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Preschoolers' aggression and parent–child conflict: A multiinformant and multimethod study

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Abstract

This multiinformant and multimethod study ($N = 47$) investigated the link between the parent–child relationship system and the display of physical and relational aggression with peers at school during early childhood. Children (mean age = 43.54 months, $SD = 8.02$) were observed (80 min/child) during free play, and parents and teachers were asked to complete several standard measures. Intercorrelations between aggression subtypes revealed moderate to high levels of correlation for parents and teachers and no significant association for observations of physical and relational aggression. Interinformant agreement was examined, and teachers and parents were found to significantly agree for both physical and relational aggression, and teachers and observers also significantly agreed for both subtypes of aggression. Results of regression analyses suggest that parent–child conflict was uniquely associated with relational aggression among peers when controlling for physical aggression and gender. Ways in which these findings build on the extant literature are discussed.

Keywords: Relational aggression; Physical aggression; Parent–child relationship; Early childhood; Observation; Peer

Introduction

Recently, researchers have begun to focus their attention on the use of relational aggression during early childhood (e.g., Crick, Casas, & Mosher, 1997; Hawley, 2003;

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Nelson, Robinson, & Hart, 2005; Ostrov & Keating, 2004). Previous research typically has found that relational aggression is more common in preschool girls than in preschool boys, whereas preschool boys display more physical aggression than their female peers (e.g., Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003; Crick et al., 2006; cf. Estrem, 2005; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998). Physical aggression involves the intent to hurt, harm, or injure another person (e.g., hitting, kicking, punching), whereas relational aggression involves behaviors that damage or threaten damage to relationships (e.g., malicious gossiping, peer exclusion) (Crick & Grotpeter, 1995). Relational aggression often is direct in nature during early childhood (e.g., "You can't play with us" [Ostrov & Keating, 2004]) and is associated with adjustment difficulties such as peer rejection and loneliness for the perpetrators and their victims (Crick et al., 1997; Crick et al., 2006; Ostrov, Woods, Jansen, Casas, & Crick, 2004).

Parent–child relationships and aggression during early childhood

Past theory has focused on two dimensions of parenting practices that have been identified as (a) behavioral or psychological "control" and (b) acceptance, sensitivity, or an "emotional relationship" (Cummings, Davies, & Campbell, 2000, p. 162). Parent–child hostility, defined as harsh and inconsistent parental control combined with low levels of warmth or acceptance, tends to be associated with parent–child conflict (Cummings et al., 2000). Moreover, in past research, parent–child hostility has been found to predict externalizing problems such as physical aggression (Cummings et al., 2000). Studies exploring these theoretical dimensions have found that both parent–parent and parent–child relationships are linked to aggressive behavior in children during early childhood. For example, a cross-cultural study conducted with Russian children found less paternal responsiveness and more maternal coercion to be positively associated with physical and relational aggression (Hart et al., 1998). Hart and colleagues (1998) also found that marital conflict was associated with relational aggression, but only for boys. In a study conducted in the United States and Australia, children were found to model the relationship they had with their parents and to use a similar approach when interacting with peers (Russell, Hart, Robinson, & Olsen, 2003). Nelson, Hart, Yang, Olsen, and Jin (2006) found in a Chinese sample that psychological control (i.e., use of parenting techniques such as love withdrawal designed to limit children's self-expression) was linked to aggression (both physical and relational) in girls, whereas physical coercion was associated with physically aggressive behaviors in boys. In agreement with Nelson and colleagues, Casas and colleagues (2006) found that psychological control (e.g., guilt induction) was associated with teacher-reported relational aggression in girls. Finally, a recent study using a diverse sample of 5- to 8-year-olds found that negative maternal affect was positively associated with teacher-reported relational aggression (Brown, Arnold, Dobbs, & Doctoroff, 2007). These past studies point to the complexity of this growing literature and suggest important differences based on the gender of the child.

