School Mental Health (2022) 14:709–723
https://doi.org/10.1007/s12310-021-09498-8

ORIGINAL PAPER

Identifying Relationally Aggressive Students: How Aligned are Teachers and Peers?

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Accepted: 28 December 2021 / Published online: 10 January 2022

Abstract

Relational aggression is characterized by attempts to damage another's relationships or social status and is a major concern affecting academic, socioemotional, behavioral, and health outcomes, particularly for urban, minority youth. Teachers and peers frequently disagree about which students are relationally aggressive. Factors associated with peer and teacher discordant and concordant identification of relationally aggressive students were explored including prosocial behavior, perceived popularity, academic competence, and gender. Participants included 178 3rd–5th grade students across 11 urban classrooms. Findings revealed that students were more likely to be rated as relationally aggressive by their peers but not their teacher as scores on peer nominations for prosocial behavior decreased, while teacher-rated academic motivation/participation increased. Female students were more likely to be concordantly identified by peers and teachers as relationally aggressive when ratings for overt aggression increased. These results highlight the utility of obtaining ratings from multiple informants as well as the difficulty in accurately identifying all students who may benefit from interventions targeting relational aggression. Findings also suggest factors that may be related to the potential shortcomings of current measures and provide avenues for additional research to improve detection of relationally aggressive students.

Keywords Relational aggression · Multiple-informant · Prosocial behavior · Academic competence · Gender · And perceived popularity

Introduction

Aggression in schools is a major contributor to various negative outcomes for students including academic performance, socioemotional well-being, behavior, and physical health (McDougall & Vaillancourt, 2015). For conceptual clarity, aggression is defined here as any negative act directed toward another peer as a result of anger or upset. Relatedly, the term bullying represents aggressive acts perpetrated repeatedly where the bully is in a position of greater power than the victim (Carney & Merrell, 2001). Thus, all bullying is aggression, but not all aggression is bullying. We utilize the broader definition of aggression to capture a wider range of negative behavior. Historically, a greater emphasis has been placed on addressing overt aggression (OA; i.e., causing harm via physical or verbal means) relative to relational aggression (RA; i.e., causing damage to another's relationships or social status via exclusion or spreading rumors; Cornell & Limber, 2015). This is due in part to inaccurate perceptions that RA is less harmful than OA (Swit et al., 2018). However, numerous studies find that RA is equally, if not more, psychologically detrimental for perpetrators, victims, and witnesses in the short- and long-term (e.g., Leadbeater, 2018; McDougall & Vaillancourt, 2015). Frequently cited negative outcomes include increases in risk for depression, anxiety, somatic complaints, and conduct-related difficulties across development (McDougall & Vaillancourt, 2015; Nixon et al., 2011; Spieker et al., 2012). Studies utilizing adult report also have found negative correlations between

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RA and academic performance for perpetrators and victims (Preddy & Fite, 2012; Risser, 2013).

The prevalence of relational aggression perpetration and victimization is high in representative samples of youth in middle childhood (22–51.4%; Wang et al., 2009; Zhang et al., 2016) and is suggested to be higher among urban, Black and African American youth compared to White samples (Goldweber et al., 2013; Williams et al., 2009). For example, in a sample of urban, predominantly Black and African American 3rd, 4th, and 5th grade students, 77% reported experiencing relational aggression within a close friendship (Waasdorp et al., 2009). These rates are concerning given that low-income, Black and African American students are at greater risk for school disengagement and drop-out (Rendón, 2014). The experience of aggression is thought to be a contributing factor (Baams et al., 2017; Jones et al., 2018). Indeed, a contributor to these findings is that many schools that serve these students are systematically under-funded, limiting their ability to provide evidence-based interventions that are more often accessible to higher-income communities (Morgan & Amerikaner, 2018). In addition, it is likely that the perpetuation of structural and systemic racism (e.g., discrimination, racist school policies) further disadvantages minoritized groups who have less resources and supports in place than their White counterparts attending schools in higher-income neighborhoods (Feagin & Bennefield, 2014). Intervening early to ensure a safe and supportive school environment is critical for increasing the social, emotional, academic, and future success of urban minority youth. Thus, interventions designed to improve long-term outcomes for both perpetrators and victims are critical (Bettencourt & Farrell, 2013). Fortunately, recent national attention focused on RA has spurred a growing number of school-based prevention and intervention programs that target reductions in instances of relational aggression, particularly for use with urban Black and African American students who similarly need access to high-quality interventions (e.g., Leff et al, 2018, 2010a; Splett, 2015).

The literature has long investigated the complexities related to informant discrepancy in symptom identification broadly (e.g., Achenbach, 2011), as well as those related more specifically to bullying and school climate (e.g., Waasdorp et al., 2011). A key element in program delivery and evaluation of intervention programs is the accurate identification of relationally aggressive students. Identification is typically determined by teacher and/or peer report (e.g., Leff, et al., 2010a, 2010b; Merrell et al., 2006). However, the extant literature has indicated that teachers and peers are not consistently aligned in their perceptions of who is relationally aggressive (e.g., Cole et al., 2010; Cooley et al., 2018; De Los Reyes & Prinstein, 2004; Tomada & Schneider, 1997). Discrepancy between teachers and peers could hint at differences in how these behaviors are conceptualized by various informants and that different factors may influence identification of perpetrators. For example, Vaillancourt and colleagues (2008) found that when peers used researchers' conceptualization of various bullying behaviors, the peers reported less victimization compared to when they relied on their own understanding. However, Demaray and colleagues (2013) observed that students reported higher levels of bullying compared to teachers even when the same definition of bullying was provided to all informants. More recently, Cooley and colleagues (2018) found that peer report was a better indicator of student reactive aggression within and across grades compared to teacher report.

Informant discrepancies may be particularly relevant in instances when peers identify a student as relationally aggressive, but a teacher does not. This type of discordance may be driven by enhanced cognitive, social, emotional (Hawley, 1999), or academic skills of perpetrators that enhance their use of more covert forms of RA. Because much of the extant research has focused on understanding relational aggression among predominantly White, middle-class students, the utilization of multiple informants and methods should be an important consideration for detection efforts among urban, minority youth.

Understanding informant discordance is important for measuring response to intervention. For instance, a prior RA intervention found that teacher-rated RA scores significantly decreased following treatment, but the same was not true for peer perceptions (Leff et al., 2015). These mixed findings raise the question of whether improvements are needed for identification strategy, intervention strategy, or both. Having a better understanding of the differences in identification between teachers and peers may support more accurate identification of relationally aggressive students in need of intervention.

Informant Strengths and Limitations in Identifying Relationally Aggressive Peers

Teacher report has historically been used to identify relationally aggressive students because of their close relationship with students in the classroom as well as the efficiency and ease of this reporting method (Merrell et al., 2006). However, teachers are typically not present in the unstructured school settings (e.g., lunch, recess; Leff et al., 2004) or on social media platforms (Barlett, 2015) in which aggression is most likely to occur. It also has been suggested that teachers may place emphasis on recent events or behaviors that are unusual for the child, hold gender stereotypes (e.g., that males are not relationally aggressive), and may have less insight into student interactions compared to students (Merrell et al., 2006). Moreover, students are more likely to report

victimization to friends or a family member than to a teacher (Waasdorp & Bradshaw, 2011).

Peers are closely embedded in the social network and can provide a picture of the social landscape via peer nominations, rankings, and ratings of self and others. Utilizing a peer nomination approach is advantageous given that multiple ratings are obtained for each student across each behavior. However, peers also can be affected by gender stereotypes, changes in how RA is perceived overdevelopment, the perceived popularity of certain peers, and/or a desire to not have perpetrator or victim status known (Merrell et al., 2006). Another important consideration is that the use of RA often changes depending on the student's social rank (Closson & Hymel, 2016). Thus, a student may appear relationally aggressive in one context but not in another (Hawley & Little, 1999).

Student-Level Factors That Could Impact RA Informant Discrepancies

Prosocial Behavior

Prosocial behaviors include those that benefit others such as kindness and cooperation (Findley & Ojanen, 2013). Students who exhibit more prosocial behavior are often rated higher in social preference (LaFontana & Cillessen, 2002) and social status than peers lower in prosocial behavior (Puckett et al., 2008; Vermande et al., 2018). Findings from a meta-analysis suggested a positive correlation between prosocial behavior and RA (Card et al., 2008). Prosocial behavior also can be used to offset the negative effects of RA, by maintaining relationships, evading punishment, and maintaining the appearance of being prosocial (Heilbron & Prinstein, 2008). In addition, some studies found that females may demonstrate more prosocial behavior compared to males, or at least certain types of prosocial behavior (Damián et al., 2020; Hine, 2017). Thus, prosocial behavior may obscure RA from teachers but also effect peer perceptions.

