her") and two items for physical victimization ("This child gets things thrown at him/her when others are angry with him/her" and "This child gets toys or objects taken away by peers when they are mad at him/her"). Ostrov (2008) supported the validity of the original measure by replicating the predicted factor structure and demonstrating significant correlations between teacher and observer reports for both physical and relational victimization. A principal axis factoring with promax rotation was conducted with the items in the present study to explore the internal structure. Factor loadings were all above .42 and items loaded on their hypothesized factor (a three-component solution was extracted based on an inspection of the scree plot and Eigenvalues greater than 1), and there were no cross-loadings above .40 (see also Ostrov, 2008). In the current study, the validity of this revised measure was also supported by significant correlations with observations of physical and relational victimization ($rs = .25$ and $.32$, $ps < .05$, respectively, at Time 1) and between teacher and research assistant reports for both physical and relational victimization at Time 1 and Time 2 ($rs = .37$ and $.53$, $ps < .001$, respectively, at Time 1; $rs = .31$ and $.23$, $ps < .05$ at Time 2).

Research assistant report of emotion regulation.

Using the Emotion Regulation subscale from the Emotion Regulation Checklist (Shields & Cicchetti, 1997), participants' emotion regulation skills were assessed. This subscale consists of eight items focusing on adaptive regulation, including socially appropriate displays of emotion (e.g., "displays appropriate negative emotions [anger, fear, frustration, distress] in response to hostile, aggressive, or intrusive acts by peers" and "can say when s/he is feeling sad, angry or mad, fearful or afraid"). Two of these items are reverse coded, and the items are averaged, with higher values indicating better emotion regulation skills. Research assistants rated each item using a 4-point scale from 1 (*never*) to 4 (*almost always*). In previous studies of early childhood,

this measure has shown acceptable psychometric properties (Flanders et al., 2010; Miller et al., 2006; Ostrov, Murray-Close, Godleski, & Hart, 2013). Internal consistencies for emotion regulation were acceptable at both Time 1 and 2 (Cronbach's α s = .77 and .80, respectively).

Teacher Ratings of Peer Rejection

The Preschool Social Behavior Scale–Teacher Form (Crick et al., 1997) was used to assess peer rejection (Ostrov, Woods, Jansen, Casas, & Crick, 2004). Teachers rated how disliked children were by same and opposite-sex peers on a 5-point scale ranging from 1 (*never or almost never true*) to 5 (*always or almost always true*). The two items were averaged. This measure had acceptable reliability in the past (e.g., Crick et al., 2006) and in the current study was reliable at both time points (Cronbach's α > .95). Further, teacher and research assistant–reported peer rejection were significantly correlated in the past (Ostrov, 2008) and in the present study at Time 1 ($r = .27, p < .01$) and Time 2 ($r = .32, p < .01$).

Procedure

The current study was approved by the university's Institutional Review Board, and written consent was obtained from all of the parents of participants before the start of the study. Observations of the children's free play began 2 months into the academic year after the participants had begun attending school and after the observers had completed training. Observations at both time points spanned approximately two months, and the time points were separated by 3.5 months. Attrition analyses revealed that participants who had left the study ($N = 15$) at Time 2 were significantly different on peer rejection, $t(95) = 3.22, p = .002, d = 0.73$, indicating that those who did not complete the study were more likely to be rejected by peers ($M = 4.57, SD = 2.77$; according to teacher report) than those who remained in the study ($M = 2.94, SD = 1.53$). However, missing data were handled using Full Information Maximum Likelihood Estimation (Arbuckle, 1996). There were no other significant differences on any of the other study variables.

All of the teachers also gave consent before completing the teacher report packets. Teacher report packets were distributed toward the end of each semester when at least half of the observations had been completed and were completed in the same time frame as the research assistant reports. Teachers received an honorarium (\$10 gift certificate) at each time point after completing the teacher report packets. Two different cohorts were recruited from the same schools and classrooms 1 year apart. At the end of each year, families and

school staff received a newsletter that included a summary of the major findings within the study as well as other developmentally appropriate information and activities.

RESULTS

Preliminary Analyses

Descriptive statistics for and intercorrelations between each of the constructs assessed are presented in Table 1. The correlations between the constructs ranged from weak to strong (rs ranging from $-.01$ to $.60$) with the major study variables demonstrating weak to moderate stability across the two time points (rs ranging from $.20$ to $.43$). As expected, the relational and physical victimization variables within both Time 1 and Time 2 were moderately correlated with each other. Further, concurrent peer rejection was significantly correlated with relational victimization moderately at Time 1 and weakly at Time 2. Moreover, peer rejection at Time 1 was significantly moderately correlated with relational victimization at Time 2, and relational victimization at Time 1 was moderately associated with peer rejection at Time 2. Relational aggression at Time 1 was also significantly associated with relational victimization at Time 2 and peer rejection at Time 2, albeit weakly. Physical aggression at Time 1 was also significantly correlated with peer rejection at Time 2 although the level of correlation was weak. These patterns of effect demonstrate the basic prospective associations between relational victimization and peer rejection but also highlight the importance of controlling for both physical victimization as well as aggression subtypes when examining the unique prospective associations between peer rejection and relational victimization. Bivariate associations with age were also explored; however, age was not significantly associated with any of the dependent variables, so to reduce the number of predictors in the models we did not control for age in the subsequent analyses. Gender was also explored as a potential covariate; however, preliminary analyses suggested that it was not significantly predictive of any of the major dependent variables ($ps > .05$) and therefore was not included in the path model to increase parsimony and reduce the number of predictors. Finally, assessments of skew were less than three (-0.60 to 2.84) and kurtosis values were less than eight suggesting that nonnormality was not a concern (Kline, 2011).

