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Authors

Aizpitarte, Alazne
Atherton, Olivia E
Zheng, Lucy R
et al.

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Developmental Precursors of Relational Aggression From Late Childhood Through Adolescence

Alazne Aizpitarte

University of California, Davis and University of the Basque Country UPV/EHU

Olivia E. Atherton and Lucy R. Zheng

University of California, Davis

Itziar Alonso-Arbiol

University of the Basque Country UPV/EHU

Richard W. Robins

University of California, Davis

Relational aggression—a psychological form of aggression—has numerous negative consequences for physical and emotional health. However, little is known about the risk factors that lead youth to engage in relational aggression. Using multimethod data from a longitudinal research of 674 Mexican-origin youth, this study examined the influence of parents, siblings, and peers on the development of relational aggression. Increases in relational aggression from age 10 to 16 were associated with: (a) low levels of parental monitoring and (b) increased association with deviant peers and siblings. These results held across gender and nativity status. The findings suggest that multiple socialization agents contribute to the development of relational aggression. We discuss the practical implications for reducing relational aggression during adolescence.

Relational aggression is any attempt to harm others using intentional manipulation or exclusion. It is often used to disparage a peer's social status and damage their relationships with others (Crick & Grotpeter, 1995). A youth may tell lies, spread rumors or make fun of peers to derogate their social status, give them "silent treatment," or purposely exclude them from social activities. Given the harmful consequences of relational aggression, including academic failure, substance use, and delinquency (Crick, Ostrov, & Werner, 2006; Robertson, Forbes, & Thyne, 2017; Tackett & Ostrov, 2010), understanding the etiology of relational aggression is a vital public health issue.

The Role of Parents, Siblings, and Peers in the Development of Relational Aggression

Ecological theories stress the importance of considering multiple, contextual influences on youth

behavior (Bronfenbrenner, 1979). Parents are one of the most important influences on youth socioemotional development, as they create the environment where the child is raised (Kawabata, Alink, Tseng, van IJzendoorn, & Crick, 2011). However, as youth move into adolescence, peer and sibling relationships become increasingly important (Williams, Conger, & Blozis, 2007). Thus, the transition from late childhood to adolescence is a crucial developmental stage because social influences—parents, siblings, or peers—are gradually changing in importance (Farley & Kim-Spoon, 2014).

Socialization agents (parents, siblings, and peers) can influence the development of relational aggression. Directly, socialization agents may act relationally aggressive toward the child, which then shows the child that these relational forms of aggression are an acceptable type of social interaction, making the child more likely to use relational aggression themselves. Indirectly, the child may witness his or her parents, siblings, and peers acting aggressively toward other people, which then serves as modeling behavior for the child's own social relationships (Stauffacher & DeHart, 2006).

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Correspondence concerning this article should be addressed to Alazne Aizpitarte, Department of Personality, Assessment, and Psychological Treatment, University of the Basque Country UPV/EHU. Electronic mail may be sent to alazne.aizpitarte@ehu.eus.

Previous cross-sectional and longitudinal studies (Little & Seay, 2014; Vaillancourt, Miller, Fagbemi, Côté, & Tremblay, 2007) have shown that higher levels of parental warmth and monitoring, and lower levels of parental hostility, are associated with less physical and relational aggression (Kawabata et al., 2011). Warm parents who are high in monitoring provide children with a safe environment that allows them to learn positive social relationship skills, whereas hostile parents provide children with a harmful environment that leads them to learn destructive ways of interacting with others.

Sibling relationships may also serve as a “training ground” for aggression as they provide opportunities for the development of problematic behaviors through practice and modeling of aggressive behaviors (Bandura, 1973; Campione-Barr, Lindell, Greer, & Rose, 2014; McHale, Updegraff, & Whiteman, 2012). More concretely, sibling relationships may reinforce aggressive behaviors that are further generalized to interactions with peers (Gallagher, Updegraff, Padilla, & McHale, 2018). Directly, antisocial siblings may act aggressive toward the child, which may lead the child to think that engaging in relational aggression is normal, increasing the likelihood that he or she will use relational aggression toward peers. Indirectly, the child may observe his or her siblings acting aggressive toward other people, which then serves as a model of behavior for his or her own social interactions (Stauffacher & DeHart, 2006). The extant research suggests that growing up with deviant siblings influences youth aggressive behavior even after controlling for the effects of parents and peers in both cross-sectional and longitudinal studies (Brook, Whiteman, Gordon, & Brook, 1990; Windle, 2000). However, we know of no studies that have examined the effect of sibling deviance on *relational* aggression.