Academic Competence

The link between perpetration of RA and academic competence behaviors (e.g., classroom participation, producing quality work, goal setting) may change depending on the informant. Woods and Wolke (2004) found that primary school students with average or above-average standardized testing scores reported higher levels of RA. However, studies that utilized adult report found a negative association between RA and academic performance (Preddy & Fite, 2012; Risser, 2013). Observers may have more difficulty identifying RA in students with higher academic performance, despite students' self-reports that they utilize more RA. This factor has yet to be investigated as a potential barrier to accurate identification of RA.

Perceived Popularity

Perceived popularity is a construct that measures the extent to which an individual is both known and emulated among peers (Parkhurst & Hopmeyer, 1998). Goals of social status and power appear to predict higher use of relationally aggressive behaviors (Ojanen & Findley-Van Nostrand, 2014). This correlation also has been demonstrated among a sample of predominantly African American 3rd–4th grade girls (Waasdorp et al., 2013). Social dominance (e.g., popularity) requires increased control of material and social resources which can be achieved through a mix of aggressive (e.g., demanding, threatening) and prosocial strategies (e.g., reciprocity, cooperation; Aikins & Litwack, 2011; Hawley, 2014; Kornbluh & Neal, 2016). Thus, it is important to examine the influence of peer-rated perceived popularity on peer-rated RA status.

Gender

In a seminal study, Crick and Grotpeter (1995) posited that RA is the optimal aggressive strategy for females because it thwarts gender normative goals of maintaining close relationships. The authors observed significantly greater use of RA by females compared to males among 3rd–6th graders. Many subsequent studies confirmed greater use of RA by females compared to males (e.g., Ostrov et al., 2010; Smith et al., 2009; Spieker et al., 2012). In contrast, a meta-analysis by Card and colleagues (2008) found that significant gender differences had low effect sizes, and Olweus (2010) found that males exhibit RA more often than females.

A more nuanced investigation of the literature reveals the important effects of age, informant type, and OA. For example, several studies found that higher rates of RA among females, compared to males, are not significant until after 3rd grade (Kistner et al., 2010; Murray-Close et al., 2007). Further, Archer's (2004) meta-analysis suggested that RA in females becomes more pronounced with age when data are collected using observations, peer ratings, and teacher reports, but not peer nominations or self-reports. In contrast, Smith and colleagues (2009) found a gender difference favoring adolescent females when using peer nomination. These mixed findings suggest that additional studies are needed that investigate gender differences, particularly in the context of informant discrepancy. Studies have also highlighted the importance of controlling for OA as a necessary condition of observing increased RA among females, owing to the high co-occurrence of these two forms of aggression (Smith et al., 2009; Zimmer-Gembeck et al., 2014).

It has been suggested that gender differences may also be the result of socialization (Ostrov & Godleski, 2010). For instance, physical aggression is often considered more acceptable for males than females (Ostrov & Godleski, 2010). Evidence also suggests that females are socialized to place more emphasis on close social relationships, which may explain why females are more negatively impacted by RA (Coyne et al., 2006). Culture is another important consideration in socialization, but its interplay with gender and aggression has largely remained unexamined (Kawabata, 2018). Self-report of RA among urban, Black/African American adolescents found that males were more likely to say something about a peer to make others laugh, while females were more likely to exclude someone due to being angry with them (Sullivan et al., 2010). Investigating a similar population, Finigan-Carr and colleagues (2016) also found no significant gender differences, while Belgrave and colleagues (2011) found greater use of RA by males. Finigan-Carr and colleagues (2016) and Sullivan and colleagues (2010) utilized self-report, which may have contributed to a lack of gender differences observed. Thus, more research on gender differences utilizing both peer and teacher report is needed.

The Current Study

Early and accurate identification of relationally aggressive students is critical for determining who should participate in prevention programs or behavioral health interventions that prevent or ameliorate negative student academic, socioemotional, behavioral, and health outcomes. In the absence of more reliable identification strategies, programs may not include those students in greatest need of intervention. Accurate identification also can promote a greater understanding of relevant psychosocial correlates for detection, targets of intervention, or treatment considerations (e.g., prosocial behavior, perceived popularity, cognitive functions). To date, findings indicate that teachers and peers are often discrepant in their identification of relationally aggressive students, suggesting that additional research is needed to better understand factors that contribute to accurate identification. The majority of studies have primarily investigated informant discrepancy among predominantly White samples, have not utilized peer nomination to identify relationally aggressive students, and have not investigated the contribution of academic engagement, popularity, prosocial behavior, and gender to informant discrepancy. Thus, the present study fills these gaps in the literature by including a diverse sample, utilizing multiple informants to reduce potential bias in peer victimization ratings, and evaluating additional factors that may drive informant discrepancy.

The first aim of this paper was to investigate factors associated with discordant teacher and peer identification of relationally aggressive students. It was hypothesized that increased likelihood of a student being identified as relationally aggressive by their peers, but not their teacher, would be associated with being female, higher teacher-rated academic motivation/participation, higher teacher-rated prosocial behavior, higher peer-rated perceived popularity, but lower peer-rated prosocial behavior, compared to students identified as relationally aggressive by their teacher but not their peers. The second aim was to identify factors associated with instances of concordant identification of relationally aggressive students. It was hypothesized that increased likelihood of a student being concordantly identified as relationally aggressive would be associated with being female, lower teacher-rated academic motivation/participation, and lower teacher and peer-rated prosocial behavior, but higher peer-rated perceived popularity, compared to students concordantly identified as not relationally aggressive.

Methods

Data for the present study come from a randomized controlled trial testing the effectiveness of the Preventing Relational Aggression in Schools Everyday (PRAISE) Program, a classroom-wide intervention designed to improve social problem-solving skills and reduce aggression in youth attending under-resourced, urban schools (Leff, et al., 2010a, 2010b). This study was conducted in accordance with APA ethical standards and approved by the researchers' Institutional Review Board. For the current study, only cross-sectional, pre-intervention data are reported.

Procedures

Schools within a school district in the Northeast were recruited if they met the following inclusion criteria: (a) Elementary or Kindergarten through 8th grade school; (b) predominately African American student body (80%); (c) at least 3 classrooms per grade; (d) school was not involved in another systematic antiaggression or social skills promotion program. Parent permission and student assent were obtained for 76% of students in 11 3rd–5th grade classrooms at two urban elementary schools to participate in the PRAISE evaluation study. Before the start of the intervention, peer nomination procedures were used to identify peers high in RA, prosocial behavior, and perceived popularity. An unlimited peer nomination procedure was utilized such that students could nominate as many students in their class as they wished for each item. Scores were then normed within each classroom and then across each grade. Teachers

completed rating scales to rate relationally aggressive, prosocial, and academic behaviors. All participating teachers were full-time, general education teachers. Both peer nomination and teacher rating procedures were conducted concurrently and completed within the span of approximately two to three weeks. Both peer and teacher procedures occurred at the end of October to early November to allow students and teachers adequate opportunity to know those individuals in their classroom.

Participants

A total of 205 eligible and consented students were enrolled in the study. Of these participants, 27 had missing teacher rating scales which precluded categorization of these students as relationally aggressive or not. This resulted in a final sample of 178 participants which was comprised of 51.1% females ($n = 91$), 48.3% males ($n = 86$), and 0.6% unknown gender ($n = 1$). On average, youth was 9.8 years of age ($SD = 0.95$). Students in the study identified as Black (African American or Caribbean American; 92.1%), Hispanic/Latino (2.8%), White (0.6%), and Other (2.8%). For three students (1.7%), ethnicity data were not obtained. Student socioeconomic status was not collected; however, > 70% of students resided in a single-parent home and all students qualified for free or reduced lunch which serves as an indicator of low-socioeconomic status. Additional descriptive results were calculated to characterize the sample with respect to each predictor variable across the sample as well as by informant categorization type (see Table 1).