Missing Data

As previously noted, the current study examined associations between key variables using 97 participants.

TABLE 1
Descriptive Statistics and Correlations for Major Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. RVICT RA	—											
2. PVICT RA T1	.60***	—										
3. RAGG OBS T1	.36***	.07	—									
4. PAGG OBS T1	.26*	.54***	.11	—								
5. ER RA T1	.13	.11	.18	.02	—							
6. PR TR T1	.50***	.28**	.20	.09	-.02	—						
7. RVICT RA T2	.20	.08	.26*	.09	.02	.37**	—					
8. PVICT RA T2	.16	.32**	.10	.09	-.24*	.14	.41***	—				
9. RAGG OBS T2	.13	-.14	.26*	-.12	.11	.11	.07	.01	—			
10. PAGG OBS T2	.19	.24*	.20	.35**	-.02	.13	.11	.31**	.19	—		
11. ER RA T2	-.07	-.01	.13	.14	.43***	-.27*	-.01	-.27*	-.03	-.08	—	
12. PR TR T2	.29**	.16	.23*	.22*	-.16	.43***	.25*	.14	.04	.20	-.33**	—
<i>M</i>	1.63	1.77	0.51	1.19	2.96	1.58	1.33	1.40	0.46	1.05	3.16	1.52
<i>SD</i>	0.63	0.72	0.94	1.75	0.47	0.90	0.54	0.56	0.95	1.39	0.53	0.87
Range	1.00–3.55	1.00–3.25	0.00–6.00	0.00–9.00	1.63–3.88	1.00–4.34	1.00–3.38	1.00–3.00	0.00–5.00	0.00–5.00	1.75–4.00	1.00–4.24

Note: RVICT = Relational Victimization; PVICT = Physical Victimization; RAGG = Relational Aggression; PAGG = Physical Aggression; ER = Emotion Regulation; PR = Peer Rejection; RA = Research Assistant Report; OBS = Observations; TR = Teacher Report. T1 = Time 1; T2 = Time 2.

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

Eighty-two (85%) of the participants had data at both time points. Given the number of participants with missing data, maximum likelihood with robust standard errors estimation procedures were used to include all participants who had complete data at Time 1 within the full model.

Path Model

To address the hypotheses within the current study, cross-lagged path models were conducted using maximum likelihood with robust standard errors estimation in Mplus 5.21 (Muthén & Muthén, 1998–2009). The overall model examined prospective associations between Time 1 and Time 2 relational victimization, physical victimization, emotion regulation (only Time 1) and peer rejection, controlling for physical and relational aggression. In keeping with theory (see Crick et al., 1999; Ostrov, 2008) as well as to increase the parsimony of the models, the pathways between aggression and victimization subtypes across time were conceptualized to be within form (e.g., relational aggression predicting relational victimization). The covariance among exogenous and endogenous variables was freely estimated (see Figure 1). The comparative fit index (CFI), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) were used to examine the model fit (Hu & Bentler, 1999; Tabachnick & Fidell, 2013). In structural equation models, adequate model fit is assumed when the CFI is above .95, the RMSEA is less than .06, and a SRMR below .08 (Hu & Bentler, 1999; Kline, 2011).

Our cross-lagged model (see Figure 2) showed good model fit to the data, $\chi^2(2) = 3.11$, $p = .21$, CFI = .98, RMSEA = .08, SRMR = .02. The model showed stability for both physical victimization ($\beta = .46$, $p < .001$) and peer rejection ($\beta = .38$, $p < .01$). As expected given the correlations between study variables, relational victimization did not show stability over time. Within the model, emotion regulation and physical aggression negatively predicted physical victimization ($\beta = -.18$, $p < .01$; $\beta = -.23$, $p < .05$). Of interest, physical victimization at Time 1 was positively and significantly correlated with physical aggression at Time 2 ($r = .24$, $p < .05$) in preliminary analyses, indicating that when controlling for the other Time 1 and Time 2 constructs (e.g., relational victimization, emotion regulation, and peer rejection), the direction of effect changes. Further, the model indicated that emotion regulation negatively

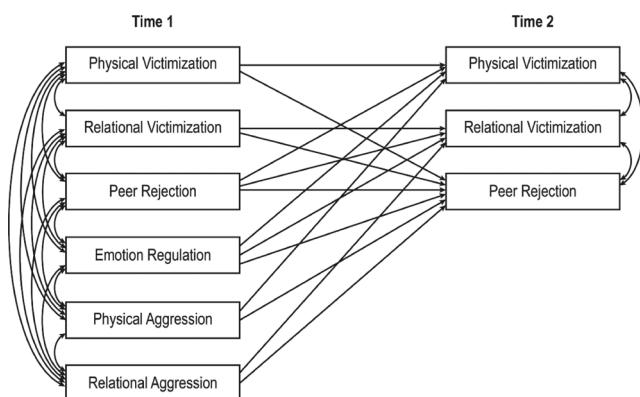


FIGURE 1 Proposed hypothetical model.

