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**Permalink**

<https://escholarship.org/uc/item/5wc2f650>

**Journal**

Aggressive Behavior, 49(3)

**ISSN**

0096-140X

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**Publication Date**

2023-05-01

**DOI**

10.1002/ab.22063

Peer reviewed

**Peer Correlates of Conduct Problems in Girls**

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We have no known conflict of interest to disclose.

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**Acknowledgments**

Data used in the preparation of this article were obtained from the Adolescent Brain Cognitive Development<sup>SM</sup> (ABCD) Study (<https://abcdstudy.org>), held in the NIMH Data Archive (NDA). This is a multisite, longitudinal study designed to recruit more than 10,000 children age 9-10 and follow them over 10 years into early adulthood. The ABCD Study® is supported by the National Institutes of Health and additional federal partners under award numbers U01DA041048, U01DA050989, U01DA051016, U01DA041022, U01DA051018, U01DA051037, U01DA050987, U01DA041174, U01DA041106, U01DA041117, U01DA041028, U01DA041134, U01DA050988, U01DA051039, U01DA041156, U01DA041025, U01DA041120, U01DA051038, U01DA041148, U01DA041093, U01DA041089, U24DA041123, U24DA041147. A full list of supporters is available at <https://abcdstudy.org/federal-partners.html>. A listing of participating sites and a complete listing of the study investigators can be found at [https://abcdstudy.org/consortium\\_members/](https://abcdstudy.org/consortium_members/). ABCD consortium investigators designed and implemented the study and/or provided data but did not necessarily participate in the analysis or writing of this report. This manuscript reflects the views of the authors and may not reflect the opinions or views of the NIH or ABCD consortium investigators. The ABCD data repository grows and changes over time. The ABCD data used in this report came from the 2021 Data Release 4.0 (DOI:10.15154/1523096).

**Data Statement**

All data used in this project were drawn from the publicly available data sets obtained from the Adolescent Brain Cognitive Development (ABCD) Study (<https://abcdstudy.org>), held in the NIMH Data Archive (NDA). The authors attempt to describe all methods in full detail, including describing the specific variables employed, the rationale behind all inclusions, as well as detailing the specific analyses that were run.



**Abstract**

Conduct problems are increasingly prevalent in girls and they uniquely predict negative outcomes. Yet, few reliable risk factors for aggression and violence in girls and women have been identified. Although preliminary evidence suggests peer relationships may be central to the development of youth conduct problems, especially in girls, rigorous interactive models of peer risk and protective factors for conduct problems are lacking. Based on 3104 10-13-year-old girls in the Adolescent Brain and Cognitive Development study, we tested the independent associations of separate peer risk factors (i.e., relational aggression victimization, physical aggression victimization, deviant peer affiliation) with multidimensional conduct problems, including their moderation by peer support. Being the victim of relational aggression, being the victim of physical aggression, and deviant peer affiliation were each positively associated with conduct problems and perpetration of aggression whereas peer support was negatively associated with youth report conduct problems and perpetration of physical aggression. Further, elevated peer support significantly attenuated the association of being the victim of relational aggression with teacher-rated conduct problems. These results highlight the sensitivity of conduct problems to peer risk factors and suggest that peer support designates important configurations of risk that differentially relate to conduct problems in girls.

*Keywords:* conduct problems, adolescent, girls, peer risk, peer support

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Adolescent conduct problems, including aggression and delinquency, are highly prevalent (Ghandour et al., 2019) and uniquely predict diverse negative adult outcomes ranging from incarceration (Rivenbark et al., 2018) and unemployment (Carter, 2019) to substance abuse (Bardone et al., 1996). They also constitute a major source of families seeking mental health services (Ghandour et al., 2019). Although men are over-represented in the criminal justice system (Bureau of Justice Statistics, 2019), juvenile arrest rates have decreased significantly more slowly in girls than in boys (Puzzanchera & Ehrmann, 2018). Reflecting longstanding and problematic assumptions about conduct problems in girls and women, few reliable risk factors for aggression and violence in girls and women have been identified. To reduce the burden associated with aggression and violence across the life span, innovations in intervention and prevention will follow from developmentally-informed designs that attend to sensitive periods and unique influences in girls.