Measures

Peer Nomination of Relational and OA

The current study utilized an adapted peer nomination protocol developed by Crick and Grotpeter (1995) that has been reliably utilized in research with predominantly Black/African American samples (Crick, 1996; Leff et al., 2015). Relationally aggressive students were identified by peer nomination as those: "who spread rumors behind kids' backs or leave others out when they are mad at them." Overtly aggressive students were identified by peer nomination as those: "who hit, push, yell or call others mean names." An unlimited peer nomination procedure was used due to slightly improved psychometric properties compared to a limited peer nomination procedure (Terry, 2000). Standardized *z*-scores were calculated by summing the number of nominations for each question for each class and grade. A cutoff z-score of > 0.50 was chosen based on use in prior intervention studies to identify relationally aggressive girls and to determine response to intervention (Leff et al., 2009, 2015).

Table 1 Predictor mean, standard deviation, and range for total sample and type of RA categorization

Predictor	Statistic	Total sample	Teacher No/Peers Yes	Teacher Yes/ Peers No	Teacher Yes/ Peers Yes	Teacher No/ Peers No
Teacher-rated academic motivation/ participation	Mean	32.022	30	27.3	28	35.05
	SD	9.822	11.68	7.8	5.7	9.91
	Range	9.5–47.50	9.50–47.00	18.50–47.50	14–38.00	10–47.50
Teacher-rated prosocial behavior	Mean	3.282	2.8	2.7	2.9	3.63
	SD	0.882	0.98	0.58	0.46	0.87
	Range	1–5	1–4.25	1–4	1.75–4.00	1–5
Peer-rated popularity	Mean	0.056	– 0.47	0.22	0.29	0.04
	SD	0.967	0.66	1.06	1.16	0.89
	Range	– 1.70–2.65	– 1.30–1.07	– 1.49–2.29	– 1.49–2.65	– 1.70–1.71
Peer-rated prosocial behavior	Mean	0.111	– 0.75	0.36	– 0.66	0.41
	SD	00.993	0.91	0.82	0.94	0.87
	Range	– 3.21–1.91	– 2.5–0.60	– 1.71–1.35	– 3.22–1.03	– 1.93–1.91
Overt aggression	Mean	– 0.045	0.56	0.34	1.12	– 0.61
	SD	0.879	0.66	0.57	0.62	0.53
	Range	– 1.53–2.29	– 0.56–1.91	– 0.91–1.20	– 0.30–2.29	– 1.53–1.91
Age	Mean	9.8	9.8	9.84	9.932	9.75
	SD	0.95	1.19	.794	1.171	0.896
	Range	8.08–12.67	8.25–11.92	8.42–11.33	8.25–12.67	8.08–12.00

Higher scores on all predictors indicate higher levels of these behaviors

Peer Nomination of Social Preference

Students were asked to nominate peers they "like most" and "like least." The number of times a student was nominated as "liked most" was subtracted from the number of times the student was nominated as "liked least." These scores were standardized into z-scores within each class and each grade. Higher scores indicate higher social preference, a proxy for prosocial behavior (LaFontana & Cillessen, 2002).

Peer Nomination of Popularity

One peer nomination item identified students high in perceived popularity. Students chose peers who fit the description: "popular, well-known, and have a lot of friends." Raw scores were then converted to z-scores within each class and then each grade. Higher scores indicate higher levels of perceived popularity.

Children's Social Behavior Questionnaire

Teachers completed the Children's Social Behavior Questionnaire (CSB-T; Crick, 1996), a 15-item, Likert scale (1 = "never true" to 5 = "almost always true") measure of social behavior and adjustment with demonstrated reliability and validity in an ethnically diverse sample of youth (Leff et al., 2015; Murray-Close et al., 2006). For the present study, the RA (7 items) and prosocial behavior (4 items) scales were used and demonstrated good internal consistency, respectively ($\alpha = 0.97$; $\alpha = 0.89$). A cutoff z-score of > 0.50 on the RA scale was used to determine a student's teacher-rated RA status, a z-score cutoff that matched the peer nomination cutoff.

Academic Competence Evaluation Scales

The Academic Competence Evaluation Scales (ACES) is a 60-item teacher report measure that assesses several dimensions of academic competence (DiPerna & Elliott, 1999) using a 5-point Likert scale (1 = "Never" to 5 = "Almost Always"). For the current study, the academic motivation and participation scales were used to provide a measure of positive academic behaviors (e.g., raising hand in class) as opposed to cognitive ability. Both scales demonstrated good reliability in the present study (motivation $\alpha = 0.98$; participation $\alpha = 0.97$) and were highly correlated ($r = 0.82$). Due to the high correlation, the scales were subsequently consolidated into a composite variable by taking the mean of each student's two scores.

Overview of Analyses

To examine the first aim, a binomial logistic regression was conducted to determine the effects of teacher-rated prosocial behavior, teacher-rated academic motivation/participation, peer-rated prosocial behavior, peer-rated perceived popularity, and gender on the likelihood that students were rated as relationally aggressive by their peers, but not their teacher, (binomial outcome one) compared to students rated as relationally aggressive by their teacher, but not their peers (binomial outcome two). Remember, a students' relational aggression status was determined by whether they exceeded a z-score of 0.5 for the peer nomination or teacher rating of relational aggression. To examine the second aim, the same statistical procedure was conducted; however, predictors were entered to determine their effects on the likelihood that students are concordantly rated as relationally aggressive (binomial outcome one) compared to students concordantly rated as not relationally aggressive (binomial outcome two). In both analyses, predictors were analyzed using an "enter" procedure. The effect of age and OA was controlled for by entering these predictors in step one, with the remaining predictors entered in step two. This was due to higher rates of RA as youth age and among those with greater OA (Preddy & Fite, 2012; Zimmer-Gembeck et al., 2014). Please see Table 2 for factor correlations for each model.

Results

Descriptives

Frequencies and percentages of different types of RA categorization by teachers and peers were examined (Fig. 1). Visual inspection of the data from discordantly identified students revealed interesting trends. Students categorized as relationally aggressive by their teacher, but not by their peers were rated by peers as exhibiting prosocial behaviors on par with those concordantly identified as not relationally aggressive (Table 1). Peers also rated these students as being just as popular as those concordantly identified as relationally aggressive. Students categorized as relationally aggressive by their peers, but not their teacher, were lowest in peer-rated perceived popularity and prosocial behavior compared to all groups. Their teacher-rated prosocial behavior was on par with other groups except for those concordantly identified as not relationally aggressive.

Next, frequencies were investigated to determine whether certain teachers had considerably higher or lower discordance with peers. In total, 33 students were identified as relationally aggressive by teachers, but not by peers, resulting in an average of three students nominated as relationally

Table 2 Factor correlations for each regression model

Factor	Teacher-Rated Academic Motivation/Participation	Teacher-Rated Prosocial Behavior	Peer-rated Perceived Popularity	Peer-Rated Prosocial Behavior	Overt Aggression	Age
Teacher-Rated Academic Motivation/ Participation	1 1					
Teacher-Rated Prosocial Behavior	0.754** 0.722**	1 1				
Peer-Rated Popularity	0.295* 0.251*	0.116 0.153	1 1			
Peer-Rated Prosocial Behavior	0.290* 0.457**	0.235 0.424**	0.686** 0.464**	1 1		
Overt Aggression	– 0.448** – 0.420**	– 0.629** – 0.536**	– 0.059 0.150	– 0.220 – 0.502**	1 1	
Age	– 0.005 – 0.038	– 0.024 – 0.144	– 0.092 0.124	– 0.046 0.055	0.080 0.139	1 1

First row of each factor represents Pearson correlation for hypothesis one (discordant model). Second row of each factor represents Pearson correlation for hypothesis two (concordant model). ** = $p < 0.001$; * = $p < 0.05$

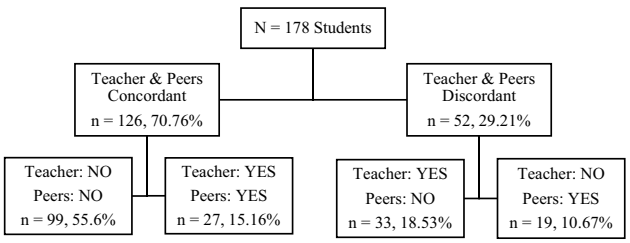

Fig. 1 Frequencies and percentages of different types of relational aggression categorization by teachers and peers

aggressive per teacher ($SD = 3$, *range* = 0—9). It was noted that 19 students were identified as relationally aggressive by their peers but not their teacher ($M = 1.72$, $SD = 1.19$, *range* = 0—3).

