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Child Personality Moderates Associations Between Parenting and Relational and Physical Aggression

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Although negative parenting strategies are a risk factor for relational and physical aggression, research has not previously investigated whether child personality traits moderate the association between negative parenting and relational and physical aggression. This was the aim of this study. Participants were mothers of 368 children (172 males, \( M_{\text{age}} = 11.61, SD = 0.82 \)). Mothers reported on their parenting practices, child personality traits, and child aggression. Results indicated that 2 child personality traits (extraversion and openness) moderated the relationship between inconsistent discipline and relational aggression. Additionally, agreeableness moderated the relationship between poor monitoring and supervision and physical aggression. Specifically, children low on these personality traits showed the highest levels of aggression in the context of negative parenting. These results highlight the importance of examining child personality as a moderator of parental influences on psychopathology development, and emphasize important distinctions between parenting strategies and physical versus relational aggression outcomes.

KEYWORDS aggression, children, clinical issues, family, parenting, personality
Interactions between environmental risk factors (e.g., parenting) and individual characteristics (e.g., child personality or temperament) have been implicated in the development and maintenance of both internalizing and externalizing behaviors (Berg-Nielsen, Vikan, & Dahl, 2002; Morris et al., 2002). Relational aggression (RAgg) is defined as the intentional harm of others via the purposeful manipulation of interpersonal relationships or social exclusion (Crick & Grotpeter, 1995), and is increasingly considered to be a type of externalizing behavior (Card, Stucky, Sawalani, & Little, 2008; Tackett, Daoud, De Bolle, & Burt, 2013). RAgg is associated with maladaptive parenting practices (Kawabata, Alink, Tseng, van Ijzendoorn, & Crick, 2011) and personality (Gleason, Jensen-Campbell, & Richardson, 2004; Tackett, Kushner, Herzhoff, Smack, & Reardon, 2014), but the potential interactive contributions of parenting and child personality for RAgg have not yet been empirically investigated, which reflects the purpose of this study.

During the last decade, aggression researchers have increasingly studied more indirect, manipulative, and covert forms of aggression, including RAgg (Archer & Coyne, 2005; Card et al., 2008). RAgg is similar to both indirect (Lagerspetz, Björkqvist, & Peltonen, 1988) and social (Cairns, Cairns, Neckerman, Ferguson, & Gariépy, 1989) aggression; these constructs are generally considered collectively within the literature (Archer & Coyne, 2005; Card et al., 2008). Examples of RAgg include spreading malicious gossip about another child, encouraging others to dislike another child, divulging another child’s secrets to others, and befriending others as a form of revenge against a victim (Archer & Coyne, 2005; Crick & Grotpeter, 1995).

RAgg is strongly related to physical aggression (PAgg), but represents an empirically distinct subtype of antisocial behavior (Burt, Donnellan, & Tackett, 2012; Card et al., 2008; Tackett et al., 2013; Vaillancourt, Brendgen, Boivin, & Tremblay, 2003). Associations between RAgg and PAgg are often high. In a recent meta-analysis, Card and colleagues (2008) showed that direct and indirect aggression are highly correlated ($r = .76$). During middle childhood and early adolescence, PAgg typically decreases with the improvement of children’s emotion regulation and development of social skills, whereas RAgg typically increases with improvement in social skills and cognition (Björkqvist, Lagerspetz, & Kaukiainen, 1992; Côté, Vaillancourt, Barker, Nagin, & Tremblay, 2007; Coyne, Archer, & Eslea, 2006; Murray-Close & Ostrov, 2009). This developmental phase thus represents a critical period for examining the manifestation of RAgg, its correlates, and its connections with PAgg.

Parenting practices and parent–child relationships play important roles in the development of aggression and other externalizing behaviors (Dishion, French, & Patterson, 1995; Loeber & Dishion, 1983; Patterson, Reid, & Dishion, 1992). Parenting practices can be conceptualized as either positive
(e.g., parental involvement and positive reinforcement) or negative (e.g., inconsistent discipline, poor monitoring and supervision, and corporal punishment; Aunola & Nurmi, 2005; Barry, Frick, & Grafeman, 2008; Berg-Nielsen et al., 2002; Shelton, Frick, & Wootton, 1996). Negative parenting practices have been linked to disruptive child behavior and general externalizing behaviors, including RAgg and PAgg (Aunola & Nurmi, 2005; Kawabata et al., 2011; Shelton et al., 1996; Wells & Rankin, 1988). Several negative parenting strategies (e.g., psychological control, lack of responsiveness, maternal negative affect, maternal coercion, hostility, corporal punishment, and lack of maternal sensitivity) are positively associated with RAgg and PAgg (Brook, Zheng, Whiteman, & Brook, 2001; Casas et al., 2006; Coie & Dodge, 1998; Gershoff, 2002; Hart, Nelson, Robinson, Frost Olsen, & McNeilly-Choque, 1998; Joussemet et al., 2008; Kawabata et al., 2011; Kuppens, Laurent, Heyvaert, & Onghena, 2013; Patterson et al., 1992; Vaillancourt, Miller, Fagbemi, Côté, & Tremblay, 2007). Connections with positive parenting have also been found, such that children of parents who use positive parenting practices have lower rates of RAgg and PAgg (Casas et al., 2006; Coie & Dodge, 1998; Hart et al., 1998; Kawabata et al., 2011; Snyder, Reid, & Patterson, 2003). Relatedly, children of mothers who engage in effective coaching about peer conflicts show lower levels of RAgg (Werner, Eaton, Lyle, Tseng, & Holst, 2013). At present, the full range of negative parenting practices—including inconsistent discipline, corporal punishment, and poor monitoring and supervision—have not yet been studied in connection to RAgg.