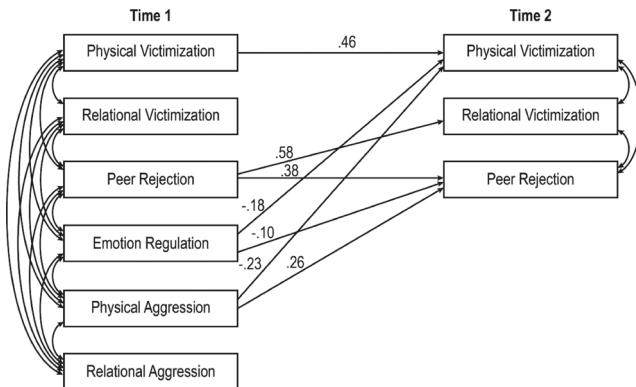


FIGURE 2 Short-term longitudinal predictors of relational and physical victimization and peer rejection. *Note:* The numbers represent standardized path coefficients. Covariance values and nonsignificant paths are not depicted in the model for ease of presentation. All presented paths are significant at $p < .05$. Covariance values are available from the first author upon request.

predicted peer rejection at Time 2 ($\beta = -.10, p < .01$). It was also revealed that physical aggression at Time 1 predicted increases in peer rejection at Time 2 ($\beta = .26, p < .05$). Finally, peer rejection at Time 1 was associated with significant increases in relational victimization at Time 2 ($\beta = .58, p < .01$).

DISCUSSION

This research was designed to examine objectives related to the association between peer victimization subtypes, emotion regulation skills, and peer rejection using a multi-informant, multi-method short-term longitudinal study controlling for physical and relational aggression within a comprehensive conceptual model. In keeping with our hypotheses, we found that teacher report of peer rejection predicted increases in research assistant report of relational victimization above and beyond the role of emotion regulation, physical and relational aggression, and relational victimization at Time 1. The present findings replicate and extend the seminal work of Crick and Grotpeter (1996) during an earlier developmental period demonstrating the important association between relational victimization and peer rejection. That is, peer rejection seems to increase children's vulnerability for future negative peer experiences (Boivin & Hymel, 1997) even among very young children. This finding is also consistent with the social process framework (Boivin et al., 2001; Ostrov, 2008), as peer rejection played an important role in the prediction of increases in relational victimization, even when controlling for past and concurrent physical victimization. These findings expand on the prior early childhood work that provided initial support for the social process

model of peer harassment. For example, the initial study by Ostrov (2008) documented prospective associations between peer rejection and relational victimization but did not control for initial levels of relational victimization in the models. Moreover, the current study adopted a very conservative model that also controls for the influence of physical victimization at both time points as well as aggression subtypes, which are known to be associated with both constructs during early childhood (e.g., Ostrov, 2008, 2010).

Second, we also simultaneously examined changes in physical victimization over the two time points in order to be consistent with the first aim and to look for parallels with the relational victimization pathway and past research. Of interest, the present study is consistent with past research conducted in middle childhood (Garner & Hinton, 2010) and suggests that emotion dysregulation may be more relevant for physical victimization than relational victimization. That is, results were consistent with past research with older children demonstrating the link between lower emotion regulation and increases in victimization (e.g., Pope & Bierman, 1999). This finding is also consistent with the social process model, given that emotional dysregulation may evoke negative appraisals from peers. These children may be at risk for victimization due to their lowered ability to regulate their emotions. In early childhood, this lowered emotion regulation combined with physical victimization may lead to children missing key developmental tasks with peers and risk for possible negative developmental trajectories. Contrary to expectations, peer rejection was not predictive of physical victimization. In past research, physical victimization and peer rejection have been associated (e.g., Perry et al., 1988; Salmivalli & Isaacs 2005); however, in the present study, peer rejection was predictive only of relational victimization. This finding may be because the other subtype of victimization was controlled for at both Time 1 and Time 2, whereas in much past work the other subtype of victimization is often not included in models. Further, some past work that has included the other subtype has combined both into a more general peer victimization construct instead of separating into distinct constructs as was done in the present study. Finally, it may also be that during the early childhood developmental period the association between peer rejection and physical victimization is not as strong as in later periods. The majority of research on peer victimization and rejection, which has focused on middle childhood and adolescence, suggests that there may be various developmental and contextual factors to consider in future research (Bukowski & Sippola, 2001). Finally, physical aggression negatively predicted physical victimization in the path model. This was not anticipated, especially given positive significant bivariate level associations between physical aggression

at Time 1 and victimization at Time 2 as well as positive associations between Time 1 variables within the model. Therefore, it may be that controlling for the other variables in the path model (e.g., emotion regulation, relational victimization, and peer rejection) contributed to the unpredicted direction of effect. Because this effect was unpredicted, it should be examined in future work in order to understand why the association between emotion regulation and physical victimization and the stability of physical victimization might contribute to physical aggression negatively predicting physical victimization. Future research examining the functions of aggression (i.e., proactive and reactive) might permit a greater understanding of this pathway. Perhaps it is only those children who engage in reactive physical aggression who are at risk for increases in physical victimization (Salmivalli & Helteenvuori, 2007).