Aim One

Inclusion of all predictors resulted in a statistically significant model ($\chi^2(5) = 29.960$, $p < 0.000$; Nagelkerke $R^2 = 0.606$). The predictors of age and OA did not contribute meaningfully to the model and the Hosmer–Lemeshow statistic indicated poor model fit ($p = 0.001$). As a result, these covariates were removed resulting in a statistically significant model ($\chi^2(5) = 27.925$, $p < 0.000$; Nagelkerke $R^2 = 0.568$; see Table 3) with good fit characteristics (Hosmer–Lemeshow, $p = 0.131$). First, as teacher-rated academic motivation/participation increased, a student was 1.23 times more likely to be identified as relationally aggressive by their peers, but not their teacher ($p = 0.011$). Second, as peer-rated prosocial behavior decreased, a student was 0.12 times more likely to be identified as relationally aggressive by their peers, but not their teacher ($p = 0.003$). Bootstrapping suggested a larger effect size in the population for both academic motivation/participation ($p = 0.002$, 95% CI = 0.082–0.19.395) and prosocial behavior ($p = 0.002$, 95% CI = -166.484— 1.116). ROC curve analysis suggested excellent discrimination (0.912, 95% CI = 0.833–0.992, $p < 0.000$; Hosmer et al., 2013).

Aim Two

Inclusion of all predictors resulted in a statistically significant model ($\chi^2(5) = 100.566$, $p < 0.000$; Nagelkerke $R^2 = 0.868$; see Table 4) with good fit characteristics (Hosmer–Lemeshow, $p = 0.903$). Female students were 47.31 times more likely to be identified as relationally aggressive by both their peers and teacher ($p = 0.023$). As OA increased, a student was 180.66 times more likely to be identified as relationally aggressive by both their peers and their teacher ($p < 0.000$). The area under the ROC curve was 0.99 (95% CI = 0.97–1.00, $p < 0.000$), which represents an outstanding level of discrimination (Hosmer et al., 2013).

Discussion

It is important to better understand factors associated with discordant and concordant teacher and peer identification of relationally aggressive students given that accurate identification promotes targeted intervention strategies to those students most in need of support. Accurate identification is also needed to improve our understanding of related psychosocial variables (e.g., prosocial behavior, perception of popularity, executive function) which will further our understanding of

Table 3 Model predictors for hypothesis 1, predicting categorization as Teacher No/ Peers Yes compared to Teacher Yes/Peers No

Predictor	B	S.E	Wald	df	Sig	Exp(B)	Lower Exp(B) 95% C.I	Upper
Teacher-Rated Academic Motivation/ Participation	0.207	0.082	6.421	1	0.011	1.230	1.048	1.444
Teacher-Rated Prosocial Behavior	– 0.586	0.733	.639	1	0.424	.557	0.132	2.342
Peer-Rated Popularity	– 0.3.27	0.621	.277	1	0.599	.721	0.213	2.437
Peer-Rated Prosocial Behavior	– 2.140	0.712	9.036	1	0.003	.118	0.029	0.475
Gender	1.140	0.932	1.496	1	0.221	3.126	0.221	3.126

Alpha level of $p < 0.05$ accepted. Male was coded as '0,' and thus, these gender findings represent the probability of this type of categorization for females

Table 4 Model predictors for hypothesis 2, predicting categorization as Teacher Yes/Peers Yes compared to Teacher No/Peers No

Predictor	B	S.E	Wald	df	Sig	Exp(B)	Lower Exp(B) 95% C.I	Upper
Teacher-Rated Academic Motivation/Participation	– 0.049	0.104	0.226	1	0.635	0.952	0.776	1.167
Teacher-Rated Prosocial Behavior	1.457	1.241	1.378	1	0.241	4.292	0.377	48.896
Peer-Rated Popularity	0.253	0.871	0.084	1	0.771	1.288	0.234	7.101
Peer-Rated Prosocial Behavior	– 1.383	1.009	1.879	1	0.170	0.251	0.035	1.812
Overt Aggression	5.197	1.489	12.188	1	0.000	180.658	9.768	3341.121
Age	0.038	0.661	0.003	1	0.954	1.039	0.284	3.795
Gender	3.857	1.691	5.201	1	0.023	47.305	1.720	1301.304

Alpha level of $p < .05$ accepted. Male was coded as '0,' and thus, these gender findings represent the probability of this type of categorization for females

relational aggression, as well as inform how best to structure, implement, and evaluate behavioral health interventions and then monitor clinical change. Moreover, the delivery of intervention services to mis-identified students could constrain resources necessary to support students in actual need of additional support.

The collection and use of only teacher report limit accurate identification of students displaying RA by disregarding additional and unique input from the peer perspective (Cole et al., 2010). However, even with the inclusion of peer report, there is a subset of students whose relational aggression status cannot be confirmed due to peer and teacher discordance, suggesting that more work is needed in this area to improve detection. The present study investigated the contribution of several student-level factors to concordant and discordant identification of relationally aggressive students.

Characteristics of the Sample

Descriptive statistics revealed interesting trends in how students were categorized. For example, most students (55%) were concordantly categorized as not relationally aggressive, a finding that is generally consistent with the previous literature (Wang et al., 2009; Zhang et al., 2016). These data indicate that the behavioral profile of most non-relationally aggressive students is readily apparent to both teachers and peers and suggests the potential for inter-rater reliability between teacher report and peer nomination procedures for students who are clearly not relationally aggressive.

Students categorized as relationally aggressive by their teacher, but not their peers (18%) were nominated by peers as exhibiting similar levels of prosocial behaviors as those concordantly identified as not relationally aggressive. These students were also rated by peers as being just as popular as those concordantly categorized as relationally aggressive. These results suggest the possibility that teachers rely on information about a student's level of perceived popularity during evaluation as well as associated stereotypes about higher RA use among popular students. It is important to note that this specific question was not investigated in the current study and there are no studies, to our knowledge that examined this as a source of teacher bias. This question represents an important avenue for future research.

Another explanation for the high rate of this type of discordance could be, at least in part, due to students who are both victims and perpetrators of RA. Specifically, teachers

and peers may have different views of a student's behaviors resulting from victimization. Peers may view victims' behaviors as defensive or retaliatory and therefore more socially acceptable, whereas teachers may place less emphasis on the cause of the aggression. Prior research has observed that teachers rate students high in RA perpetration when these students also are rated high in relational victimization (Ostrov, 2008) even when their peers do not rate high perpetration (Bettencourt et al., 2017). Alternatively, peers may not view this group of students as relationally aggressive given their equivalent use of prosocial behaviors.

The next most populated category was students concordantly categorized as relationally aggressive (15%). This percentage is on par with prevalence rates of students who perpetrate RA (Wang et al., 2009; Zhang et al., 2016) and highlights that current informant identification techniques are likely effective for most relationally aggressive students. In line with the extant literature, these students were perceived as relatively more popular, low in prosocial behaviors, and high in OA as compared to the other three groups (Li & Wright, 2014; Preddy & Fite, 2012; Waasdorp et al., 2013).

Nineteen students (10%) were categorized as relationally aggressive by their peers but not their teacher. When considered on a larger scale, the fact that 10% of students were discordantly identified in this way suggests issues with identification procedures, particularly if only one type of informant is utilized. These data raise the question of whether these students are truly relationally aggressive given that teachers and peers both have strengths and limitations because of their role in the classroom. This category of students was the basis of the first hypothesis which predicted that increased likelihood of a student being identified as relationally aggressive by their peers, but not their teacher, would be associated with female gender, higher levels of teacher-rated academic motivation/participation, higher teacher-rated prosocial behavior, higher peer-rated perceived popularity, and lower peer-rated prosocial behavior compared to students with the opposite type of discordance.

Hypothesis One

Findings revealed that only decreasing peer-rated prosocial behavior and increasing teacher-rated academic motivation/participation contributed significantly to the model which provides partial support for the first hypothesis. While the odds ratio for academic motivation/participation was small (OR = 1.21), bootstrapping results suggested that the odds ratio may be higher in the population and therefore warrants additional study. This finding stands in contrast to that of prior research suggesting low academic achievement among relationally aggressive students (Preddy & Fite, 2012; Risser, 2013). The present findings reinforce the notion that a subset of relationally aggressive students may have high academic achievement which could obscure their relationally aggressive behaviors. If true, the exact mechanism by which this obscurement occurs also requires further study. The literature suggests that higher levels of executive functioning are associated with greater classroom motivation and participation (Nelson et al., 2017). These cognitive skills are also needed to execute RA in a subtle manner (Hawley, 1999). In fact, a recent study found that among a sample of youth with ADHD, those with higher executive functioning abilities (e.g., planning and insight) were more likely to engage in RA (McQuade et al., 2017). Alternatively, teachers may differentially interpret relationally aggressive behaviors or hold different standards for students with higher levels of desirable academic-related behavior. These students also may generally receive less monitoring from teachers given their on-task behavior, thereby reducing opportunities to catch these students engaging in subtle aggressive behaviors. Further exploration of the interaction effects between student- and teacher-level factors will be a useful focus for future research.