Altogether, the existing literature shows evidence for robust associations between parenting practices and childhood aggression (RAgg and PAgg), such that negative parenting is positively associated with aggressive behavior, whereas positive parenting is negatively associated with aggressive behavior (Hart et al., 1998; Joussemet et al., 2008; Kawabata et al., 2011; Patterson et al., 1992). However, the extent to which child individual differences might moderate these associations has not yet been investigated. This represents the focus of this study.

Child personality—particularly traits reflecting tendencies toward negative emotions (e.g., neuroticism) and poor self-regulatory control (e.g., low trait agreeableness and conscientiousness)—is robustly associated with externalizing behaviors, including RAgg (Gleason et al., 2004; Tackett et al., 2013; Tackett et al., 2014) and PAgg (Barlett & Anderson, 2012; Tackett, 2006; Tackett, Martel, & Kushner, 2012). Further, these traits have been shown to moderate the associations between negative parenting practices and general externalizing behaviors (De Clercq, Van Leeuwen, De Fruyt, Van Hiel, & Mervielde, 2008; Prinzie et al., 2003; Van Leeuwen, Mervielde, Braet, & Bosmans, 2004). Specifically, children with high neuroticism, low agreeableness, and low conscientiousness show higher rates of externalizing problem behaviors in the context of negative parenting relative to children with low neuroticism, high agreeableness,
and high conscientiousness. Collectively, this work suggests that the influence of parenting practices on developmental outcomes might depend on the personality characteristics of the child. At present, the potential interplay between negative parenting practices and vulnerable personality traits (i.e., those traits known to be associated with increased risk for RAgg) has not yet been investigated. Moreover, it is unclear whether the joint influence of parenting and personality will vary across different types of aggression (i.e., RAgg vs. PAgg).

This Study

The goal of this study was to examine child personality as a moderator of the associations between parenting and RAgg and PAgg. In line with prior research, the following hypotheses were made: (a) negative parenting strategies (e.g., inconsistent discipline, corporal punishment, and poor monitoring and supervision) would be associated with higher levels of RAgg and PAgg, consistent with previous associations in the literature; and (b) the association between parenting strategies and RAgg and PAgg would be moderated by child personality traits (i.e., neuroticism, agreeableness, and conscientiousness). Specifically, children with personality traits associated with psychopathology risk—in the context of negative parenting strategies—would have higher rates of RAgg and PAgg. There was insufficient empirical basis for formulating hypotheses about specific interactive effects across different subtypes of parenting practices, so such analyses were considered exploratory. Given the much smaller body of existing work on RAgg compared to PAgg, differential connections for RAgg and PAgg with parenting-personality interactions were also considered exploratory.

METHOD

Participants

Participants were 368 mothers of children primarily aged 10 to 12 years ($M = 11.61$, $SD = 0.82$; 172 males (47%), full age range = 9–14). Within the sample, parents reported the following ethnicities for their children: 67% European descent, 18% other or multiracial, 9% Asian, 3% African Canadian, 0.3% Latino, 0.3% Pacific Islander, and 2.4% did not specify. Participation was voluntary and participants were recruited from an urban community in southern Ontario, Canada, using a database of families who were interested in participating in research, flyers posted in the community, and newspaper advertisements. Inclusion criteria for the study were parent and child fluency in English, and the absence of psychotic disorders, mental retardation, and neurodevelopmental disorders in the child.
Measures

INVENTORY OF CHILD INDIVIDUAL DIFFERENCES

The Inventory of Child Individual Difference (ICID; Halverson et al., 2003) is a 144-item questionnaire that was completed by mothers. The ICID assesses a five-factor higher order structure of personality in children, which is analogous, but not identical, to the Five-factor model in adults (Costa & McCrae, 1992; Goldberg, 2001). Each item is rated on a 7-point scale ranging from 1 (much less than the average child or not at all) to 7 (much more than the average child). This study examined domain scores reflecting the child’s Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), and Conscientiousness (C). The ICID domain scores had coefficient alphas ranging from .91 to .95 (average $\alpha = .93$) in this study.