We also examined the reverse direction of effects between relational and physical victimization and peer rejection within the model. Contrary to hypotheses and past research (Crick & Bigbee, 1998), neither relational nor physical victimization predicted increases in peer rejection over time. Emotion regulation, however, was negatively associated with peer rejection, such that lower emotion regulation predicted increases in peer rejection over time and physical aggression also uniquely predicted increases in peer rejection. These findings are consistent with past research on emotion regulation. For example, children with attention-deficit/hyperactivity disorder have been found to be more rejected and to have fewer friends than their peers (e.g., Hoza et al., 2005). The present study also provides important contributions by investigating multiple forms of victimization and aggression simultaneously and thus demonstrating the robustness of emotion regulation and physical aggression as predictors of peer rejection in the preschool period. This finding highlights the importance of examining the bidirectional effects over time between peer rejection and children's social behavior given that lowered emotion regulation appears to be a risk factor for both physical victimization and peer rejection but that relational victimization was not predictive of peer rejection over time. As such, it may be that the prospective relation is from peer rejection to relational victimization as was hypothesized in the original social process model (Boivin et al., 2001) but that there is also an important influence of lowered emotion regulation. Although the findings are clear in the current study, given the past equivocal literature, future research should replicate this pattern of effects.

This research also suggests the significance of examining pathways that put children at risk for negative developmental outcomes in early childhood. All variables were moderately stable across time points, although the stability correlation for relational victimization was

a nonsignificant trend and stability was not significant in the path model. This general finding demonstrates the importance of investigating such constructs as peer victimization, peer rejection, and emotion regulation given their persistence across early childhood and their associations with maladaptive outcomes. More specifically, relational victimization has been found to be predictive of such negative outcomes as internalizing behavior problems in middle childhood (e.g., Crick & Grotpeter, 1996) and externalizing behavior problems, including physical aggression and drug use in early adolescence (e.g., Sullivan et al., 2006). Future research would benefit from including more specific pathways to relational victimization in early childhood, such as anger and provocative victim status (e.g., Schwartz, 2000), withdrawn rejected status (e.g., Boivin & Hymel, 1997), and negative self-perceptions (e.g., Boivin & Hymel, 1997; Crick & Dodge, 1994). Therefore, understanding predictors of relational victimization in early childhood may help to elucidate early pathways to risk and resilience.

Implications and Importance of the Present Study

Given the serious, maladaptive developmental outcomes associated with relational and physical victimization and peer rejection, it is critical to understand the interrelations between and predictors of these constructs during the important developmental window of early childhood. Further, it may be particularly harmful to experience peer rejection and victimization during a developmental period in which peer relations are gaining greater importance (Sullivan et al., 2006). Therefore, the present study has several clinical implications. Specifically, intervention and prevention work geared toward reducing relational victimization and teaching children strategies for coping with emotional distress (Rosen et al., 2012), as well as rejection and aggression from their peers may help to reduce further negative peer experiences and maladaptive developmental outcomes. In particular, given that peer rejection predicted increases in relational victimization over time, preventative intervention work within the early childhood period directed toward reducing rejection as well as effectively coping with rejection, victimization, and negative emotion is of critical importance (e.g., Ostrov et al., 2009).

The present study also has important statistical and methodological implications, such as further highlighting the importance of controlling for subtypes of aggression as well as emotion regulation when investigating the impact of victimization (e.g., Werner & Crick, 2004). Further, given that children who are victims of multiple forms of aggression are at greater risk for maladjustment (Prinstein, Boergers, & Vernberg, 2001),

future research should continue to consider both forms of victimization. In addition, given the lack of clear understanding of the direction of effects leading to victimization and peer rejection, a strength of the present study is examining the reverse direction of effect within the same model. This is particularly important given the differential findings, indicating that peer rejection had an important impact on relational victimization over time but that relational victimization did not have a strong impact on changes in peer rejection. The results of the present study also suggest the importance of considering emotion regulation, as it may also play an important role in evoking physical victimization. Moreover, peer rejection may produce emotional distress that will elicit future rejection or victimization due to a lack of skills to cope with these emotions.