Lower peer-rated prosocial behavior, but not teacher-rated prosocial behavior, was associated with instances of a student identified as relationally aggressive by their peers but not their teacher. Previous research found teacher-rated prosocial behavior to be both negatively and positively correlated with RA (Bettencourt et al., 2017; Hawley, 2007; Kornbluh & Neal, 2016). However, a closer analysis of the literature suggests a positive correlation is seen more often among students who are popular (Berg et al., 2015; Hawley, 2007; Kornbluh & Neal, 2016). Although many students who are relationally aggressive use prosocial strategies to offset their negative behaviors (Hawley, 2007) and remain favorably viewed by their peers (i.e., popular), this strategy does not appear to be employed by this subset of students. Surprisingly, these students are not identified as RA by their teacher. This discordantly identified group may leverage greater executive functioning and be more cognizant of their teacher's perception and therefore closely monitor their behavior when near teachers (Hawley & Little, 1999), making their prosocial behaviors appear on par with other groups. This hypothesis could be tested through future observational studies. Alternatively, the large standard deviation (Table 1) may reflect heterogeneity among this group, which reinforces the notion that this group of students is difficult to identify with only teacher report.

Peer-rated perceived popularity did not significantly contribute to a student being identified as relationally aggressive by peers but not their teacher. This finding was surprising given that peer-rated popularity has been positively associated with RA in prior studies (e.g., Kornbluh & Neal, 2016; Waasdorp et al., 2013). While this group of students had the lowest mean score for peer-rated popularity, the standard

deviations of the means were high (see Table 1), likely reducing the ability of the model to detect the predictive value of peer-rated popularity. This spread in perceived popularity scores also emphasizes that RA is utilized by students along the continuum of perceived popularity.

Contrary to our prediction, gender did not significantly contribute to the model in the first aim. Both males and females presented with behaviors that contributed to their peers perceiving them as relationally aggressive, but the same was not true for perceptions by teachers. It is possible that these students' categorization may still have been influenced by gender-related variables, including stereotypes about higher relational aggression in females that resulted in misidentification.

Interestingly, age and OA did not significantly contribute to the model. It is likely that for this type of informant discrepancy, students do not easily fit into binary categorization and instead exhibit more complex behaviors that include other processes outside of those often associated with RA (i.e., age, OA), such as social desirability. Relatedly, the literature has identified differential characteristics associated with students who are both victims and perpetrators compared to those who have a clearly binary categorization including greater reductions in school engagement and academic performance, and more rejection over the course of the year (e.g., Giang & Graham, 2008).

Hypothesis Two

The second hypothesis predicted that increased likelihood of a student being identified as relationally aggressive by both their peers and teacher would be associated with lower teacher-rated academic motivation/participation, lower teacher and peer-rated prosocial behavior, higher peer-rated perceived popularity, and female gender compared to the opposite type of concordance. Findings revealed that only female gender contributed significantly to the model.

Results of the analysis investigating concordance revealed that female students and those who were more overtly aggressive were significantly more likely to be concordantly identified as relationally aggressive. Both findings had large effect sizes (OR = 47.3 and 180.6, respectively). This finding related to gender contributes to the evidence base that supports higher rates of RA among females as compared to males (e.g., Spieker et al., 2012), particularly when peer nomination and teacher report are used. It will be important to continue to tease apart the role of gender socialization within the context of ethnicity as it relates to accepted aggressive strategies.

Higher levels of OA were associated with higher levels of RA, an expected finding given results from prior studies of urban youth living in under-resourced environments (e.g., Bettencourt et al., 2017; Preddy & Fite, 2012). Age did not significantly contribute to the model, likely due to inclusion of a small age range. Taken together, the lack of significance of the primary predictors highlights heterogeneity in this group and suggests that other factors may be better indicators of group membership, such as executive function or social desirability.

Methodological Considerations and Limitations

Several methodological considerations and limitations should be noted. First, the absence of a teacher-rated measure of perception of student popularity is a limitation given that these types of measures may help identify whether teachers hold a bias with respect to popular students being more relationally aggressive. We similarly did not collect teacher-rated overt aggression to reduce teacher burden, though this could have helped to further control for the effects of overt aggression. Next, each student was rated only by one teacher, a process that is aligned with practice but also may represent a limitation given that each teacher may have varying expectations, awareness of student behaviors, and different relationships with their students. Another limitation is the lack of data on teacher race/ethnicity, which has been shown to interact with student ethnicity in the evaluation of aggressive behaviors and other behavior ratings (Halberstadt et al., 2018). This again reinforces the importance of the peer perspective (McGrady & Reynolds, 2013). While no teacher had a statistically higher rate of identification of RA students, a nesting effect could exist in a teacher-level factor not investigated in the current study. Studies with a larger sample of teachers could more accurately explore teacher-related factors.

Self-report data of aggression were planned and partially executed, but preliminary analyses demonstrated that these data were less reliable than peer, teacher, and parent report (i.e., Chronbach's alpha suggested poor reliability, there was little variability in responses, and no correlations with other reporters), and not gathering these data could also reduce the measurement burden on the students. Therefore, the self-report of aggression was not utilized in any analyses. Also, with respect to measurement, high correlations were observed between peer-rated prosocial behavior and peer-rated perceived popularity as well as between teacher-rated prosocial behavioral and teacher-rated academic motivation/participation. One explanation for these high correlations is shared method variance. However, because teacher-rated academic motivation/participation was a significant factor in the primary analysis, while teacher-rated prosocial behavior was not, this lends confidence to our findings given that

multicollinearity often obscures otherwise possibly significant findings.

The construct of overt aggression used in this study included both physical and verbal aggression. While we acknowledge that relational aggression does have more "overt" components, the peer nomination item for relational aggression was carefully worded to best capture that construct and differentiate from the more overt behaviors depicted in the physical and verbal nomination items. Lastly, because the present study utilized pre-intervention data from a single time point, we were not able to determine the contribution of time relative to teacher and peer perceptions of these behaviors over the course of the academic year.

Clinical Implications

A large proportion of students were discordantly identified, highlighting the clinical challenges associated with identifying students who may benefit from intervention programs to reduce relational aggression. As teachers are often the primary source of referral for school-based services, identifying the factors related to differences in identification between teachers and peers has important clinical implications. First, the high discordance observed suggests that pull-out interventions are not reaching all students in need of services, particularly if only one informant is used. Second, current universal intervention programs may be less effective for students identified by their peers but not their teacher. This could be the case if universal programs only target behaviors observable by teachers and not those behaviors observable by peers. These programs also may not target the underlying reasons these student behaviors are more covert. Additionally, if teachers are responsible for administering the program, they may unknowingly use a student in a role play who is a known relational aggressor, in a way that reinforces their aggressive behavior, or could make other students uncomfortable. Unfortunately, we cannot know whether current interventions result in decreases in relationally aggressive behavior for this subset of students because relationally aggressive behaviors are not accurately captured at baseline using teacher report alone.

Importantly, because teachers tended to rate all students (except those concordantly identified as relationally aggressive) as exhibiting similar levels of prosocial behavior, peer report may provide a better, more nuanced measure of this behavior. This finding may present an important clinical consideration for evaluating student response to intervention. For example, students not identified by their teacher as relationally aggressive appear to present with a more complex profile characterized by increased academic motivation/participation that passively or actively contributes to the obfuscation of their RA. In terms of implications for treatment delivery, this subset of students may appreciate the inclusion of additional psychoeducational material, opportunities to participate, or to complete therapeutic assignments outside of treatment sessions. However, if increased classroom motivation/participation is actively contributing to the obfuscation of relational aggression, the results could suggest that this subset of students may be more difficult to treat, possibility warranting different clinical approaches. All things considered, it is recommended that when possible, both teacher and peer reports are used in the identification of relationally aggressive students (Cullerton-Sen & Crick, 2005; Merrell et al., 2006).