In a landmark review, conduct problems in girls were prevalent, predicted negative life outcomes (e.g., early pregnancy), exhibited unique clinical correlates (e.g., internalizing problems), and their developmental progressions were separable from boys (Keenan et al., 1999). Conduct problems increase precipitously in adolescence for boys and girls (Graves, 2007), but girls progress to violence more quickly (Aber et al., 2003) and their violence is more stable across adolescence relative to boys (Connor, 2004). Similarly, violent female juvenile offenders were three to five times more likely to exhibit elevated anxiety relative to violent men and nonviolent female and male offenders (Wasserman et al., 2005). With respect to evidence-based interventions, there is remarkably inconsistent evidence on treatment outcomes for conduct problems in girls (Hipwell & Loeber, 2006). Gender effects are infrequently reported and few designs are well-positioned to test these effects. Together, this preliminary evidence is consistent with the “gender paradox” where impairment is worse in the gender where the problems are less prevalent (Berkout et al., 2011;

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Waschbusch, 2002). Further, considering much of the evidence on conduct problems consisted mostly/entirely of boys or tested sex differences, meaningful inferences about correlates of conduct problems *specifically in girls* cannot be made. This study addresses this limitation directly.

**Peer Risk Factors**

There is persuasive longitudinal and experimental evidence that adolescent peer relationships are central to youth conduct problems (Chen et al., 2015; Dodge & Pettit, 2003; Snyder et al., 2008). Deviant peer affiliation may be causally related to conduct problems (Office of Justice Programs, 2021; Farrington et al., 1990) and peer rejection (i.e., exclusion and victimization) often increments and exacerbates predictions from other risk factors (Parker & Asher, 1987). Deviant peer affiliation and peer rejection mediated predictions of escalating adolescent conduct problems from early externalizing behaviors, although this was based on all male and mixed-sex samples (Dishion et al., 1991; Loeber & Farrington, 2001). Similarly, affiliation with older, deviant boys mediated predictions of conduct problems in girls from early-onset menarche (Caspi et al., 1993; Moffitt, 1993), a risk factor for conduct problems (Ge et al., 2006; Haynie, 2003). Overall, peer relationship factors function diversely (i.e., risk factor, risk mechanism) with respect to the development of conduct problems; thus, rigorous characterization of peer factors in the development of conduct problems in girls is needed to effectively prevent their development and associated outcomes.

Theoretically, two developmental processes highlight peer contribution to increased risk of perpetrating antisocial behavior (Hinshaw & Lee, 2003). First, coercive interactions with peers in elementary school, coupled with peer rejection (i.e., victimization), exacerbate preexisting aggressive tendencies (e.g., irritability, defiance of parents) that emerge earlier in childhood (Shaw et al., 2001). Second, in adolescence, aggressive children non-randomly choose to affiliate with similarly aggressive peers, thus entrenching aggressive behavior (Cairns et al., 1988). Importantly, the present

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study examined 10-13 year-old girls, allowing for specific inferences about preadolescence, a sensitive period of socio-emotional development. However, it remains uncertain whether peer victimization and deviant peer affiliation are causal risk factors for conduct problems or indirectly related. For example, affiliation with peers who engage in substance use may socialize adolescents to more diverse risk-taking and rule-breaking behaviors and social comparison processes, reflecting a need to better capture potential indirect effects involved in peer influence processes (Prinstein & Giletta, 2021). Even more, it is unclear whether the association of peer risk factors with conduct problems is secondary to additional factors (e.g., susceptibility to peer influence) or psychopathology in general (Prinstein & Giletta, 2021). Indeed, heightened sensitivity to peer contexts (vs. other social contexts) may result in greater risk to negative peer influence (Ellis et al., 2011); clinically significant problems are also likely to elicit and contribute to negative peer interactions (i.e., peer victimization), thus obfuscating the precise role(s) of peer relationship factors and conduct problems.