Peers also play an important role in adolescent development (Farrell, Thompson, & Mehari, 2017). Youth growing up in social contexts where their peers engage in antisocial behavior are more likely to adopt aggressive ways of interacting with others (Sumter, Bokhorst, Steinberg, & Westenberg, 2009). Moreover, associating with antisocial peers during early adolescence prospectively predicts subsequent violent behaviors in late adolescence (Assink et al., 2015). Cross-sectional studies suggest that one of the strongest risk factors for relational aggression is interacting with antisocial peers (Farrell et al., 2017). However, the link between peers’ deviant behavior and youth *relational* aggression remains understudied, and longitudinal research is needed to better understand the temporal order and

directionality of this association. Regarding directionality, there is evidence supporting a *transactional model* in which characteristics of the child (i.e., aggressiveness) and environmental factors (i.e., parenting practices, peer and sibling influences) have bidirectional relations over time (Platt, Kadosh, & Lau, 2013; Sameroff, 2009). For example, certain parenting practices may be influencing child relational aggression, and child relationally aggressive behaviors may elicit different parenting practices.

The Present Study

Using data from a longitudinal study of Mexican-origin youth, we examined the prospective influence of parents, siblings, and peers on youth relational aggression from age 10 to 16. We expect that these socialization agents will influence the development of relational aggression over time. Our study extends previous research in several ways. First, most of the research on relational aggression has focused on parenting and to a lesser extent peers, but very few studies have focused on siblings. Additionally, most of the research is cross-sectional, and more longitudinal studies are needed to understand the development of relational aggression. Second, we know of no research that has simultaneously examined the influence of multiple socialization agents. In this study, we evaluate their independent effects on the development of relational aggression. Third, in addition to testing whether parents, siblings, and peers influence the development of relational aggression, we also tested whether relational aggression has reciprocal effects on these socialization agents. Fourth, we tested whether these effects varied by gender or nativity (born in the United States vs. Mexico). We might expect stronger effects for Mexico-born youth, given their tendency to have more relationally oriented and interdependent cultural values compared to U.S. born youth (Kawabata, Crick, & Hamaguchi, 2010). Finally, we investigated these effects in an understudied ethnic minority group, Mexican-origin youth, whereas previous research has utilized predominantly European-background samples.

Method

Participants and Procedure

Data come from the California Families Project, a longitudinal study of 674 Mexican-origin youth and

their parents. Children were randomly selected from rosters of students from the Sacramento and Woodland school districts in California. To be included in the study, the child had to be of Mexican origin, in the fifth grade, and living with his or her biological mother. Seventy-three percent of eligible families agreed to participate in the study. Eighty-four percent of the mothers and 89% of the fathers were born in Mexico. Both two-parent ($N = 549$, 82%) and single-parent ($N = 125$, 18%) families participated. Median household income was \$35,000; both mothers and fathers had an average education level of ninth grade. Families were interviewed in their homes in Spanish or English, depending on their preference. Parents were absent when their child was interviewed. The first assessment occurred when the children (50% female) were in the fifth grade ($M_{\text{age}} = 10.8$ years, $SD = .60$). This study uses data from when the children were 10, 12, 14, and 16 years old. Retention rates (relative to the original sample of 674) were 86% at age 12, 91% at age 14, and 90% at age 16. To test for selective attrition, we compared participants who did and did not participate at age 16 on variables measured at age 10. No significant differences were found for gender, generational status, relational aggression, parenting domains, and sibling/peer antisocial behaviors ($ps > .10$). This study was approved by the institutional review board of the university and followed all ethical guidelines.