This research also partially replicates and extends the impactful early work on relational victimization from Crick and colleagues (e.g., Crick & Bigbee, 1998; Crick & Grotpeter, 1996). First, this work further demonstrates the importance of investigating relational victimization in addition to physical victimization. Second, the importance and utility of controlling for the alternative aggression and peer victimization subtypes is also further underscored by the present findings (Werner & Crick, 1999). Third, the current study among preschoolers replicates and expands on Crick and colleagues (Crick et al., 1999) seminal concurrent research with preschoolers that initially revealed the negative correlates of these victimization subtypes.

Limitations and Future Directions

There are several limitations to this study that may reduce the generalizability of the findings. To begin, the sample size is relatively small, which may have attenuated some of the effect sizes, particularly for unidirectional effects. This sample is certainly in keeping with and larger than some past observational studies of this type (e.g., Crick et al., 2006; McEvoy, Estrem, Rodriguez, & Olsen, 2003; Murray-Close & Ostrov, 2009), but replication with a large sample is warranted. In addition, a larger sample would permit examination of the role of gender and other potential moderation models. Gender may moderate some of the present findings given the theorized role of gender in the display of various forms of aggression in early childhood (e.g., Crick et al., 2006). Further, the sample was relatively diverse but primarily of a middle-class background, and socioeconomic status has been indicated as a factor in the development of relational aggression (e.g., Bonica et al., 2003). Future research should strive to include a more diverse sample. In addition, the sample was primarily comprised of typically developing children, and it may be pertinent to consider both typically and

atypically developing children in future work to more fully understand the pathways of risk and resilience over time.

From a methodological perspective, a major strength of the current project was our use of multiple methods and informants. However, our assessment of peer rejection was restricted to a teacher report instrument. Although teacher reports of peer rejection have good psychometric properties during this developmental period (e.g., Ostrov et al., 2004), future research should attempt to replicate the current findings with a valid and reliable sociometric measure of peer rejection (e.g., Nelson, Robinson, & Hart, 2005). In addition, future research should strive to include reliable observations of victimization and, further, to compare findings across research assistant report and observations. It is also important to note that relational victimization was not stable across the study; however, the time points did show a nonsignificant trend in the correct direction ($r = .20, p < .10$). The stability of relational victimization during this developmental period should be an area for future research. Stability of relational victimization might not be revealed given that some children may be moving from being victims to aggressors (Ostrov, 2010) or perhaps because the specificity of being a chronic victim of relational victimization is not yet established during this period.

Another limitation is the short-term nature of this project's longitudinal design. Therefore, it would be beneficial for future research to investigate these constructs in a longer term longitudinal design to examine other negative outcomes in later developmental periods, such as anger, internalizing, and externalizing behavior problems in middle childhood and adolescence, as well as the possible mechanisms of these pathways, such as hostile attribution biases (e.g., Crick & Dodge, 1994).

Conclusions

In conclusion, the present study supplements the growing understanding of relational victimization, with particular emphasis on its relation to peer rejection during early childhood. As peer rejection and victimization have both been proposed to be key constructs in the development of social-psychological maladjustment, such knowledge is beneficial in guiding assessment, intervention, and prevention efforts for at-risk children. This work is particularly important in early childhood when the developmental framework for peer relationships is in its early stages.

ACKNOWLEDGEMENTS

We thank the staff of the UB Social Development Lab and the Preschool Social Development Project. We

thank the participating families, teachers, and directors of all schools for their support. This article is dedicated to the memory and legacy of Dr. Nicki R. Crick.

FUNDING

Preparation of this publication was supported by the National Institute on Alcohol Abuse and Alcoholism of the National Institutes of Health under award number T32 AA007583. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