Current study and hypotheses

The current study was conducted to investigate several empirical goals, including testing whether the intercorrelations between physical and relational aggression depend on the source of data and whether the association between parent–child conflict and children's

physical and relational aggression depends on the informant type. More specifically, this study was designed to build on past findings by exploring the role of parent–child conflict, a construct that is related to parenting practices such as psychological control or coercion, but rather than being an individual characteristic of the parent, parent–child conflict is a product of the dynamic bidirectional relationship between the parent and the child. Thus, similar to the past literature (e.g., Casas et al., 2006), we explored the impact of the family system and the potential moderating role of gender in aggressive behavior. To our knowledge, no study has yet tested the association between parent–child conflict and relational aggression using various methods during any developmental period. Given the documented positive association between socioeconomic status (SES) and relational aggression (Bonica et al., 2003; McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996), it is important to explore whether it is necessary to statistically control for these influences. Unlike some past studies (cf. Prinstein, Boergers, & Vernberg, 2001), we controlled for the variance associated with the alternative subtype of aggression. This practice permits an exploration of the unique amount of variance associated with each subtype of aggression.

This study had three central empirical goals. First, we explored the intercorrelations between physical and relational aggression (i.e., the association between physical and relational aggression) for the three informant types (parents, teachers, and observers). Conceivably, shared method variance will artificially inflate the intercorrelations for parent and teacher reports, but observations are based on multiple observers over several sessions, likely reducing this risk (Casas et al., 2006; Crick et al., 2006). Thus, we hypothesize moderate to high levels of correlation between physical and relational aggression constructs for teacher and parent reports, and we hypothesize low levels of association between the aggression subtypes for observations of these aggression subtypes. Second, we explored the interinformant agreement (i.e., the association between the informants) for physical and relational aggression across three informant types. Casas and colleagues (2006) examined the concordance between parents and teachers and found significant amounts of agreement among mothers and teachers for physical aggression but not relational aggression. Fathers and teachers significantly agreed for physical aggression and tended to agree for relational aggression (Casas et al., 2006). To our knowledge, no other studies have examined interinformant agreement across parents, teachers, and observers.

Pellegrini and Bartini (2000) made the distinction between private (ipsative) and public (normative) assessments of victimization and aggression. They found that direct observation measures of social behavior were related to teacher ratings and some peer ratings but not to private assessments such as diaries and self-reports. The authors further argued that some instances of aggression are secretive and quickly displayed, and they suggested that future observational techniques be designed for rare events to capture infrequently occurring behaviors (Pellegrini & Bartini, 2000). Pellegrini (2001) further called for additional studies with multiple methods and informants, including direct observation, to examine correlations across sources of data. In keeping with this past work, we anticipated moderate levels of agreement for both aggression subtypes between teachers and observers (e.g., Crick et al., 2006; Ostrov, 2006; Ostrov & Keating, 2004) and low but significant amounts of concordance between parents (i.e., privy to more private displays of aggression) and teachers (Casas et al., 2006) and between parents and observers. Third, we investigated how parent–child conflict affects concurrently observed physical and relational aggression with peers at school during early childhood when controlling for the alternative

aggression construct and gender (Brown et al., 2007). We hypothesize that parent–child conflict will be positively and uniquely associated with both observed and teacher-reported relational and physical aggression.

To address these three empirical goals, we conducted time-intensive naturalistic observations of aggression subtypes at school and obtained both teacher and parent reports of physical and relational aggression during early childhood. In addition, we obtained parent reports of parent–child conflict, and for validity purposes we collected teacher reports of student–teacher conflict.

Method

Participants

All of the parents who provided written consent for their children to participate in the larger ongoing study (e.g., Ostrov, in press) were invited to have one parent or legal guardian complete a parent questionnaire packet to be distributed and returned via mail. The participating preschools, all located in a large city in the northeastern United States, were four nationally accredited, university/college-affiliated child care centers. Parents who completed the packet were given a $10 gift certificate to compensate them for their time. A basic family information questionnaire adapted from the Media Quotient (Gentile & Walsh, 2002) was used to determine parents' gender, ethnicity, education level, income, and marital status.

Packets for 47 children (30 girls and 17 boys) were completed by parents, 43 of whom were mothers (91.5%) and 4 of whom were fathers (8.5%). The ethnic breakdown of families was 63.8% Caucasian, 14.9% African American, 10.7% Asian, 2.1% Native American, 2.1% Latino, and 6.4% other/unknown. Most of the parents reported that they were married (87.2%), with 8.5% reporting they were single, 2.1% divorced, and 2.1% in other situations. Many families reported that they spoke a second language in the home (32.6%), whereas most did not (67.4%). The children were on average 43.54 months old ($SD = 8.02$) at the start of the study. Based on reported yearly family income (where 1 = *less than $15,000* and 6 = *more than $100,000*) and parental education level, children were primarily from middle-class families. The mean family income was between $55,000 and $100,000. The parental education level typically was a 4-year college degree.