Relative to the rich history of interpersonal models of risk for depression in girls (Prinstein et al., 2005), the absence of rigorous predictive models of peer risk factors (e.g., peer victimization) for conduct problems in girls is surprising. This knowledge gap is contraindicated given that girls frequently rely on interpersonal support (McFarland et al., 2016) and interpersonal factors predict conduct problems in girls more strongly than in boys (Ehrensaft, 2005). Theoretically, the “Two Cultures Theory” hypothesizes that peer relationship factors predict aggression and violence in girls/women more robustly than in boys/men (Graves, 2007). Owing to girls being differentially socialized, especially to act non-aggressively, their ability to manage peer conflict may be adversely affected and may include potentiation of aggressive responses (Graves, 2007). Given that negative peer factors (e.g., peer victimization) are likely risk factors for conduct problem in girls (Graves, 2007), improved specificity about which peer risk factors are uniquely associated with conduct



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problems will inform the development of targeted intervention and prevention strategies. In addition, the use of multiple informants, as in the current study, enables a high-resolution examination of informant/setting-specific associations or whether predictions are robust across informants. This knowledge may implicate optimal intervention settings (e.g., school, home) as the relationship between peer risk and conduct problem behavior may be particularly salient under certain contexts.

### **Resilience Promoting Peer Factors**

Despite its plausibility, positive peer relationship factors have been infrequently characterized in the context of the development of adolescent conduct problems in girls. Peer support group-based interventions previously predicted positive outcomes (i.e., increased self-esteem, decreased body dissatisfaction) in girls with disordered eating (Thompson et al., 2012); girls also frequently seek social support as a primary coping strategy (Frydenberg & Lewis, 1993). In addition, engagement with prosocial peers (Brown et al., 1986) and friendship quality (i.e., supportive peers; Criss et al., 2002; Dodge & Pettit, 2003; Mcelhaney et al., 2006) attenuated predictions of conduct problems from peer risk factors in girls. In a small preliminary study of early adolescent boys and girls, peer support moderated the positive association of peer conflict with risk-taking behaviors such that individuals with high peer support and high peer conflict engaged in fewer risk-taking behaviors than those with low peer support (Telzer et al., 2015). Given its importance to girls overall and with respect to conduct problems, the present study improved this knowledge gap through use of a large, nationally representative sample of girls to test peer support as a protective factor in predictions of conduct problems from multiple peer risk factors.

### **Current Study**

To accelerate innovations in interventions for and prevention of conduct problems, the current study analyzed data from 3104 10-13-year-old girls from the Adolescent Brain and Cognitive

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Development study (ABCD). Our aims were twofold: (1) To test the independent associations of peer risk factors (i.e., relational aggression victimization, physical aggression victimization, deviant peer affiliation) and peer support with multidimensional conduct problems (i.e., youth-, teacher-, and parent-report behavior problems, perpetration of relational and physical aggression); (2) To test peer support as a buffer of predictions of conduct problems from peer risk factors. We hypothesized that peer risk factors and peer support would be positively and negatively associated with conduct problems, respectively. We also hypothesized that peer support would buffer predictions of conduct problems such that the association of peer risk factors with conduct problems would be significantly attenuated as peer support increased.

### Methods

#### Participants

The Adolescent Brain and Cognitive Development study (N = 11,875 9-10-year-olds at first wave) is a 21-site, nationally representative study of youth health and development (Garavan et al., 2018). Although mostly school-based, approximately 10% of the sample was recruited via alternative methods (e.g., mailing lists, referrals from participants). We used data from 3,104 10-13 year-old girls from the third wave of data collection. Thus, developmentally, participants reflected a key sensitive period with respect to peer relationships and conduct problems. As detailed below, assessments of key constructs included separate youth, parent, and teacher ratings. Finally, to inform a literature that consists largely of boys, the current study focused exclusively on girls.

#### Measures

##### *Conduct Problems*

**Brief Problem Monitor (BPM)** (*Achenbach et al., 2011*). Consisting of parallel youth (19 items) and teacher ratings (18 items) scored from 0 for *not true* to 2 for *very true*, the BPM yields

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separate Internalizing, Attention, and Externalizing subscales. The Externalizing subscale included seven items (six on the teacher form) such as “I destroy things belonging to others/Destroys property belonging to others” and “I disobey at school/Disobedient at school.” Higher scores on the BPM indicate more self- and teacher- report externalizing behaviors, respectively. Cronbach’s alpha for youth and teacher subscales were 0.69 and 0.85, respectively. Youth and teacher ratings were analyzed separately given their modest inter-correlation ( $r = .26, p < .001$ ).