REFERENCES

- Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. In G. A. Marcoulides & R. E. Shumaker (Eds.), *Advanced structural equation modeling: Issues and techniques* (pp. 243–277). Mahwah, NJ: Erlbaum.
- Atlas, R. S., & Pepler, D. J. (1998). Observations of bullying in the classroom. *Journal of Educational Research*, 92, 86–99.
- Benjet, C., Thompson, R. J., & Gotlib, I. H. (2010). 5-HTTLPR moderates the effect of relational peer victimization on depressive symptoms in adolescent girls. *Journal of Child Psychology and Psychiatry*, 51, 173–179. doi: 10.1111/j.1469-7610.2009.02149.x
- Bierman, K. L. (2004). *Peer rejection: Developmental processes and intervention strategies*. New York, NY: Guilford.
- Bierman, K. L., & Wargo, J. (1995). Predicting the longitudinal course associated with aggressive-rejected, aggressive (non-rejected), and rejected (non-aggressive) status. *Development and Psychopathology*, 7, 669–682.
- Boivin, M., & Hymel, S. (1997). Peer experiences and social self-perceptions: A sequential model. *Developmental Psychology*, 33, 135–145.
- Boivin, M., Hymel, S., & Hodges, E. V. E. (2001). Toward a process view of peer rejection and harassment. In M. Putallaz & K. L. Bierman (Eds.), *Aggression, antisocial behavior, and violence among girls: A developmental perspective* (pp. 265–289). New York, NY: Guilford.
- Bonica, C., Arnold, D. H., Fisher, P. H., Zeljo, A., & Yershova, K. (2003). Relational aggression and language development in preschoolers. *Social Development*, 12, 551–562.
- Buhs, E. S., & Ladd, G. W. (2001). Peer rejection as antecedent of young children's school adjustment: An examination of mediating processes. *Developmental Psychology*, 37, 550–560.
- Buhs, E. S., Ladd, G. W., & Herald, S. L. (2006). Peer exclusion and victimization: Processes that mediate the relation between peer group rejection and children's classroom engagement and achievement? *Journal of Educational Psychology*, 98, 1–13. doi:10.1037/022-0663.98.1.1
- Bukowski, W. M., & Sippola, L. K. (2001). Groups, individuals, and victimization: A view of the peer system. In J. Juvonen & S. Graham (Eds.), *Peer Harassment in School: The plight of the vulnerable and victimized* (pp. 332–276). New York, NY: Guilford.
- Card, N. A., & Hodges, E. V. E. (2008). Peer victimization among schoolchildren: Correlations, causes, consequences, and considerations in assessment and intervention. *School Psychology Quarterly*, 23, 451–461. doi:10.1037/a0012769
- Coie, J. D. (1990). Toward a theory of peer rejection. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 365–402). New York, NY: Cambridge University Press.
- Crick, N. R., & Bigbee, M. A. (1998). Relational and overt forms of peer victimization: A multiinformant approach. *Journal of Consulting and Clinical Psychology*, 66, 337–347.
- Crick, N. R., Casas, J. F., & Ku, H. (1999). Relational and physical forms of peer victimization in preschool. *Developmental Psychology*, 35, 376–385.
- Crick, N. R., Casas, J. F., & Mosher, M. (1997). Relational and overt aggression in preschool. *Developmental Psychology*, 33, 579–587.
- Crick, N. R., Casas, J. F., & Nelson, D. A. (2002). Toward a more comprehensive understanding of peer maltreatment: Studies of relational victimization. *Current Directions in Psychological Science*, 11, 98–101. doi:10.1111/1467-8721.00177
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information processing mechanisms in children's social adjustment. *Psychological Bulletin*, 115, 74–101.
- Crick, N. R., & Grotjeter, J. K. (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology*, 8, 367–380.
- Crick, N. R., Ostrov, J. M., Burr, J. E., Jansen-Yeh, E. A., Cullerton-Sen, C., & Ralston, P. (2006). A longitudinal study of relational and physical aggression in preschool. *Journal of Applied Developmental Psychology*, 27, 254–268. doi:10.1016/j.appdev.2006.02.006
- Crick, N. R., Ostrov, J. M., & Kawabata, Y. (2007). Relational aggression and gender: An overview. In D. J. Flannery, I. Waldman, & A. Vazsonyi (Eds.), *The Cambridge handbook of violent behavior and aggression* (pp. 243–258). London, UK: Cambridge University Press.
- Cullerton-Sen, C., & Crick, N. R. (2005). Understanding the effects of physical and relational victimization: The utility of multiple perspectives in predicting social-emotional adjustment. *School Psychology Review*, 34, 147–160.
- Dhami, M. K., Hoglund, W. L., Leadbeater, B. J., & Boone, E. (2005). Gender-linked risks for peer physical and relational victimization in the context of school-level poverty in first grade. *Social Development*, 14, 532–549. doi:10.1111/j.1467-9507.2005.00315.x
- Dodge, K. A., Coie, J. D., & Lynam, D. (2006). Aggression and anti-social behavior in youth. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (6th ed., pp. 719–788). New York, NY: Wiley.
- Eslea, M., & Rees, J. (2001). At what age are children most likely to be bullied at school? *Aggressive Behavior*, 27, 419–429. doi:10.1002/ab.1027
- Flanders, J. L., Simard, M., Paquette, D., Parent, S., Vitaro, F., Pihl, R. O., & Séguin, J. R. (2010). Rough-and-tumble play and the development of physical aggression and emotion regulation: A five-year follow-up study. *Journal of Family Violence*, 25, 357–367.
- Garner, P. W., & Hinton, T. S. (2010). Emotional display rules and emotion self-regulation: Associations with bullying and victimization in community-based after school programs. *Journal of Community and Applied Social Psychology*, 20, 480–496. doi:10.1002/casp.1057
- Garner, P. W., & Lemire, E. A. (2007). The roles of behavioral adjustment and conceptions of peers and emotions in preschool children's peer victimization. *Development and Psychopathology*, 19, 57–71. doi:10.1017/S0954579407070046
- Giesbrecht, G. F., Leadbeater, B. J., & Macdonald, S. W. S. (2011). Child and context characteristics in trajectories of physical and relational victimization among early elementary school children. *Development and Psychopathology*, 23, 239–252. doi:10.1017/S0954579410000763
- Hanish, L. D., Eisenberg, N., Fabes, R. A., Spinrad, T. L., Ryan, P., & Schmidt, S. (2004). The expression and regulation of negative emotions: Risk factors for young children's peer victimization. *Development and Psychopathology*, 16, 335–353.