Classrooms were primarily multiage and had a head teacher and one or two assistant teachers. Classrooms typically had 12 to 18 children. Children attended the child care center on average 29.06 hours per week ($SD = 13.55$). Teachers had been employed at the school for an average of 74.85 months ($SD = 56.76$). Of the head teachers who completed packets for the study, approximately 25% had a bachelor's degree and 50% had a master's or other advanced degree. There were few differences between schools. At one school, a university laboratory school, teachers were significantly more likely to have an advanced degree than were teachers at the other child care centers. Teachers at this school were enrolled in a PhD program in early childhood education, but they also reported significantly less time employed at the school than did teachers at the more traditional child care centers. Children at the laboratory school attended school less (i.e., fewer hours per week) than did children at the other centers. There were no other systematic differences across the schools.

Measures

Parent–child relationship qualities measure

Each parent completed a questionnaire about the interactions he or she has with the focal child (Crick, 2006b). This measure, the Parent Qualities Measure (PQM), had 35 items on a 5-point rating scale ranging from 1 (*not at all true*) to 5 (*always true*). Additional subscales were collected for the purposes of a different study. The PQM had 4 items on conflict (e.g., "I get mad at my child," "My child gets mad at me," "My child annoys me") with Cronbach's $\alpha = .73$. An additional subscale had 3 items on the child's use of physical aggression toward the parent (e.g., "When my child is mad at me, s/he hits and kicks me") with Cronbach's $\alpha = .80$. Conceptually, parent–child conflict and aggression within the dyad would be related. Thus, for validation purposes, these two subscales were correlated and found to be significantly associated ($r = .29$, $p = .047$).

Student teacher relationship scale

To further support the validity of the PQM parent–child conflict subscale, correlations were conducted between this measure and student–teacher conflict as reported by the head teachers using the Student Teacher Relationship Scale (STRS) (Pianta, Steinberg, & Rollins, 1995). Teachers responded on a 5-point scale from 1 (*definitely does not apply*) to 5 (*definitely applies*). The STRS conflict subscale had 12 items (e.g., "This child and I always seem to be struggling with each other," "This child sees me as a source of punishment and criticism," "This child easily becomes angry with me") with Cronbach's $\alpha = .83$. The partial correlation between PQM conflict and STRS conflict, when controlling for age and how often the child attended the child care center, was in the appropriate direction and approached significance ($pr = .25$, $p = .058$).

Children's social behavior–parent report

Each parent completed a questionnaire that measured how often the child displayed various aggressive and prosocial behaviors outside of the home (Casas et al., 2006). This measure was similar to the instrument used by Casas and colleagues (2006) (i.e., identical items for relational and physical aggression) but included a few additional items for each subscale originally developed by Crick (2006a). The Children's Social Behavior–Parent Report (CSB-P) had 13 items on a 5-point Likert-type scale ranging from 1 (*never true*) to 5 (*almost always true*). Relational aggression was measured with 5 items (e.g., "spreads rumors, secrets, or gossips about other kids"), physical aggression was measured with 4 items (e.g., "hits or kicks other kids"), and prosocial behavior was measured with 4 items (e.g., "says supportive things to other kids") and served as positively toned filler items to avoid a negative response bias. Casas and colleagues (2006) showed moderate correlations between parents for relational aggression ($r = .44$, $p < .01$) and for physical aggression ($r = .37$, $p < .01$) using a modified version of the measure. In the current study, the CSB-P showed internal consistency with a Cronbach's α of .71 for physical aggression

and .67 for relational aggression, suggesting that some caution is needed when interpreting the latter subscale.

Observations of physical and relational aggression

School-based focal child sampling with continuous recording observations were conducted for physical and relational aggression using procedures developed by Ostrov and Keating (2004) and revised by Crick and colleagues (2006). Each child was observed for eight separate 10-min sessions by a trained observer for 8 weeks. Interrater reliability was assessed for 15% of the total observations during the 8-week assessment period. Past research, with independent samples, has found interrater reliability to be favorable (Ostrov & Keating, 2004) and has demonstrated acceptable validity (Crick et al., 2006; Ostrov & Keating, 2004; for a review, see Leff & Latkin, 2005). Prior to data collection, observers were required to complete several readings, pass a written multiple choice/matching exam, code videotapes of children's aggressive behaviors, and conduct live observations with the trainer. Observers maintained a minimally responsive manner to reduce reactivity (Pellegrini, 2004) and spent a minimum of 2 days in the room prior to conducting observations to allow children an opportunity to acclimate to their presence and reduce any reactivity issues. If needed, additional time was allowed until children no longer were reactive to the observers. For this study, reactivity was defined as any case in which the focal child interacted with the observer, commented about the observations, or looked at the observer. Reactivity occurred on average only 1.5 times per focal child, a relatively low rate (see Crick et al., 2006).