**Child Behavior Checklist (CBCL) (Achenbach & Rescorla, 2001).** Parents completed this 113-item rating scale and items were rated from 0 for *not true* to 2 for *very true or often true*. The Externalizing Problems composite scale included 35 conduct problem behavior items including violation of rules and conflict with others. Higher scores on the CBCL reflect more parent-rated externalizing behaviors. Given modest intercorrelations between the CBCL and BPM youth report ( $r = .35, p < .001$ ) and the CBCL and BPM teacher report ( $r = .36, p < .001$ ), each measure was analyzed separately.

**Peer Experiences Questionnaire-Perpetrator Subscales (PEQ-P).** Youth self-reported nine items adapted from the PEQ (Prinstein et al., 2001; Vernberg et al., 1999), which yielded separate relational and physical aggression subscales consisting of six items (e.g., “I left another kid out of an activity or conversation that they really wanted to be included in,” “I tried to damage another kid’s social reputation by spreading rumors about them;” Cronbach’s alpha = 0.70) and three items (e.g., “I chased a kid like I was really trying to hurt him or her,” “I hit, kicked, or pushed another kid in a mean way;” Cronbach’s alpha = 0.71), respectively. All responses were rated from 1 (*never*) to 5 (*few times a week*) and summed across all items. Higher scores on the PEQ-P indicate more perpetration of relational and physical aggression, respectively. The initial version of the PEQ

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demonstrated good psychometrics and similar empirical support exists for adapted versions of the PEQ that are similar to the current study (Prinstein et al., 2001).

***Peer Relationships***

**Peer Network Health (PNH).** Youth self-reported six items that assessed behaviors among close friends thought to protect against engagement in deviant behaviors (e.g., substance use). Youth rated whether their close friends had given them help with school, money, transportation, or help by talking through problems in the past six months and 2) whether their close friends had encouraged them to get or stay involved with sports/exercise, school teams or clubs, volunteering, or religious activities in the past six months. If either item was positively endorsed, the following two items were asked: 1) the extent to which participants indicated that their close friends had given them help with school, money, transportation, or help by talking through problems in the past six months and 2) the extent to which participants indicated that their close friends had encouraged them to get or stay involved with sports/exercise, school teams or clubs, volunteering, or religious activities in the past six months. These final two items were scored on a 10-point scale (ranging from 1 “*a little help/encouragement*” to 10 “*lots of help/encouragement*”). The two items were summed to estimate total peer support received (Cronbach’s  $\alpha = 0.68$ ). Higher scores on the PNH reflect greater peer support and when participants indicated that their close friends had not given them help or encouragement on the first two items, they received a score of 0. The remaining two items of the measure were excluded as they were unrelated to peer support.

**Peer Experiences Questionnaire-Victim Subscales (PEQ-V).** This 9-item victim-focused subset of self-report items was adapted from the PEQ (Prinstein et al., 2001; Vernberg et al., 1999), as described above. These items similarly consisted of two subscales: the victim of relational aggression subscale (Cronbach’s  $\alpha = 0.83$ ) was comprised of six items (e.g., “Some kids left me

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out of an activity or conversation I really wanted to be included in,” “A kid tried to damage my social reputation by spreading rumors about me”). The physical aggression subscale consisted of three items including “A kid chased me like he or she was really trying to hurt me” and “A kid hit, kicked, or pushed me in a mean way” (Cronbach’s alpha = 0.71). All responses were rated from 1 (*never*) to 5 (*few times a week*). Subscales were the sum of all relevant items. Higher scores on the PEQ-V indicate more victimization by relational and physical aggression, respectively.

**Youth Peer Behavior Profile (PBP).** This six item self-report measure consisted of a three-item subscale regarding the number of their peers that have engaged in rule breaking/delinquency (i.e., “have skipped school,” “have been suspended from school,” “have shoplifted occasionally;” Cronbach’s alpha = 0.58). Peer rule breaking/delinquency was rated from 1 (*none or almost none*) to 5 (*all or almost all*). Higher scores on the PBP reflect a greater number of peers who have engaged in rule breaking/delinquency.

### Data Analysis

We tested the independent and interactive associations of peer risk factors (i.e., relational aggression victimization, physical aggression victimization, deviant peer affiliation) and peer support with multi-informant measures of conduct problems in girls. Covariates consisted of age, race, ethnicity, highest level of parent education, and family income; date of study participation was additionally controlled in the peer support x physical aggression victimization models due to its association and residuals. To accommodate potential violations of the homoscedasticity assumption of ordinary least squares regression, we utilized robust standard errors across all analyses (Hayes & Cai, 2007). All analyses were conducted using SPSS Version 27 and interactions were tested using PROCESS for SPSS (Hayes, 2022). Currently, PROCESS is unable to accommodate modern missing data procedures, thus resulting in listwise deletion for cases when any single value is missing for that

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case. Resulting *N*s for associations and interactions ranged from *n* = 1269 for the BPM Teacher variable to *n* = 2311 for all other dependent variables.