Future Directions

Additional research is needed to help elucidate other factors associated with discordance to improve detection and intervention. For instance, it may be useful to investigate potential differences associated with executive functioning, insight, and other factors related to social desirability to help illuminate whether students identified by their peers, but not teacher, are categorized as such because of active strategies by the students themselves or inaccurate perceptions on the part of the teacher. Findings from the current study highlight the importance of identifying factors that may contribute to discordant identification (29% in the current sample) and leveraging this understanding to further improve accurate detection. Teacher rating and peer nomination protocols have strengths and limitations and associated costs related to time and resources, particularly when utilizing ratings from both informants (Cullerton-Sen & Crick, 2005; De Los Reyes & Prinstein, 2004; Merrell et al., 2006). In future studies, factors associated with discordance may be best investigated using a longitudinal study design.

If future research confirms that academic motivation/participation or teacher biases around perceptions of popularity contribute to inaccurate perception of RA by teachers, providing trainings, brief psychoeducation, or written prompts on rating scales may help to reduce teacher bias and improve accuracy. Peer perceptions, however, should not be eliminated as students have critical first-hand experience of their peers' behaviors that is likely to occur outside of the awareness of teachers (Waasdorp & Bradshaw, 2011). As such, other student-based methodologies including diary measures or direct classroom observations could be utilized to gain insight about relationally aggressive behaviors over a longer period of time (e.g., Pellegrini & Bartini). However, these methods may not be feasible from a time perspective and may not occur frequently enough to gather data on more infrequent behaviors of interest. While likely not feasible to determine need for services, these methodologies may be useful tools to inform the development of relational aggression measures.

It should be noted that some researchers raise concerns related to potentially increasing negative sentiment toward peers and increased risk of aggression or rejection in response (e.g., Bell-Dolan & Wessler, 1994). In contrast, others who have directly researched the emotional and behavioral effects argue against the notion of harm (Iverson & Iverson, 1996; Mayeux et al., 2007). In response to these concerns, Mehari and colleagues (2019) recently demonstrated that peer rating protocols can achieve similar accuracy and may present fewer ethical concerns. Until detection protocols can be further enhanced, the use of both teacher and peer perspectives is encouraged (Bettencourt et al., 2017).

Given that research has long focused efforts on understanding RA among predominantly White, middle-class students, the utilization of multiple informants to improve detection is an important consideration for use with urban, minority students. Research findings suggest that high rates of aggression are found in these populations, and intervention is critically needed to improve academic and health outcomes for perpetrators and victims (Bettencourt & Farrell, 2013). Although the current findings may not be generalizable beyond Black/African American students, more work within this population is needed to increase accurate identification that supports high-quality clinical intervention programs.

Acknowledgements The authors wish to acknowledge the following individuals who contributed to this research study: Brooke Paskewich, Branlyn DeRosa, Wanda Moore, Katherine Streit, Danielle Centeno, Krista Mehari, Leah Brogan, Courtney Calloway, Shani Gardner, and Amanda Parks.

Funding The research for this study was supported by a grant from the Institute of Educational Sciences in the Department of Education (R305AI30175). The writing of the manuscript was supported by the National Institute of Child Health and Human Development (NICHD; 1R01HD094833-01A1). This research was made possible, in part, by the support of the School District of Philadelphia. Opinions contained in this report reflect those of the authors and do not necessarily represent those of the School District of Philadelphia or the funding agency.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

Data Availability Data transparency.

Ethical Approval This study was approved by the appropriate institutional review board of Children's Hospital of Philadelphia. We certify that the study was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Consent to Participate Parents of children included in the present study provided informed consent for their child to participate in the study.

References

Achenbach, T. M. (2011). Commentary: Definitely more than measurement error: But how should we understand and deal with informant discrepancies? *Journal of Clinical Child and Adolescent Psychology, 40*(1), 80–86. https://doi.org/10.1080/15374416.2011.533416

Aikins, J., & Litwack, S. D. (2011). Prosocial skills, social competence, and popularity. In A. N. Cillessen, D. Schwartz, & L. Mayeux (Eds.), *Popularity in the peer system* (pp. 140–162). Guilford Press.

Archer, J. (2004). Sex differences in aggression in real-world settings: A meta-analytic review. *Review of General Psychology, 8*(4), 291–322. https://doi.org/10.1037/1089-2680.8.4.291

Baams, L., Talmage, C. A., & Russell, S. T. (2017). Economic costs of bias-based bullying. *School Psychology Quarterly: The Official Journal of the Division of School Psychology, American Psychological Association, 32*(3), 422–433.

Barlett, C. P. (2015). Predicting adolescent's cyberbullying behavior: A longitudinal risk analysis. *Journal of Adolescence, 41*, 86–95. https://doi.org/10.1016/j.adolescence.2015.02.006

Belgrave, F., Nguyen, A., Johnson, J., & Hood, K. (2011). Who is likely to help and hurt? Profiles of African American adolescents with prosocial and aggressive behavior. *Journal of Youth and Adolescence, 40*, 1012–1024. https://doi.org/10.1007/s10964-010-9608-4

Bell-Dolan, D., & Wessler, A. E. (1994). Ethical administration of sociometric measures: Procedures in use and suggestions for improvement. *Professional Psychology, Research and Practice, 25*(1), 23–32. https://doi.org/10.1037/0735-7028.25.1.23

Berg, Y. H. M., Lansu, T. A. M., & Cillessen, A. H. N. (2015). Measuring social status and social behavior with peer and teacher nomination methods. *Social Development, 24*(4), 815–832. https://doi.org/10.1111/sode.12120

Bettencourt, A. F., & Farrell, A. D. (2013). Individual and contextual factors associated with patterns of aggression and peer victimization during middle school. *Journal of Youth and Adolescence, 42*(2), 285–302. https://doi.org/10.1007/s10964-012-9854-8

Bettencourt, A. F., Musci, R., Clemans, K. H., Carinci, J., & Ialongo, N. S. (2017). Patterns of peer- and teacher-rated aggression, victimization, and prosocial behavior in an urban, predominantly african american preadolescent sample: Associations with peer-perceived characteristics. *Journal of School Psychology, 65*, 83–101. https://doi.org/10.1016/j.jsp.2017.07.003

Card, N. A., Stucky, B. D., Sawalani, G. M., & Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Development, 79*(5), 1185–1229. https://doi.org/10.1111/j.1467-8624.2008.01184.x

Carney, A. G., & Merrell, K. W. (2001). Bullying in schools: Perspectives on understanding and preventing an international problem. *School Psychology International, 22*(3), 364–382. https://doi.org/10.1177/0143034301223011

Closson, L. M., & Hymel, S. (2016). Status differences in target-specific prosocial behavior and aggression. *Journal of Youth and Adolescence, 45*, 1836–1848. https://doi.org/10.1007/s10964-016-0481-7

Cole, D. A., Maxwell, M. A., Dukewich, T. L., & Yosick, R. (2010). Targeted peer victimization and the construction of positive and negative self-cognitions: Connections to depressive symptoms in children. *Journal of Clinical Child and Adolescent Psychology, 39*(3), 421–435. https://doi.org/10.1080/15374411003691776

Cooley, J. L., Fite, P. J., & Pederson, C. A. (2018). Bidirectional associations between peer victimization and functions of aggression

in middle childhood: Further evaluation across informants and academic years. *Journal of Abnormal Child Psychology, 46*(1), 99–111. https://doi.org/10.1007/s10802-017-0283-8

Cornell, D., & Limber, S. P. (2015). Law and policy on the concept of bullying at school. *The American Psychologist, 70*(4), 333–343. https://doi.org/10.1037/a0038558

Coyne, S. M., Archer, J., & Eslea, M. (2006). "We're not friends anymore! unless": The frequency and harmfulness of indirect, relational, and social aggression. *Aggressive Behavior, 32*(4), 294–307. https://doi.org/10.1002/ab.20126

Crick, N. R. (1996). The role of relational aggression, overt aggression, and prosocial behavior in the prediction of children's future social adjustment. *Child Development, 67*(5), 2317–2327. https://doi.org/10.1111/j.1467-8624.1996.tb01859.x

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*(3), 710–722. https://doi.org/10.1111/j.1467-8624.1995.tb00900.x

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. https://doi.org/10.1080/02796015.2005.12086280

Damián, I. G., León-del-Barco, B., Mendo-Lázaro, S., Leyton-Román, M., & González-Bernal, J. J. (2020). Modeling physical activity, mental health, and prosocial behavior in school-aged children: A gender perspective. *Sustainability, 12*(11), 4646. https://doi.org/10.3390/su12114646

De Los Reyes, A., & Prinstein, M. J. (2004). Applying depression-distortion hypotheses to the assessment of peer victimization in adolescents. *Journal of Clinical Child and Adolescent Psychology, 33*, 325–335. https://doi.org/10.1207/s15374424jccp3302_14

Demaray, M. K., Malecki, C. K., Secord, S. M., & Lyell, K. M. (2013). Agreement among students', teachers', and parents' perceptions of victimization by bullying. *Children and Youth Services Review, 35*(12), 2091–2100.