At the start of the observation session, the observers randomly selected the first child they saw engaged in play with the caveats that (a) each child was observed only one time per day and (b) an equal number of observation sessions was maintained across the children in the room. If children went out of range for more than 30 s, the session was stopped and continued later that day, if possible, or was redone from the start on another day. During the 10-min observational interval, observers recorded detailed descriptions of the physical aggression (e.g., hitting, kicking, taking objects), relational aggression (e.g., malicious gossiping, spreading rumors, ignoring, excluding), and prosocial behaviors (e.g., sharing, helping, including) that occurred between the focal child and other children. Behaviors such as gossiping and ignoring were included only if they were malicious or were used to hurt, harm, or injure another person. Therefore, disengaging from an activity would not be counted as relational aggression, but giving a child the malicious silent treatment would be. The type of behaviors the focal child displayed to peers and received from peers (for purposes of a different study) was recorded. All children had eight complete sessions that were summed to create total scores for each behavior of interest. Reliability was assessed throughout the study to avoid observer drift problems. The intraclass correlation coefficients (ICCs) were greater than .72 for both physical and relational aggression.

The Preschool Social Behaviors Scale–Teacher Form (PSBS-TF) was given to the head teacher in each classroom to assess preschool children's relational and physical aggression (Crick et al., 1997). This measure consisted of 29 items that assessed relational aggression (e.g., "This child tries to get others to dislike a peer"), physical aggression (e.g., "This child hits or kicks others"), and positively toned prosocial behavior filler items (e.g., "This child is helpful to peers"). The teachers used a 5-point scale ranging from 1 (*never or almost never true*) to 5 (*always or almost always true*) to rate the degree to which the child exhib-

ited physical and relational aggression. This is a widely used measure with established validity and reliability (see Bonica et al., 2003; Crick et al., 1997; Crick et al., 2006; Ostrov & Keating, 2004). For the PSBS-TF, Cronbach's α was calculated to be greater than .80 in the study for all subscales.

Procedure

The study was approved by the local social and behavioral sciences institutional review board. The home addresses that were provided with the initial consent document were used to mail out materials to the parents. Twelve head teachers reported on each child, a process that took approximately 15 min per child, and were given a $25 gift certificate for their participation. Research assistants completed 80 min of free play observation (per child) at school before and just after the parent ratings and teacher ratings were collected. Observations were conducted by eight female advanced undergraduate students and four female graduate students (used primarily for training and reliability purposes). Observations occurred during the fall, approximately 2 months after the start of the academic year, so that children and teachers had an opportunity to get to know one another and to acclimate to the school context. All observers were unaware of the key goals and hypotheses of this study.

Results

The study was designed to test three objectives. Collectively, these objectives concern the role of the source of data and potential differences between informants concerning physical and relational aggression during early childhood. The first goal was to replicate and extend prior findings on the intercorrelations between physical and relational aggression across the three types of measures and informants. The second goal was to replicate and extend the past literature concerning correlations among parents, teachers, and observers for both physical and relational aggression. The third key study objective was to test the association between parent–child conflict and aggression subtypes using both teacher reports and observational data. These analyses were designed to test for unique effects by controlling for the alternative aggression subtype and gender.

Preliminary analyses

Preliminary data analyses revealed that there were no skewness problems (i.e., all values < 3) or kurtosis problems (all values < 8) (Kline, 1998), suggesting that nonnormality of the data was not a concern. Descriptive statistics were calculated (Table 1) and seem consistent with past studies (Crick et al., 2006).