The correlation matrix for all key study variables appears in Table 1; patterns of correlation were in expected directions and none approached redundancy. Following entry of covariates, we constructed five separate multiple regression models where each of the five conduct problem dependent variables (i.e., BPM Externalizing Scale Youth Report, BPM Externalizing Scale Teacher Report, CBCL Externalizing Scale, PEQ Relational Aggression Scale [i.e., self-report perpetration of relational aggression], and PEQ Physical Aggression Scale [i.e., self-report perpetration of physical aggression]) was regressed onto four peer predictors (i.e., relational aggression victimization, physical aggression victimization, deviant peer affiliation, and peer support) simultaneously. Next, corresponding to our second aim, following entry of covariates and all main effects, we entered separate peer support x relational aggression victimization, peer support x physical aggression victimization, and peer support x deviant peer affiliation interactions for each of the five conduct problem dependent variables. Contingent upon significant interaction parameters, simple slopes were evaluated.

## Results

### Association of Peer Risk and Peer Support with Conduct Problems

We tested the independent associations of peer risk factors and peer support with five separate youth conduct problems, controlling for age, race, ethnicity, highest level of parent education, and family income (See Table 2 for descriptive statistics of key variables). As noted above, due to listwise deletion procedures implemented by SPSS PROCESS, *N*s for associations ranged from *n* = 1269 for the teacher-report conduct problems dependent variable to *n* = 2311 for all other dependent variables.

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First, being the victim of relational aggression, being the victim of physical aggression, and deviant peer affiliation were each positively associated with youth self-reported conduct problems whereas peer support was inversely associated with self-report conduct problems (Table 3). Of all covariates, family income was negatively associated with self-report conduct problems ( $b = -0.09$ ,  $SE = 0.02$ ,  $p < .001$ ). In a second parallel model, being the victim of physical aggression and deviant peer affiliation each were positively associated with teacher-reported conduct problems, but being the victim of relational aggression and peer support were not (Table 3). Ethnicity ( $b = 0.34$ ,  $SE = 0.14$ ,  $p = .01$ ), highest parental education ( $b = -0.06$ ,  $SE = 0.03$ ,  $p = .049$ ), and family income ( $b = -0.08$ ,  $SE = 0.03$ ,  $p = .02$ ) were also associated with teacher-report conduct problems.

In a third parallel model, being the victim of relational aggression, being the victim of physical aggression, and deviant peer affiliation were associated with parent-rated conduct problems (Table 3). In addition, family income was negatively associated with parent-rated conduct problems ( $b = -0.25$ ,  $SE = 0.07$ ,  $p < .001$ ). Similarly, being the victim of relational aggression, being the victim of physical aggression, and deviant peer affiliation were each positively associated with perpetrating relational aggression (Table 3). Further, age was positively associated with perpetrating relational aggression ( $b = 0.01$ ,  $SE = 0.004$ ,  $p = .02$ ). Yet, peer support did not increment predictions of parent-rated conduct problems or perpetrating relational aggression (Table 3).

Finally, in a fifth parallel model with the same predictors, being the victim of physical aggression and deviant peer affiliation were positively associated with perpetrating physical aggression (Table 3). However, peer support was inversely associated with perpetrating physical aggression whereas being the victim of relational aggression was not associated with perpetrating physical aggression (Table 3). Family income was also negatively associated with perpetrating physical aggression ( $b = -0.03$ ,  $SE = 0.01$ ,  $p = .008$ ).