DiPerna, J. C., & Elliott, S. N. (1999). Development and validation of the academic competence evaluation scales. *Journal of Psychoeducational Assessment, 17*(3), 207–225. https://doi.org/10.1177/073428299901700302

Feagin, J., & Bennefield, Z. (2014). Systemic racism and US health care. *Social Science & Medicine, 103*, 7–14. https://doi.org/10.1016/j.socscimed.2013.09.006

Findley, D., & Ojanen, T. (2013). Adolescent resource control: Associations with physical and relational aggression, prosocial and withdrawn behaviors, and peer regard. *International Journal of Behavioral Development, 37*(6), 518–529. https://doi.org/10.1177/0165025413503420

Finigan-Carr, N. M., Gielen, A., Haynie, D. L., & Cheng, T. L. (2016). Youth violence: How gender matters in aggression among urban early adolescents. *Journal of Interpersonal Violence, 31*(19), 3257–3281. https://doi.org/10.1177/0886260515584348

Giang, M. T., & Graham, S. (2008). Using latent class analysis to identify aggressors and victims of peer harassment. *Aggressive Behavior, 34*(2), 203–213. https://doi.org/10.1002/ab.20233

Goldweber, A., Waasdorp, T. E., & Bradshaw, C. P. (2013). Examining associations between race, urbanicity, and patterns of bullying involvement. *Journal of Youth and Adolescence, 42*(2), 206–219. https://doi.org/10.1007/s10964-012-9843-y

Halberstadt, A. G., Castro, V. L., Chu, Q., Lozada, F. T., & Sims, C. M. (2018). Preservice teachers' racialized emotion recognition, anger bias, and hostility attributions. *Contemporary Educational Psychology, 54*, 125–138. https://doi.org/10.1016/j.cedpsych.2018.06.004

Hawley, P. H. (1999). The ontogenesis of social dominance: A strategy-based evolutionary perspective. *Developmental Review, 19*(1), 97–132. https://doi.org/10.1006/drev.1998.0470

Hawley, P. H. (2007). Social dominance in childhood and adolescence: Why social competence and aggression may go hand in hand. In P. H. Hawley, T. D. Little, & P. C. Rodkin (Eds.), *Aggression and adaptation: The bright side to bad behavior* (pp. 1–30). Erlbaum.

Hawley, P. H. (2014). The duality of human nature: Coercion and prosociality in youths' hierarchy ascension and social success. *Current Directions in Psychological Science, 23*, 433–438. https://doi.org/10.1177/0963721414548417

Hawley, P. H., & Little, T. D. (1999). On winning some and losing some: A social relations approach to social dominance in toddlers. *Merrill-Palmer Quarterly, 45*(2), 185–214.

Heilbron, N., & Prinstein, M. J. (2008). A review and reconceptualization of social aggression: Adaptive and maladaptive correlates. *Clinical Child Family Psychology Review, 11*(4), 176–217. https://doi.org/10.1007/s10567-008-0037-9

Hine, B. A. (2017). Identifying the male prosocial niche: The gender-typing of prosocial behaviour across childhood and adolescence. *European Journal of Developmental Psychology, 14*(2), 206–220. https://doi.org/10.1080/17405629.2016.1186009

Hosmer, D., Lemeshow, S., & Sturdivant, R. (2013). *Applied logistic regression*. Wiley.

Iverson, A. M., & Iverson, G. L. (1996). Children's long-term reactions to participating in sociometric assessment". *Psychology in the Schools, 33*(2), 103–112.

Jones, L. M., Mitchell, K. J., Turner, H. A., & Ybarra, M. L. (2018). Characteristics of bias-based harassment incidents reported by a national sample of U.S. adolescents. *Journal of Adolescence, 65*, 50–60. https://doi.org/10.1016/j.adolescence.2018.02.013

Kawabata, Y. (2018). Cultural contexts of relational aggression. In S. M. Coyne & J. M. Ostrov (Eds.), *The development of relational aggression.* Oxford: Oxford University Press.

Kistner, J., Counts-Allan, C., Dunkel, S., Drew, C. H., David-Ferdon, C., & Lopez, C. (2010). Sex differences in relational and overt aggression in the late elementary school years. *Aggressive Behavior, 36*(5), 282–291. https://doi.org/10.1002/ab.20350

Kornbluh, M., & Neal, J. W. (2016). Examining the many dimensions of children's popularity: Interactions between aggression, prosocial behaviors, and gender. *Journal of Social and Personal Relationships, 33*(1), 62–80. https://doi.org/10.1177/0265407514562562

LaFontana, K. M., & Cillessen, A. H. N. (2002). Children's perceptions of popular and unpopular peers: A multimethod assessment. *Developmental Psychology, 38*(5), 635–647. https://doi.org/10.1037//0012-1649.38.5.635

Leadbeater, B. (2018). Relational aggression and victimization and psychopathology. In S. M. Coyne & L. M. Ostrov (Eds.), *The development of relational aggression.* Oxford University Press.

Leff, S. S., Costigan, T. E., & Power, T. J. (2004). Using participatory-action research to develop a playground-based prevention program. *Journal of School Psychology, 42*, 3–21.

Leff, S. S., Gullan, R. L., Paskewich, B. S., Abdul-Kabir, S., Jawad, A. F., Grossman, M., Munro, M. A., & Power, T. J. (2009). An initial evaluation of a culturally adapted social problem-solving and relational aggression prevention program for urban African-American relationally aggressive girls. *Journal of Prevention & Intervention in the Community, 37*(4), 260–274. https://doi.org/10.1080/10852350903196274

Leff, S. S., Paskewich, B., Waasdorp, T. E., Waanders, C., Bevans, K. B., & Jawad, A. F. (2015). Friend to friend: A randomized trial for urban african-american relationally aggressive girls. *Psychology of Violence, 5*(4), 433–443. https://doi.org/10.1037/a0039724

Leff, S. S., Waasdorp, T. E., & Crick, N. R. (2010a). A review of existing relational aggression programs: Strengths, limitations, and future directions. *School Psychology Review, 39*(4), 508. https://doi.org/10.1080/02796015.2010.12087739

Leff, S. S., Waasdorp, T. E., & Mehari, K. R. (2018). An updated review of existing relational aggression programs. In S. M. Coyne & J. M. Ostrov (Eds.), *The development of relational aggression* (pp. 283–317). Oxford University Press.

Leff, S. S., Waasdorp, T. E., Paskewich, B., Gullan, R. L., Jawad, A. F., MacEvoy, J. P., Feinberg, B. E., & Power, T. J. (2010b). The preventing relational aggression in schools everyday program: A preliminary evaluation of acceptability and impact. *School Psychology Review, 39*, 569–587. https://doi.org/10.1080/02796015.2010.12087742

Li, Y., & Wright, M. F. (2014). Adolescents' social status goals: Relationships to social status insecurity, aggression, and prosocial behavior. *Journal of Youth and Adolescence, 43*(1), 146. https://doi.org/10.1007/s10964-013-9939-z

Mayeux, L., Underwood, M. K., & Risser, S. D. (2007). Perspectives on the ethics of sociometric research with children: How children, peers, and teachers help to inform the debate. *Merrill - Palmer Quarterly, 53*(1), 53–78. Retrieved from http://ezproxy2.library.drexel.edu/login?url=https://www-proquest-com.ezproxy2.library.drexel.edu/scholarly-journals/perspectives-on-ethics-sociometric-research-with/docview/230096834/se-2?accountid=10559

McDougall, P., & Vaillancourt, T. (2015). Long-term adult outcomes of peer victimization in childhood and adolescence: Pathways to adjustment and maladjustment. *The American Psychologist, 70*(4), 300–310. https://doi.org/10.1037/a0039174

McGrady, R., & Reynolds, J. R. (2013). Racial mismatch in the classroom: Beyond black-white differences. *Sociology of Education, 86*(1), 3–17. https://doi.org/10.1177/0038040712444857

McQuade, J., Breaux, R., Miller, R., & Mathias, L. (2017). Executive functioning and engagement in physical and relational aggression among children with ADHD. *Journal of Abnormal Child Psychology, 45*(5), 899–910. https://doi.org/10.1007/s10802-016-0207-z

Mehari, K. R., Waasdorp, T. E., & Leff, S. S. (2019). Measuring relational and overt aggression by peer report: A comparison of peer nominations and peer ratings. *Journal of School Violence, 18*(3), 362–374. https://doi.org/10.1080/15388220.2018.1504684

Merrell, K. W., Buchanan, R., & Tran, O. K. (2006). Relational aggression in children and adolescents: A review with implications for school settings. *Psychology in the Schools, 43*(3), 345–360. https://doi.org/10.1002/pits.20145

Morgan, I., & Amerikaner, A. (2018). Funding gaps 2018: An analysis of school funding equity across the US and within each state. *Education Trust*.