Intercorrelations

A series of analyses was conducted to test the degree of intercorrelation between physical and relational aggression across the three measures (Table 1). As predicted, the intercorrelation between physical and relational aggression using observational data was small

Table 1
Descriptive statistics and association between parent–child relationship variables and aggression subtypes

	1	2	3	4	5	6	7
1. Physical aggression, observations	–						
2. Relational aggression, observations	.12	–					
3. Physical aggression, teacher reports	.30**	.22	–				
4. Relational aggression, teacher reports	.08	.38***	.53***	–			
5. Physical aggression, parent reports	.26	−.06	.45**	.38**	–		
6. Relational aggression, parent reports	−.05	.13	.20	.40**	.50***	–	
7. Parent–child conflict, parent reports	.02	.26	.33*	.49***	.28+	.20	–
M	2.60	0.98	15.88	16.83	7.24	10.36	10.71
SD	2.79	1.36	2.56	6.43	2.76	3.36	2.04
Range	0–13	0–7	6–18	8–30	4–15	5–18	4–15

+ $p < .06$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

and not significant. In contrast, the intercorrelations between physical and relational aggression were moderate and significant for both parent and teacher reports. These findings extend prior literature by including an assessment of the three informant types (parents, teachers, and observers) and further suggest that controlling for the alternative subtype of aggression is an appropriate practice, especially when using parent-report or teacher-report assessments. To be consistent across models, we controlled for the alternative subtype of aggression in all subsequent regression analyses.

Interinformant agreement

To assess the degree of agreement among informants, a series of correlations was calculated among parents, observers, and teachers (Table 1). For relational aggression, agreement between parents and observers was not significant, whereas it was significant between parents and teachers. For physical aggression, parents and observers did not significantly agree, whereas parents and teachers did significantly agree. For both relational and physical aggression, observers agreed with teachers.

Parent–child interactions and aggression

The relation between parent–child conflict and aggression subtypes was first assessed through correlational analyses (Table 1). Parent–child conflict (parent-reported) was positively correlated with concurrent teacher-reported relational and physical aggression and tended to be associated with parent-reported physical aggression.

Regression analyses

Given the relatively high intercorrelations between teacher-reported relational and physical aggression found in past research (e.g., Crick et al., 2006) and in the current study, regression analyses were conducted to isolate the unique amount of variance asso-

Table 2
Regression models for unique associations between teacher-reported and observed physical and relational aggression and parent-reported parent–child conflict

Outcome, step, predictors	β	F, ΔF	R^2	ΔR^2
Model 1: Physical aggression, teacher reports				
Step 1		(2, 38) = 14.81, $p < .001$	.44	
Gender	–.39**			
Relational aggression, teacher reports	.59***			
Step 2		(1, 37) = 0.11, $p = .74$		.002
PQM conflict	.05			
Model 2: Relational aggression, teacher reports				
Step 1		(2, 38) = 12.27, $p < .001$	.39	
Gender	.34**			
Physical aggression, teacher reports	.64***			
Step 2		(1, 37) = 8.20, $p = .007$		.11
PQM Conflict	.36**			
Model 3: Physical aggression observations				
Step 1		(2, 43) = 0.46, $p = .64$	.02	
Gender	–.15			
Relational aggression observations	.05			
Step 2		(1, 42) = 0.002, $p = .96$		.00
PQM conflict	–.008			
Model 4: Relational aggression observations				
Step 1		(2, 43) = 0.97, $p = .39$	.04	
Gender	.21			
Physical aggression observations	.05			
Step 2		(1, 42) = 3.79, $p = .058$		.08
PQM conflict	.28			

Note. Gender: 1 = boy, 2 = girl.
** $p < .01$.
*** $p < .001$.

ciated with each subtype of aggression (Table 2).[1] Despite nonsignificant overlap between physical and relational aggression for observational data (Table 1), we controlled for the alternative aggression type in observation models so as to be consistent with the teacher report models. Models were run separately with both teacher reports and observational data to compare the findings across assessment type.[2] In addition, gender was entered at Step 1 in each model as a statistical covariate. In all four models, the interaction between parent–child conflict and gender was entered at Step 3 but was not significant,

[1] A socioeconomic status (SES) index ($M = 15.88$, $SD = 2.56$, range = 6–18) was created by averaging across the three 6-point scales that included total household income from 1 (*under $15,000*) to 6 (*over $100,000*) and highest parental education level for each parent/adult living in the home from 1 (*some high school*) to 6 (*graduate or professional degree*). SES was significantly correlated only with parent-reported physical aggression ($r = -.32$, $p = .047$). Because parent reports of aggression were not used in the regression models, SES was not treated as a covariate. Age (in months) was correlated only with parent-reported relational aggression ($r = .47$, $p = .002$), and because parent reports were not used in the regression models, age was not treated as a covariate.