Measures

Relational Aggression

The child completed a nine-item scale (adapted from Kokkinos & Panayiotou, 2004; Neary & Joseph, 1994; Prinstein, Boergers, & Vernberg, 2001) that assessed whether he or she had relationally aggressed against his or her peers during the previous 3 months. Sample items include, *You told mean stories or lies about a kid your age* and *You left a kid your age out of what you were doing on purpose*. Responses ranged from 1 (*almost never or never*) to 4 (*almost always or always*). We created latent factors to represent "relational aggression" at ages 10, 12, 14, and 16 (average $\omega = .82$). Each latent factor had three indicators, with each indicator comprising a randomly selected parcel of three items.

Parenting

Parental warmth, hostility, and monitoring were assessed using a multimethod composite of child

reports, spouse reports, and observational data. Child and spouse reports were obtained using the Behavioral Affective Rating Scale (BARS; Conger, 1989a), the Iowa Parenting Scale (IPS; Conger, 1989b), and the Parental Monitoring of Child Scale (PMC; Small & Kerns, 1993). Observational data were obtained from videotaped interactions when the child was in the fifth and seventh grades. Mother-child and father-child dyads (if two-parent families) were instructed to discuss their life together with the aid of cue cards asking relevant questions. The 20-min interactions were videotaped while the interviewer was in another room and then rated by trained coders using the Iowa Family Interaction Rating Scales (Melby et al., 1998). Approximately 20%–25% of the coding was completed by a second coder to test for reliability. One family member was coded at a time. Videos were randomly assigned to coders, with the only constraint that for each parent-child dyad the child was rated by a different coder than the parent.

Warmth. To assess parental warmth, we used child and spouse reports from the BARS (nine items; 4-point Likert; e.g., During the past 3 months when did your parent let you know that really cares about you?) and the IPS (nine items; 4-point Likert; e.g., How often does your parent give you reasons for her or his decisions?), and observational data from the interaction tasks (9-point Likert). The intraclass correlation between coders of the observational data was .80 for maternal warmth and .66 for paternal warmth. These measures assess various aspects of warm parenting, including how often the parent displays affection, uses positive reinforcement, and shows concern for the child. We created a multimethod latent factor of overall "parental warmth" when the child was 10, 12, 14, and 16 years old (average $\omega = .88$). Each latent factor had four indicators, which were created by averaging across informants (child and spouses) and across methods (BARS, IPS, observational data) to remove the influence of shared method variance.

Hostility. To assess parental hostility, we used child and spouse reports from the BARS (13 items; 4-point Likert; e.g., During the past 3 months when did your parent ignores you when you tried to talk to him/her?) and observational data from the interaction tasks (9-point Likert). The intraclass correlation between coders was .86 for maternal hostility and .85 for paternal hostility. These measures assess various aspects of hostile parenting, including the frequency of hostile behavior toward the child, insulting or swearing at the child, and ignoring the child. We created a multimethod latent factor of overall "parental hostility" when the child was 10,

12, 14, and 16 years old (average $\omega = .82$). Each latent factor had four indicators, which were created by averaging across informants and methods.

Monitoring. To assess parental monitoring, we used child, spouse, and self-reports from the PMC (14 items; 4-point Likert; e.g., “Your mom/dad knew who your friends were,” “Your mom/dad knew where you were and what you were doing”) and observational data (9-point Likert). The intra-class correlation between coders was .68 for maternal monitoring and .67 for paternal monitoring. These measures assess the extent to which the parents monitor and have knowledge of their child’s whereabouts. We created a multimethod latent factor of overall “parental monitoring” when the child was 10, 12, 14, and 16 years old (average $\omega = .94$). Each latent factor had three indicators, which were created by averaging across informants and across methods. See Table S3 for detailed information about the indicators that compose the parenting latent variables.

Sibling and Peer Antisocial Behavior

The child completed a 23-item antisocial behavior scale for both siblings and peers. The scale, adapted from Thornberry, Lizotte, Krohn, Farnworth, and Jang (1994), Elliott (1990), and Pillen and Hoewing-Roberson (1992), includes a wide range of antisocial behaviors, including “selling drugs” and “hitting or threatening to hit someone.”