Murray-Close, D., Crick, N., & Galotti, K. (2006). Children's moral reasoning regarding physical and relational aggression. *Social Development, 15*(3), 345–372. https://doi.org/10.1111/j.1467-9507.2006.00346.x

Murray-Close, D., Ostrov, J. M., & Crick, N. R. (2007). A short-term longitudinal study of growth of relational aggression during middle childhood: Associations with gender, friendship intimacy, and internalizing problems. *Development and Psychopathology, 19*, 187–203. https://doi.org/10.1017/S0954579407070101

Nelson, T., Nelson, J., James, T., Clark, C., Kidwell, K., & Espy, K. (2017). Executive control goes to school: Implications of preschool executive performance for observed elementary classroom learning engagement. *Developmental Psychology, 53*(5), 836–844. https://doi.org/10.1037/dev0000296

Nixon, C. L., Linkie, C. A., Coleman, P. K., & Fitch, C. (2011). Peer relational victimization and somatic complaints during adolescence. *Journal of Adolescent Health, 49*(3), 294–299. https://doi.org/10.1016/j.jadohealth.2010.12.018

Ojanen, T., & Findley-Van Nostrand, D. (2014). Social goals, aggression, peer preference, and popularity: Longitudinal links during middle school. *Developmental Psychology, 50*(8), 2134–2143. https://doi.org/10.1037/a0037137

Olweus, D. (2010). Understanding and researching bullying: Some critical issues. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.), *Handbook of bullying in schools: An international perspective.* Routledge.

Ostrov, J. M. (2008). Forms of aggression and peer victimization during early childhood: A short-term longitudinal study. *Journal of Abnormal Child Psychology, 36*(3), 311–322. https://doi.org/10.1007/s10802-007-9179-3

Ostrov, J. M., & Godleski, S. A. (2010). Toward an integrated gender-linked model of aggression subtypes in early and middle childhood. *Psychological Review, 117*(1), 233–242. https://doi.org/10.1037/a0018070

Parkhurst, J. T., & Hopmeyer, A. (1998). Sociometric popularity and peer-perceived popularity: Two distinct dimensions of peer status. *Journal of Early Adolescence, 18*, 125–144.

Preddy, T. M., & Fite, P. J. (2012). Differential associations between relational and overt aggression and children's psychosocial adjustment. *Journal of Psychopathology and Behavioral Assessment, 34*(2), 182–190. https://doi.org/10.1007/s10862-011-9274-1

Puckett, M. B., Aikins, J., & Cillessen, A. (2008). Moderators of the association between relational aggression and perceived popularity. *Aggressive Behavior, 34*(6), 563–576. https://doi.org/10.1002/ab.20280

Rendón, M. G. (2014). Drop out and "disconnected" young adults: Examining the impact of neighborhood and school contexts. *Urban Review: Issues and Ideas in Public Education, 46*(2), 169–196. https://doi.org/10.1007/s11256-013-0251-8

Risser, S. D. (2013). Relational aggression and academic performance in elementary school. *Psychology in the Schools, 50*(1), 13–26. https://doi.org/10.1002/pits.21655

Smith, R. L., Rose, A. J., & Schwartz-Mette, R. A. (2009). Relational and overt aggression in childhood and adolescence: Clarifying mean-level gender differences and associations with peer acceptance. *Social Development, 19*(2), 243–269. https://doi.org/10.1111/j.1467-9507.2009.00541.x

Spieker, S. (2012). Relational aggression in middle childhood: Predictors and adolescent outcomes. *Social Development, 21*(2), 354–375. https://doi.org/10.1111/j.1467-9507.2011.00631.x

Splett, S. (2015). GIRLSS: A randomized, pilot study of a multisystemic, school-based intervention to reduce relational aggression. *Journal of Child and Family Studies, 24*(8), 2250–2261. https://doi.org/10.1007/s10826-014-0027-0

Sullivan, T., Helms, S., Kliewer, W., & Goodman, K. (2010). Associations between sadness and anger regulation coping, emotional expression, and physical and relational aggression among urban adolescents. *Social Development, 19*, 30–51. https://doi.org/10.1111/j.1467-9507.2008.00531.x

Swit, C. S., McMaugh, A. L., & Warburton, W. A. (2018). Teacher and parent perceptions of relational and physical aggression during early childhood. *Journal of Child and Family Studies, 27*(1), 118–130. https://doi.org/10.1007/s10826-017-0861-y

Terry, R. (2000). Recent advances in measurement theory and the use of sociometric techniques. In A. Cillessen & W. Bukowski (Eds.), *Recent advances in the measurement of acceptance and rejection in the peer system: New directions in child and adolescent development* (pp. 27–53). Jossey-Bass.

Tomada, G., & Schneider, B. H. (1997). Relational aggression, gender, and peer acceptance: Invariance across culture, stability over time, and concordance among informants. *Developmental Psychology, 33*(4), 601–609.

Vaillancourt, T., McDougall, P., Hymel, S., Krygsman, A., Miller, J., Stiver, K., & Davis, C. (2008). Bullying: Are researchers and children/youth talking about the same thing? *International Journal of Behavioral Development, 32*(6), 486–495. https://doi.org/10.1177/0165025408095553

Vermande, M. M., Gilholm, P. A., Reijntjes, A. H. A., Hessen, D. J., Sterck, E. H. M., & Overduin-de Vries, A. M. (2018). Is inspiring group members an effective predictor of social dominance in early adolescence? Direct and moderated effects of behavioral strategies, social skills, and gender on resource control and popularity. *Journal of Youth and Adolescence, 47*(9), 1813–1829. https://doi.org/10.1007/s10964-018-0830-9

Waasdorp, T. E., Bagdi, A., & Bradshaw, C. P. (2009). Peer victimization among urban, predominantly african american youth: Coping with relational aggression between friends. *Journal of School Violence, 9*(1), 98–116. https://doi.org/10.1080/15388220903341372

Waasdorp, T. E., Baker, C. N., Paskewich, B. S., & Leff, S. S. (2013). The association between forms of aggression, leadership, and social status among urban youth. *Journal of Youth and Adolescence, 42*(2), 263–274. https://doi.org/10.1007/s10964-012-9837-9

Waasdorp, T. E., & Bradshaw, C. P. (2011). Examining student responses to frequent bullying: A latent class approach. *Journal of Educational Psychology, 103*(2), 336–352. https://doi.org/10.1037/a0022747

Waasdorp, T., Pas, E., O'Brennan, L., & Bradshaw, C. (2011). A multilevel perspective on the climate of bullying: Discrepancies among students, school staff, and parents. *Journal of School Violence, 10*, 115–132. https://doi.org/10.1080/15388220.2010.539164

Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health., 45*(4), 368–375. https://doi.org/10.1016/j.jadohealth.2009.03.021

Williams, J. R., Fredland, N., Han, H., Campbell, J. C., & Kub, J. E. (2009). Relational aggression and adverse psychosocial and physical health symptoms among urban adolescents. *Public Health Nursing, 26*(6), 489–499.

Woods, S., & Wolke, D. (2004). Direct and relational bullying among primary school children and academic achievement. *Journal of School Psychology, 42*(2), 135–155. https://doi.org/10.1016/j.jsp.2003.12.002

Zhang, A., Musu-Gillette, L., & Oudekerk, B. A. (2016). *Indicators of school crime and safety: 2015 (NCES 2016–079/NCJ 249758).* National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice. https://nces.ed.gov/pubs2016/2016079.pdf

Zimmer-Gembeck, M. J., Trevaskis, S., Nesdale, D., & Downey, G. A. (2014). Relational victimization, loneliness and depressive symptoms: Indirect associations via self and peer reports of rejection sensitivity. *Journal of Youth and Adolescence, 43*(4), 568–582. https://doi.org/10.1007/s10964-013-9993-6