**Peer Risk Factors for Conduct Problems: Moderation by Peer Support**

Consisting of the same five conduct problem dependent variables described above, we evaluated separate interactions of peer risk factors with peer support. Again, listwise deletion resulted in *N*s for the interactions ranging from  $n = 1269$  for the teacher-report conduct problems variable to  $n = 2311$  for all other dependent variables. Although neither peer support  $\times$  physical aggression victimization nor peer support  $\times$  deviant peer affiliation interactions were significantly associated with any of the conduct problem variables (Table 4), the peer support  $\times$  relational aggression victimization interaction was significantly associated with teacher-rated conduct problems. At relatively high (84<sup>th</sup> percentile: value of 16) and median (50<sup>th</sup> percentile: value of 10) levels of peer support, being a victim of relational aggression was unrelated to teacher-report conduct problems (Relatively High [16]:  $b = -.03$ ,  $SE = 0.02$ ,  $p = .18$ , Median [10]:  $b = 0.01$ ,  $SE = 0.01$ ,  $p = .44$ ). However, at relatively low (16<sup>th</sup> percentile: value of 5) levels of peer support, being the victim of relational aggression was positively associated with teacher-rated conduct problems (Relatively Low [5]:  $b = 0.04$ ,  $SE = 0.03$ ,  $p = .05$ ). To further specify this interaction, we employed the Johnson-Neyman technique (Hayes, 2022) to identify significant transition points within the observed range of peer support (Figure 1). The Johnson-Neyman technique identified that when peer support was less than 6.28, which is proximal to but above the “Relatively Low” peer support designation, being the victim of relational aggression was positively associated with teacher-rated conduct problems. However, when peer support exceeded 6.28, being the victim of relational aggression was unrelated to teacher-rated conduct problems; and as peer support increased, the magnitude of the association decreased (Figure 1). Indeed, at relatively high levels of peer support (i.e., 12.4 or greater), being a victim of relational aggression became inversely associated with teacher-rated conduct problems, although the estimates did not differ from zero.



### Discussion

Until risk and protective factors for the development of conduct problems in girls are reliably identified, innovations in prevention and intervention will be delayed. This study examined the independent and interactive associations of peer risk factors (i.e., being a victim of relational/physical aggression, deviant peer affiliation) and peer support with multi-informant ratings of conduct problems in a nationally-representative sample of 10-13 year-old girls. Controlling for age, race, ethnicity, highest level of parent education, and household income, key findings included: (a) being a victim of relational aggression was positively associated with self- and parent-reported behavior problems as well as perpetrating relational aggression; (b) being a victim of physical aggression was positively associated with self-, teacher-, and parent-report behavior problems as well as perpetrating both relational and physical aggression; (c) deviant peer affiliation was positively associated with separate self-, teacher-, and parent-rated behavior problems as well as perpetrating both relational and physical aggression. In addition, peer support was inversely associated with self-report conduct problems and perpetrating physical aggression. Lastly, peer support buffered the association between being the victim of relational aggression with teacher-rated conduct problems such that peer risk covaried less robustly with conduct problems among girls with higher peer support.

These results converge with previous evidence that peer relationship factors, including being the victim of relational/physical aggression and deviant peer affiliation, are critical to emergent conduct problems. Among school-age children, having aggressive peers was positively correlated with classroom disruptive behavior (Powers & Bierman, 2013) and exposure to externalizing peers was more strongly associated with problem behaviors in girls relative to boys (Hanish et al., 2005). Although the “Two Cultures Theory” suggests that interpersonal factors predict conduct problems in girls more strongly than in boys (Ehrensaft, 2005; Graves, 2007), little remains known about the

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specific peer relationship factors uniquely associated with conduct problems in girls. Interestingly, being the victim of physical aggression and deviant peer affiliation were more consistently and diversely associated with conduct problems in girls, across informant and with conservative control of other peer risk factors, compared to being the victim of relational aggression. As boys perpetrate physical aggression more often than girls (Björkqvist, 2018), cross-gender victimization may be salient given that peer victimization of girls by male perpetrators was more strongly associated with behavior problems relative to female perpetrators (Felix & McMahon, 2006). Previous studies also suggest that affiliation with deviant older boys in particular is a risk factor for conduct problem engagement in girls (Caspi et al., 1993; Moffitt, 1993) although the gender of deviant peers was not formally ascertained. Thus, future studies should additionally consider the gender of the perpetrator of aggression and of the deviant peers to further refine predictive models. Finally, although intercorrelations among conduct problem informants (i.e., youth, parent, teacher) were expectedly modest (Achenbach, 2006), the associations between being the victim of physical aggression and deviant peer affiliation with conduct problems were robust across all three reporters. That is, despite informants potentially reporting on different types and severity of youth conduct problems, peer risk remained associated with these dependent variables, attesting to the veracity of the observed associations. One potential explanatory factor underlying these associations is hostile attribution bias. Defined by individual differences in the tendency to falsely attribute hostile intent to another person's ambiguous actions, there is replicated evidence that hostile attribution bias specifically (and social information processing deficits more generally) (Dodge et al., 2015; Pettit et al., 2010) significantly mediate the association of peer rejection (i.e., victimization) with future aggression (Dodge et al., 2003). Thus, secondary to experiencing peer victimization, some youth attribute hostile intent during ambiguous social interactions that potentiate subsequent aggressive responses.