[2] Analyses were run excluding the four cases in which father reports were used, and the analyses were virtually identical. The magnitude of effects was slightly reduced, but no major changes were evident. Thus, the entire sample was used for all analyses.

and for ease of communication it is not discussed further. In Model 1, teacher-reported relational aggression was entered at Step 1, parent-reported conflict was entered at Step 2, and teacher-reported physical aggression served as the dependent variable. Parent–child conflict did not significantly predict unique amounts of variance in teacher-reported physical aggression. Model 2 was similar to Model 1 except that the dependent variable was teacher-reported relational aggression. Parent–child conflict uniquely predicted a significant amount of variance in teacher-reported relational aggression above and beyond the role of physical aggression and gender. Model 3 was identical to Model 1 but used observational data rather than teacher-report methods. Parent–child conflict did not uniquely predict observed physical aggression when controlling for observed relational aggression and gender. The final model was identical to Model 2 but relied on observational methods. Parent–child conflict tended ($p = .058$) to be associated with observed relational aggression when controlling for observed physical aggression and gender.

Discussion

The current study had three empirical objectives. These goals broadly address the role of the source of data and potential differences between informants concerning physical and relational aggression during early childhood. The first objective was to test the intercorrelations between physical and relational aggression using three different informant types (parents, teachers, and observers). The second goal was to test the interinformant agreement for both physical and relational aggression. Finally, the third purpose was to provide a greater understanding of parent–child relationship influences (i.e., parent–child conflict) on children's physical and relational aggression with peers during early childhood and to test whether these associations were different based on the source of data. This study was designed to extend the past research in novel ways by focusing on parent–child conflict using time-intensive observational methods (i.e., 80 min of observation per child or a total of 3760 min of observation) and teacher reports.

First, in keeping with past findings (Casas et al., 2006; Crick et al., 2006), intercorrelations between physical and relational aggression were significant for teachers and parents ($rs > .50$) but were not significant for observations ($r = .12$). Because multiple observers across several days contributed data to the observations, there was a lower likelihood of shared method variance influencing the observations, whereas the single informant for parents and teachers may have artificially inflated the relation between the physical and relational aggression variables. These findings are consistent with past studies that have documented moderate to high levels of overlap between physical and relational aggression when using a single informant method (e.g., teacher reports) for assessing both subtypes of aggression (e.g., Crick et al., 1997; Hart et al., 1998; Hawley, 2003). A second possibility is that ratings from teachers and parents are due to an overall impression of aggressiveness that influences the rating of each subtype of aggression similarly. These potential biases have led other researchers to call for the use of more direct observations of social behavior during early childhood (Pellegrini et al., 2007; Roseth, Pellegrini, Bohn, Van Ryzin, & Vance, 2007). In sum, low and nonsignificant levels of correlation between physical and relational aggression were revealed when using observational methods, whereas moderate to high levels of association were found with teacher and parent methods. These findings have implications for the selection and use of various types of infor-

mants and methods when studying aggressive behavior during early childhood. The best practice may be to use multiple informants, multiple methods, and (when possible) observational methods (Pellegrini, 2001).

Second, in keeping with Casas and colleagues (2006), we found significant associations between parents and teachers for physical and relational aggression. Casas and colleagues did not include observations of aggressive subtypes in their study. Consistent with past studies (e.g., Crick et al., 2006; Ostrov & Keating, 2004), we revealed that teachers and observers were found to have moderate levels of agreement for both physical and relational aggression. In the first known test of their association, observers and parents did not statistically correspond, but the effects were in the correct direction and it is likely that with additional power we would have detected this effect. Observations and teacher reports, which may be considered "public" assessments, significantly corresponded, whereas more private sources of data such as parent reports were not associated with direct observations (Pellegrini & Bartini, 2000). Interestingly, parent and teacher reports did correspond, perhaps due to greater communication between these informants. Importantly, across all raters, the low to moderate correlations suggest that, despite some overlap, the subtypes of aggression are independent constructs, and this is an important contribution to the developmental literature. More important, these findings add important validity to the observational procedures and methods used in the current study, which supports the reliability and validity of this school-based observational coding system (for a review, see Leff & Latkin, 2005).