The sibling and peer scales included the same 23 items, but with slightly different wording and response options. For the sibling scale, participants reported whether their older sibling(s) did or did not perform each antisocial act (e.g., “In the past 3 months, did your sibling(s) hit or threaten to hit someone?”). Of the 674 children, 406 had an older sibling and completed the scale. For the peer scale, participants indicated the proportion of their peers that performed each antisocial act (e.g., “In the past 3 months, how many of your friends, hit or threatened to hit someone?”), using a 5-point scale ranging from *none of them* to *all of them*.

For both scales, we created latent factors to represent “antisocial behavior” at ages 10, 12, 14, and 16 (average $\omega = .85$ for siblings and .93 for peers). Each latent factor had four indicators, with each indicator comprised of five or six randomly selected items.

Nativity

Parents indicated whether their child was born in the United States or Mexico.

Statistical Analyses

We conducted cross-lagged regression models using Mplus V.6 (Muthen & Muthen, Los Angeles, CA, USA). A full information maximum likelihood was used to account for missing data and a robust maximum likelihood estimator to account for non-normal distributions. We tested adequate model fit by change in comparative fit index (ΔCFI) less than or equal to .01, change in McDonald’s noncentrality index (ΔNCI) less than or equal to .02 (Meade, Johnson, & Braddy, 2008), CFI values equal to or greater than .95, and root mean square error of approximation values smaller than .06 (Hu & Bentler, 1999).

In cross-lagged models, the lagged paths indicate the prospective effect of one variable on the other, after controlling for their concurrent relations, their stability over time, and competing reciprocal influences. We tested the fit indices of three structural models: (a) a model in which all structural coefficients (cross-lagged and stability paths) are freely estimated; (b) a model where the stability paths are constrained to be equal over time; and (c) a model where both the cross-lagged and stability paths are constrained to be equal over time. If the difference in fit between these models was not significant, we chose the more parsimonious model and retained the structural constraints.

Finally, we used multiple-group analyses to test whether the cross-lagged paths varied by gender and nativity. Specifically, we compared the fit of models in which the lagged pathways were constrained to be the same versus allowed to differ across groups. If the constrained model does not fit significantly worse than the unconstrained model, this indicates that the structural parameters do not vary by gender or nativity.

Results

Table S1 shows descriptive statistics for all study constructs. Tests of measurement invariance demonstrated strong invariance over time for all latent variables, except for peer antisocial behavior, which had weak invariance (see Table S2). These findings suggest that all of our latent constructs were assessed similarly across assessments. Tests of the structural parameters showed that constraining the stability and lagged pathways to be equal across assessments did not significantly reduce fit (see Table S2); therefore, we report results from models in which the stabilities and cross-lagged effects

were constrained to be equal across age intervals (10–12, 12–14, 14–16).

Are Parenting Practices and Relational Aggression Reciprocally Related Over Time?

Warmth and Hostility

Parental warmth was negatively correlated with relational aggression at each age ($r_s = -.11$ to $-.29$, $p < .05$), and parental hostility was positively correlated with relational aggression at each age ($r_s = .15$ to $.45$, $p < .01$). However, there were no significant cross-lagged associations (see Figure 1). That is, parental warmth and hostility were not associated with relative changes in relational aggression over time ($\beta_s = -.02$ to $-.03$ and $\beta_s = .04$ to $.06$, respectively; $p_s > .05$), and conversely, relational aggression was not associated with relative changes in parental warmth ($\beta_s = -.01$ to $-.02$, $p_s > .05$) or hostility ($\beta_s = .03$ to $.05$, $p_s > .05$).

Monitoring

Parental monitoring and relational aggression were negatively correlated at each age ($r_s = -.10$ to $-.30$, $p < .05$). Cross-lagged effects (Figure 1) showed that parental monitoring was associated with relative decreases in relational aggression over time ($\beta_s = -.05$ to $-.07$, $p_s < .05$). However, there were no cross-lagged effects of relational

aggression on parental monitoring ($\beta_s = -.02$ to $-.03$, $p_s > .05$).