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Despite being a less robust predictor compared to other peer risk factors, being the victim of relational aggression was positively associated with multiple conduct problems (i.e., youth- and parent-rated conduct problems, perpetrating relational aggression). Previous studies have highlighted how female friendships are complex with respect to relational aggression. For example, interestingly, relational aggression among dyadic friendships predicted more friends and better friendships among boys and girls (Yamasaki & Nishida, 2009). Another study of fourth grade girls revealed that intimate exchanges with friends bidirectionally increased with relational aggression across female dyads (Murray-Close et al., 2007). These data suggest that the association of relational aggression, in particular, with the development and maintenance of peer relationships is sensitive to multiple considerations. Thus, observational studies (see Dishion, 1990) of naturalistic peer interactions between female friendship dyads may meaningfully reveal particular aspects of relational aggression (e.g., spreading rumors, verbal teasing) that lead to positive versus negative behavioral outcomes in girls. Indeed, we echo a recent review calling for models that examine the effects of peer behaviors in real time, potentially through intensive longitudinal methods such as ecological momentary assessment and laboratory-based dyadic interaction procedures (Prinstein & Giletta, 2021). In addition, future research should implement more refined measures of relational aggression with respect to facets of peer relationships among girls (e.g., intimacy, support, and social status). Similarly, future studies should consider potential differential associations of being the perpetrator versus being the victim of relational aggression within a friendship dyad with their views of the friendship (i.e., supportive vs. bullying friendship). For example, the perpetrator of relational aggression may view friendships positively whereas the victim of relational aggression may view these dynamics negatively.

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With respect to buffers against predictions of conduct problems from peer risk factors, elevated peer support mitigated the association between being the victim of relational aggression and teacher-rated conduct problems relative to low peer support. This result is consistent with evidence that peer support moderated predictions of risk-taking behaviors from high levels of peer conflict (Telzer et al., 2015). Thus, promotion of positive peer relationships may improve traction on conduct problems observed by teachers among girls: for example, peer support programs are widely used across school settings to promote positive outcomes (i.e., self-esteem, motivation, grade improvement, emotional support; Ellis et al., 2009). These peer support groups might be particularly relevant for girls otherwise at risk for conduct problems. Finally, given that the quality and stability of pre-adolescent and adolescent peer relationships change over time (Poulin & Chan, 2010), future prospective studies should explore developmental aspects of peer support (e.g., phenomenology, factor structure) with respect to conduct problems. However, while putative risk associations did decrease as a function of peer support with teacher-rated conduct problems, peer support did not consistently moderate these associations across our peer risk predictors and conduct problem dependent variables. This cross-informant discrepancy may reflect context-specific associations with respect to ratings of youth behavior. Consistent with a previous meta-analysis (De Los Reyes et al., 2015), inter-correlations across youth-, parent- and teacher-rated conduct problems were modest (albeit statistically significant because of the large sample size employed). These modest correlations do not necessarily reflect error; in fact, typically, each informant provides incremental utility (De Los Reyes et al., 2015). For example, teacher ratings (especially for peer relationships and externalizing behavior) may be particularly salient given the primacy of schools to youth development and peer interactions. Thus, the current finding may reflect the context-specific behaviors that teachers are best-positioned to observe. Alternatively, these discrepant findings may suggest that peer support, as

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measured in the present study, may not be sufficient to prevent conduct problem development in peers across contexts. Considering the present study utilized a measure of peer support consisting of only two items, it is possible that alternative aspects of positive peer relationships may better ameliorate the positive relationship between peer risk and conduct problem development. For example, peer prosociality, closeness of peers, and friendship stability may be related constructs which may better capture resilience promoting peer factors and should be probed in future studies (Brechwald & Prinstein, 2011).