- Hanish, L. D., & Guerra, N. G. (2002). A longitudinal analysis of patterns of adjustment following peer victimization. *Development and Psychopathology*, 14, 69–89.
- Hawker, D. S., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry*, 41, 441–455.
- Herrod, H. G. (2007). Do first years really last a lifetime? *Clinical Pediatrics*, 46, 199–205.
- Hodges, E. V. E., & Perry, D. G. (1999). Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of Personality and Social Psychology*, 76, 677–685.
- Hollingshead, A. A. (1975). *Four-factor index of social status*. Unpublished manuscript, Yale University, New Haven, CT.
- Hoza, B., Mrug, S., Gerdes, A. C., Hinshaw, S. P., Bukowski, W. M., Gold, J. A., Arnold, L. E. (2005). What aspects of peer relationships are impaired in children with attention-deficit/hyperactivity disorder? *Journal of Consulting and Clinical Psychology*, 73, 411–423. doi:10.1037/0022-006X.73.3.411
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- Juvonen, J., & Graham, S. (2001). *Peer harassment in school: The plight of the vulnerable and victimized*. New York, NY: Guilford.
- Kliwer, W., Dibble, A. E., Goodman, K. L., & Sullivan, T. N. (2012). Physiological correlates of peer victimization and aggression in African American urban adolescents. *Development and Psychopathology*, 24, 637–650. doi:10.1017/S0954579412000211
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guilford.
- Kochenderfer-Ladd, B. (2003). Identification of aggressive and asocial victims and the stability of their peer victimization. *Merrill-Palmer Quarterly*, 49, 401–425.
- McEvoy, M. A., Estrem, T. L., Rodriguez, M. C., & Olson, M. L. (2003). Assessing relational and physical aggression among preschool children: Inter-method agreement. *Topics in Early Childhood Special Education*, 23, 53–63.
- McGraw, K. O., & Wong, S. P. (1996). Forming inferences about some intra-class correlation coefficients. *Psychological Methods*, 1, 30–46. doi:10.1037/1082989X.1.1.30
- Miller, A. L., Fine, S. E., Kiely-Gouley, K., Seifer, R., Dickstein, S., & Shields, A. (2006). Showing and telling about emotions: Interrelations between facets of emotional competence and associations with classroom adjustment in Head Start preschoolers. *Cognition & Emotion*, 20, 1170–1192.
- Murray-Close, D., & Ostrov, J. M. (2009). A Longitudinal study of forms and functions of aggressive behavior in early childhood. *Child Development*, 80, 828–842. doi:10.1111/j.1467-8624.2009.01300.x
- Muthén, L. K., & Muthén, B. O. (1998–2009). *Mplus user's guide*, fifth edition. Los Angeles, CA: Muthén & Muthén.
- Nelson, D. A., & Crick, N. R. (1999). Rose-colored glasses: Examining the social information-processing of prosocial young adolescents. *Journal of Early Adolescence*, 19, 17–38. doi:10.1177/0272431699019001002
- Nelson, D. A., & Crick, N. R. (2002). Parental psychological control: Implications for childhood physical and relational aggression. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 161–189). Washington, DC: American Psychological Association.
- Nelson, D. A., Robinson, C. C., & Hart, C. (2005). Relational and physical aggression of preschool-age children: Peer status linkages across informants. *Early Education and Development*, 16, 115–139. doi:10.1207/s15566935eed1602_2
- Nelson, D. A., Yang, C., Coyne, S. M., Olsen, J. A., & Hart, C. H. (2013). Parental psychological control dimensions: Connections with Russian preschoolers' physical and relational aggression. *Journal of Applied Developmental Psychology*, 34, 1–8. doi:10.1016/j.appdev.2012.07.003.
- Onchwari, G., & Keengwe, J. (2011). Examining the relationship of children's behavior to emotion regulation ability. *Early Childhood Education Journal*, 39, 279–284. doi:10.1007/s10643-011-0466-9
- Ostrov, J. M. (2008). Forms of aggression and peer victimization during early childhood: A short-term longitudinal study. *Journal of Abnormal Child Psychology*, 36, 311–322. doi:10.1007/s10802-007-9179-3
- Ostrov, J. M. (2010). Prospective associations between peer victimization and aggression. *Child Development*, 81, 1670–1677. doi:10.1111/j.1467-8624.2010.01501.x
- Ostrov, J. M., & Godleski, S. A. (2013). Relational aggression, victimization, and adjustment during middle childhood. *Development and Psychopathology*, 24, 801–815. doi:10.1017/S0954579413000187
- Ostrov, J. M., Kamper, K. E., Hart, E. J., Godleski, S. A., & Blakely-McClure, S. J. (2014). A gender-balanced approach to the study of peer victimization and aggression subtypes in early childhood. *Development and Psychopathology*, 26, 575–587. doi:10.1017/S0954579414000248
- Ostrov, J. M., & Keating, C. F. (2004). Gender differences in preschool aggression during free play and structured interactions: An observational study. *Social Development*, 13, 255–277.
- Ostrov, J. M., Massetti, G. M., Stauffacher, K., Godleski, S. A., Hart, K. C., Karch, K. M., ... Ries, E. E. (2009). An intervention for relational and physical aggression in early childhood: A preliminary study. *Early Childhood Research Quarterly*, 24, 15–28. doi:10.1080/15374410802148137
- Ostrov, J. M., Murray-Close, D., Godleski, S. A., & Hart, E. J., (2013). Prospective associations between forms and functions of aggression and social and affective processes during early childhood. *Journal of Experimental Child Psychology*, 116, 19–36.
- Ostrov, J. M., Ries, E. E., Stauffacher, K., Godleski, S. A., & Mullins, A. D. (2008). Relational aggression, physical aggression and deception during early childhood: A multi-method, multi-informant, short-term longitudinal study. *Journal of Clinical Child and Adolescent Psychology*, 37, 664–675.
- Ostrov, J. M., Woods, K. E., Jansen, E. A., Casas, J. F., & Crick, N. R. (2004). An observational study of delivered and received aggression, gender, and social-psychological adjustment in preschool: "This white crayon doesn't work..." *Early Childhood Research Quarterly*, 19, 355–371.
- Pellegrini, A. D. (2004). *Observing children in their natural worlds: A methodological primer*. (2nd ed.). Mahwah, NJ: Erlbaum.
- Perry, D. G., Hodges, E. V. E., & Egan, S. K. (2001). Determinants of chronic victimization by peers: A review and new model of family influence. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 73–104). New York, NY: Guilford.
- Perry, D. G., Kusel, S. J., & Perry, L. C. (1988). Victims of peer aggression. *Developmental Psychology*, 24, 807–814.
- Pope, A. W., & Bierman, K. L. (1999). Predicting adolescent peer problems and antisocial activities: The relative roles of aggression and dysregulation. *Developmental Psychology*, 35, 335–346.
- Prinstein, M. J., Boergers, J., & Vernberg, E. M. (2001). Overt and relational aggression in adolescents: Social-psychological adjustment of aggressors and victims. *Journal of Clinical Child Psychology*, 30, 479–491.
- Rosen, P. J., Milich, R., & Harris, M. J. (2012). Dysregulated negative emotional reactivity as a predictor of chronic peer victimization in childhood. *Aggressive Behavior*, 38, 414–427. doi:10.1002/ab.21434
- Rubin, K. H., Bukowski, W., & Parker, J. G. (2006). Peer interactions, relationships, and groups. In N. Eisenberg (Ed.), *Handbook of child*