Are Sibling/Peer Antisocial Behavior and Relational Aggression Reciprocally Related Over Time?

Sibling Antisocial Behavior

Sibling antisocial behaviors were significantly and positively correlated with relational aggression at ages 10, 12, and 14 ($r_s = .24$ to $.38$, $p < .01$), but not at age 16 ($r_s = .05$, $p > .05$). Regarding cross-lagged effects (Figure 2), youth with antisocial siblings tended to show relative increases in relational aggression over time ($\beta_s = .15$ to $.25$, $p_s < .01$). Furthermore, the prospective effects of relational aggression on sibling antisocial behavior were also significant ($\beta_s = .07$ to $.10$, $p_s < .05$). We reran the analysis using only youth with an older sibling ($N = 405$), and the cross-lagged model remains the same. Thus, relational aggression and sibling antisocial behavior were reciprocally related over time.

Peer Antisocial Behavior

Peer antisocial behavior and relational aggression were positively correlated at each age ($r_s = .31$ to $.51$, $p < .01$). Regarding the cross-lagged effects (Figure 3), higher levels of peer antisocial behavior were associated with relative increases in relational aggression over time ($\beta_s = .05$ to $.13$, $p_s < .05$).

Figure 1. Cross-lagged model of reciprocal relations between parental monitoring and relational aggression from age 10 to 16. Note. Values indicate the standardized regression coefficients.

* $p < .05$.

Figure 2. Cross-lagged model of reciprocal relations between sibling antisocial behavior and relational aggression from age 10 to 16. Note. Values indicate the standardized regression coefficients.

* $p < .05$.

Figure 3. Cross-lagged model of reciprocal relations between peer antisocial behavior and relational aggression from age 10 to 16. Note. Values indicate the standardized regression coefficients.

* $p < .05$.

However, there were no prospective effects of relational aggression on relative changes in peer antisocial behavior ($\beta_s = .01$ to $.02$, $ps > .05$).

We conducted follow-up analyses to test whether the effects of the three socialization agents are independent of each other. Specifically, we examined the effects of each of the predictors separately controlling for the other two influences (e.g., testing the effect of parental monitoring on relational aggression controlling for the effects of sibling and peer influence). Results showed that all of

the significant effects remained significant and similar in magnitude. Thus, the influence of each socialization agent is independent of, and not mediated by, the influence of the other two socialization agents. Finally, we evaluate whether the reciprocal pathways varied by gender and nativity. The models constraining the structural parameters to be the same across groups did not fit significantly worse than models allowing the parameters to vary across groups. Thus, the reciprocal pathways did not differ significantly for boys and girls,

or for individuals born in Mexico versus the U.S (Table S4).

Discussion

This study examined bidirectional pathways between socialization agents (parents, siblings, and peers) and youth relational aggression in a longitudinal study of 674 Mexican-origin youth followed from age 10 to 16. Our findings provide insight into why some individuals grow up to be relationally aggressive, whereas others do not. Specifically, youth growing up in a social context surrounded by deviant peers and siblings, and with parents who do little to monitor and regulate their behavior, tend to exhibit higher levels of relational aggression. These effects held for boys and girls and for youth born in the United States and Mexico. Moreover, the influence of each socialization agent on the development of relational aggression was unique, above and beyond the other socialization agents. We assessed parenting using a multimethod composite (child reports, parent reports, observational data), whereas most prior research has relied on a single informant. Below, we describe the findings in more detail and discuss their implications.