Despite modest attention to conduct problems in girls historically, preliminary evidence suggests their development and progression is meaningfully separable from boys. Results from the current study underscore that peer risk and protective factors operate uniquely with respect to conduct problems in girls. Considering a dearth of evidence on the efficacy of evidence-based gender-specific interventions for conduct problems (Hipwell & Loeber, 2006), future research must improve traction on key issues. For example, considering the salience of relational aggression in girls, gender-specific interventions targeting relational aggression may be valuable. Intervention effects may be maximized when potential sensitive periods for peer factors and conduct problems are carefully considered. Indeed, pubertal timing may be a key moderator for conduct problem development among girls specifically as early onset menarche is a replicated risk factor for conduct problems (Ge et al., 2006; Haynie, 2003). Yet another implication of this work pertains to taxonomy: some have advocated for gender-specific diagnostic criteria for externalizing disorders including inclusion of specific behaviors (e.g., relational aggression; Zahn-Waxler et al., 2015). However, little work has been done to empirically evaluate this proposed gender-specific diagnostic criteria, highlighting a critical need for future work. Indeed, if these gender-specific criteria are valid and

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reliable, future research on the presentation and risk factors of conduct problems in girls, specifically, is necessary in order to develop this evidence base.

While the current study features several strengths including a large national sample of adolescent girls, there are several important limitations. First, the cross-sectional analyses preclude directional and causal inferences, thus underscoring the need for temporally-ordered designs. Second, the current study was limited by the conduct problem and peer measures included in the ABCD study design, thus restricting important inferences about related constructs including the role of close friendships (Altermatt & Pomerantz, 2003), perceptions of supportive relationships (Wentzel et al., 2004), peer acceptance (Wentzel, 1991), and peer prosociality (Dirks et al., 2018). In addition, reliability estimates for several measures in the ABCD study (i.e., BPM Externalizing Scale Youth Report, Peer Network Health, Peer Behavior Profile) were relatively low. However, the BPM scale has good empirical support (Achenbach et al., 2011). Further, the Peer Network Health and Peer Behavior Profile measures consist of two and three items, respectively, which reflects longstanding evidence that reliability is constrained by fewer items (Abdelmoula et al., 2015). Finally, due to these cross-sectional data, moment-to-moment models of reciprocity within dyadic female friendships were intractable. Higher resolution methods will be better positioned to capture the bidirectional nature of female friendships and interactions to discern their association with conduct problem development.

In addition, we caution against over interpretations of observed null associations. Specifically, the relatively restricted range for certain measures, especially in the context of a non-clinical or low-risk sample, may have delimited significant associations. For example, the low means observed in the BPM teacher report and the perpetrating physical aggression measure are consistent with this formulation. Alternatively, a clinical sample of youth with behavioral and emotional

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problems yielded mean CBCL T-scores for rule breaking and aggressive behavior of 67.71 (SD = 9.65) and 73.75 (SD = 13.27), respectively (Gomez et al., 2014). In the present study, which did not employ specific CBCL subscales, the mean externalizing subscale (i.e., a composite of the rule breaking and aggressive behavior subscales) was 43.80 (SD = 9.62). Future work conducted in clinical or other selected settings (i.e., juvenile legal or child welfare system) where prevalence of conduct problems is higher is needed to fully assay the range of associations between peer risk and support in multiple, diverse settings and populations.

To accelerate innovations in intervention and prevention for these escalating problems, we await methodologically diverse and rigorous designs, spanning qualitative methods to prospective longitudinal methods, that reveal the complex pathways to and from risk factors to conduct problems in girls. In particular, mediating pathways spanning meaningful developmental periods/milestones and in the context of generalizable samples should be prioritized in future research. These innovations will be necessary to reduce the significant clinical and public health burden of conduct problems and related antisocial behavior in girls.

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**Legends for Figure 1 and Tables 1-4**

Figure 1. Johnson-Neyman graph of the conditional effect of being the victim of relational aggression on teacher-rated conduct problem outcomes at levels of peer support.

Table 1. Correlations matrix.

Table 2. Descriptive statistics of demographics and key variables.

Table 3. Association of peer risk factors and peer support with multidimensional conduct problems.

Table 4. Association of peer risk factors with multidimensional conduct problems: Moderation by peer support.