- psychology, Volume 3: Social, emotional, and personality development* (6th ed., pp. 571–645). New York, NY: Wiley.
- Rudolph, K. D., Troop-Gordon, W., & Flynn, M. (2009). Relational victimization predicts children's social-cognitive and self regulatory responses in a challenging peer context. *Developmental Psychology, 45*, 1444–1454. doi:10.1037/a0014858.
- Salmivalli, C., & Helttenuori, T. (2007). Reactive, but not proactive aggression predicts victimization among boys. *Aggressive Behavior, 33*, 198–206. doi:10.1002/ab.20210
- Salmivalli, C., & Isaacs, J. (2005). Prospective relations among victimization, rejection, friendlessness, and children's self- and peer-perceptions. *Child Development, 76*, 1161–1171. doi: 10.1111/j.1467-8624.2005.00841.x-i1
- Schwartz, D. (2000). Subtypes of aggressors and victims in children's peer groups. *Journal of Abnormal Child Psychology, 28*, 181–192.
- Schwartz, D., McFadyen-Ketchum, S., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1999). Early behavior problems as a predictor of later peer group victimization: Moderators and mediators in the pathways of social risk. *Journal of Abnormal Child Psychology, 27*, 191–201. doi:10.1023/A:1021948206165.
- Shields, A., & Cicchetti, D. (1997). Emotion regulation among school-age children: The development and validation of a new criterion Q-sort scale. *Developmental Psychology, 33*, 906–916.
- Shields, A., & Cicchetti, D. (2001). Parental maltreatment and emotional dysregulation as risk factors for bullying and victimization in middle childhood. *Journal of Clinical Child Psychology, 30*, 349–363.
- Shields, A., Ryan, R. M., & Cicchetti, D. (2001). Narrative representations of caregivers and emotion dysregulation as predictors of maltreated children's rejection by peers. *Developmental Psychology, 37*, 321–337.
- Sullivan, T. N., Farrell, A. D., & Kliewer, W. (2006). Peer victimization in early adolescence: Associations between physical and relational victimization and drug use, aggression, and delinquent behaviors among urban middle school students. *Development and Psychopathology, 18*, 119–137. doi: 10.1017/S09545794060007X
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston, MA: Allyn and Bacon.
- Werner, N. E., & Crick, N. R. (1999). Relational aggression and social-psychological adjustment in a college sample. *Journal of Abnormal Psychology, 108*, 615–623.
- Werner, N. E., & Crick, N. R. (2004). Maladaptive peer relationships and the development of relational and physical aggression during middle childhood. *Social Development, 13*, 496–514. doi: 10.1111/j.1467-9507.2004.00280.x