Parenting, Sibling, and Peer Influences on Relational Aggression

Parenting

Results showed that low parental monitoring served as a precursor to relational aggression from late childhood to adolescence. That is, youth who were poorly monitored by their parents were more relationally aggressive toward their peers over time. In contrast, parental warmth and hostility were not associated with relational aggression. It is possible that these emotional aspects of parenting have a greater impact earlier in development, prior to age 10 (Marshall & Kenney, 2009), whereas parental monitoring becomes increasingly important during the transition into adolescence, when youth spend more time outside the family context and being adequately monitored becomes even more critical (Kawabata et al., 2011). Parents low in monitoring may not provide sufficient guidance to prevent, reduce, or stop their child's relationally aggressive behavior. Parents who are high in monitoring tend to be more actively involved in their child's daily life, allowing them to more effectively socialize and

regulate their child's appropriate/inappropriate behavior (Elam, Chassin, Eisenberg, & Spinrad, 2017). It is also possible that parental monitoring influences the development of relational aggression via individual, familial, and sociocultural risk factors that exacerbate (i.e., moderate) and/or explain (i.e., mediate) the association between low monitoring and relational aggression. For example, youth who are poorly monitored *and* have an aggressive temperament are more likely to develop conduct problems (Atherton, Schofield, Sitka, Conger, & Robins, 2016). Additionally, youth who display relational aggression have underlying impulsive and callous-unemotional traits (White, Gordon, & Guerra, 2015) and poor self-control (Atherton, Tackett, Ferrer, & Robins, 2017), which may serve as mediators of the association between parental monitoring and relational aggression.

Siblings

We found that youth who engage in relational aggression tend to have antisocial siblings. Antisocial siblings may act aggressively toward the child increasing the likelihood that he or she will use relational aggression toward his or her own peers. More indirectly, the child may witness his or her siblings acting relationally aggressive, which then serves as a model for his or her own social interactions (Stauffacher & DeHart, 2006). Moreover, we found that higher levels of youth relational aggression lead to relative increases in sibling antisocial behavior later in adolescence, pointing to a transactional process. One possible explanation for this finding is that youth who engage in relational aggression toward peers may do the same toward siblings, engendering a hostile relationship that provokes the sibling to engage in more antisocial behavior. However, due to the complexity of sibling relationships related to spacing, gender constellation, and birth order, the influences of siblings on relational aggression need to be further investigated (McHale et al., 2012).

Peers

Peer antisocial behavior was also associated with relative *increases* in youth relational aggression, consistent with previous research (e.g., Sumter et al., 2009). Deviant peers may act aggressively toward the child, leading the child to reciprocate with similar behaviors and/or model them in interactions with other peers. Indirectly, hanging out in deviant peer groups may increase the general acceptance of

using aggression, which in turn, increases the likelihood that a youth will act aggressively toward peers (Farrell et al., 2017).

Finally, we found that the influence of the three socialization agents (parental monitoring, sibling, and peer antisocial behavior) were independent of each other. These unique effects suggest that interventions aimed at reducing relational aggression should target multiple social influences. Moreover, the generalizability of the findings across gender and nativity suggests that the same interventions are likely to be effective across these subgroups. However, being born in Mexico versus the United States does not fully capture the cultural processes that might affect the observed associations. Therefore, future research should examine whether Mexican heritage values (e.g., collectivism, familism) shape the development of relational aggression and its longitudinal associations with parenting, sibling and peer influences. Such research would provide more insight into the nature of this developmental process, and the degree to which cultural processes play a role.

Conclusions and Future Directions

In our quest to better understand which factors lead youth to become a “mean girl” or “mean boy,” we found that relational aggression is multiply determined via parenting, sibling, and peer influences in Mexican-origin youth. Future research should aim to replicate these findings and examine specific measures of acculturation that may help to explain within-culture variability in the observed effects. Furthermore, future studies should investigate the moderating and mediating processes that explain the associations between parenting, siblings, peers, and relational aggression. Moreover, self-reports of relational aggression only capture one perspective on peer interactions, so future research would benefit from utilizing informant reports when studying relational aggression. Nonetheless, this study provides initial evidence for the idea that youth display relational aggression, in part, because of poor parental monitoring and hanging out with deviant siblings and peers.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Table S1. Descriptive Statistics

Table S2. Fit Indices of Measurement and Structural Models

Table S3. Parenting Variables' Composition: Latent Variables and Indicators

Table S4. Fit Indices of Measurement and Structural Models by Gender and by Nativity