The third goal of the study was to measure the associations between parent-reported parent–child conflict and aggressive behavior using both teacher-reported and observed relational and physical aggression. As predicted, correlations indicated that parent–child conflict was associated with teacher-reported relational aggression. The regression analyses indicate that only teacher-reported relational aggression was uniquely associated with parent–child conflict when controlling for the alternative subtype of aggression. These findings tended ($p = .058$) to be replicated when observational methods were used. It is not clear why the findings are not more robust when using observational methods. Perhaps parent–child conflict is significantly associated with teacher reports of aggression only because observers were not privy to all cases of aggressive behavior and missed some events (Pellegrini & Bartini, 2000). Future research is needed to replicate these effects and test other possible mechanisms. For example, perhaps student–teacher conflict mediates the parent–child conflict and child aggression relation. In general, the current results support the hypothesis that parent–child conflict was uniquely associated with children's display of relational aggression at school. Past studies revealed that maternal coercion and psychological control were associated with relational aggression in children (Casas et al., 2006; Hart et al., 1998), and the current findings extend this literature to include the parent–child relationship system rather than just parenting practices that influence relational aggression.

Parent–child conflict did not uniquely predict physical aggression as hypothesized. Perhaps the nature of the parent–child interactions is more consistent with relational themes than with instrumental situations. The new findings for this third goal are an important step in our understanding of the potential mechanism(s) by which conflict within the parent–child relationship system influences relational aggression with peers. Moreover, these findings justify conducting prospective studies to explore the specific direction of effect and mechanisms involved in this association. That is, does parent–child conflict predict future

relational aggression, or does relational aggression predict changes in parent–child conflict? In addition, prospective studies could test whether conflict in the parent–child relationship system predicts changes in relational aggression with peers in and outside of the school context. Past research has revealed that functions of relational aggression (i.e., proactive and reactive relational aggression) are associated with future student–teacher conflict (Ostrov & Crick, 2007), suggesting that a similar pattern may hold for the parent–child relationship system. However, past research has documented that mothers report lower negative affect and a smaller likelihood of intervening for hypothetical relational aggression situations than for physical aggression displayed by their children during early childhood (Werner, Senich, & Przepyszny, 2006). Thus, the question remains as to whether relational aggression will predict future parent–child conflict if it is not interpreted as problematic by parents. There is evidence that parent–child conflict predicts future externalizing problems such as physical aggression (Cummings et al., 2000). Perhaps future studies will reveal similar prospective links for relational aggression as well.

The current study yielded several novel findings. Specifically, we demonstrated that the overlap between physical and relational aggression is more orthogonal for observational assessments than for parent and teacher reports. To our knowledge, this is the first study to test the agreement across three different informant types for relational aggression, and we found that parents and teachers, as well as teachers and observers, agreed with respect to physical and relational aggression. Finally, this is the first known study to document the unique association between relational aggression and parent–child conflict even when controlling for physical aggression and gender.

Given these novel contributions to the literature, it is important to recognize that there were limitations with the study. First, the parents in this sample were highly educated and predominantly middle class, and results might not generalize to other more diverse populations. Second, given the multiple informants and use of time-intensive observational methods, our sample size was small ($N = 47$) and our analyses were underpowered. Third, future studies should look for potential differences between mother and father reports. The current study did not have a sufficient number of father respondents to explore differences based on the gender of the parent that have been found to be important in past studies (e.g., Nelson et al., 2006). Fourth, future studies with larger samples and a structural equation modeling (SEM) framework could explore how parent–child conflict is associated with a latent measure of relational aggression that could be composed of parent, teacher, and observer data. Finally, psychologists often call for an ecological framework and the exploration of multiple contexts for understanding developmental phenomena (Bronfenbrenner, 1986). Despite this call, this rarely has occurred for the study of relational aggression. Children's behavior at school and home may be different, and future studies in multiple contexts are needed. Future research exploring the role of context and relying on observations at school and in the home (e.g., siblings, friends) would help to further explore these effects (Stauffacher & DeHart, 2005).

In conclusion, this study underscores the importance of using multiple methods and multiple informants (see Pellegrini et al., 2007) and suggests further utility for direct observational methods of physical and relational aggression during early childhood (Leff & Latkin, 2005; Roseth et al., 2007). Finally, our results provide important developmental implications for the role of the parent–child relationship system, specifically the degree of conflict in that relationship and young children's physical and relational aggression with peers during early childhood.

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