ALABAMA PARENTING QUESTIONNAIRE

The Alabama Parenting Questionnaire (APQ; Essau, Sasagawa, & Frick, 2006; Frick, Christian, & Wootton, 1999) is a 42-item parent-report questionnaire that measures the frequency of parenting behaviors. Each item is rated on a 5-point scale ranging from 1 (never) to 5 (always). The APQ measures five parenting domains: parent involvement, positive parenting, poor monitoring/supervision, inconsistent discipline, and corporal punishment. The APQ scales had coefficient alphas ranging from .64 to .76 (average $\alpha = .72$) in this study.

CHILDREN’S SOCIAL BEHAVIOR SCALE

The Children’s Social Behavior Scale (CSBS; Crick, 1996) is a 13-item parent-report questionnaire that assesses a child’s RAgg, PAgg, and prosocial behavior. Each item is rated on a 5-point scale ranging from 1 (never true) to 5 (almost always true). For this study, the 5 items assessing the RAgg domain and the 4 items assessing the PAgg domain were used. The CSBS scales had a coefficient alpha of .74 for RAgg and .75 for PAgg in this study.

Procedures

Data for this investigation were drawn from the third wave of a four-wave longitudinal investigation. At intake, the initial sample consisted of 346 children primarily aged 9 and 10 years old. Participating families were invited to complete three subsequent yearly follow-up assessments. In total, 275 families completed the third study wave (a 74% response rate) approximately 2 years after the intake wave. During the third wave, an additional 93 children (primarily 11–12 years old) and their families were newly recruited to account for attrition. Packages including informed consent documentation and the
ICID were mailed to participating families to be completed and returned on arrival at an in-lab testing session. Participating children and one caregiver (87% mothers, 13% fathers) were also invited to the laboratory to participate in a 2.5-hour visit to complete a battery of assessments and behavioral tasks, including the APQ. Ethics approval for this investigation was obtained from the research ethics board at the University of Toronto. Compensation was commensurate with the extent of participation in the study, such that longitudinal participants received up to $65 CAD, and newly recruited participants received up to $45 CAD. All participating children received an additional $10 gift card. Missing data (15% APQ, 4% ICID, 6% CSBS) were imputed using the expectation-maximization (EM) algorithm in SPSS 22 and Little’s missing completely at random test was not significant, \( \chi^2 = 40.04, p = .921 \). Given the number of analyses conducted, a stricter alpha of \( p < .01 \) was used to guide interpretation of results.

RESULTS

Descriptive statistics and correlations among study variables are displayed in Table 1. Unique associations between parenting practices, personality traits, and RAagg and PAagg were examined in four multiple regression analyses with block entry of all five parenting and personality variables (parenting practices and personality traits were examined in separate models; see Table 2). RAagg was best predicted by unique variance in inconsistent discipline (\( b = .22, p < .001 \)), E (\( b = 1.25, p < .001 \)), and A (\( b = -.90, p = .002 \)); whereas PAagg was best predicted by unique variance in poor monitoring and supervision (\( b = 2.10, p = .002 \)).

We next examined whether child personality traits moderated associations between parenting practices and RAagg and PAagg. Hierarchical regression analyses were conducted separately for each personality trait (i.e., 1: N; 2: E; 3: O; 4: A; 5: C). Specifically, RAagg and PAagg scores were predicted from all parenting practices, one of the personality traits, and the interaction terms between that personality trait and each parenting strategy, for a total of 10 models (5 models for RAagg and 5 models for PAagg; see Table 3). In all models, we first entered the main effects for all five parenting strategies and one personality trait (Step 1), followed by the multiplicative interaction term between the parenting strategies and the personality trait (Step 2). All independent variables were mean-centered prior to analysis. Significant interactions were probed using simple slope analyses at RAagg and PAagg levels 1 SD above and below the mean using Hayes’s (2013) PROCESS modeling.

The association between inconsistent discipline and RAagg was significantly moderated by two of the five personality traits (E and O; see Figure 1 and Table 3). A similar pattern of results emerged for both personality
TABLE 1 Correlations and Descriptive Statistics of Parenting Practices, Personality Traits, RAgg, PAgg, and Age

<table>
<thead>
<tr>
<th>Variable</th>
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<tbody>
<tr>
<td>1. Parental involvement</td>
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<td>2. Positive punishment</td>
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<td>3. Inconsistent discipline</td>
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<td>-.21</td>
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<td>4. Corporal punishment</td>
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<td>5. Poor monitoring</td>
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<td>-.29</td>
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<td>6. N</td>
<td>-.31</td>
<td>-.21</td>
<td>.32</td>
<td>.24</td>
<td>.14</td>
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<td>7. E</td>
<td>.30</td>
<td>.29</td>
<td>-.06</td>
<td>-.07</td>
<td>-.01</td>
<td>-.47</td>
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<td>8. O</td>
<td>.30</td>
<td>.28</td>
<td>-.18</td>
<td>-.13</td>
<td>-.11</td>
<td>-.59</td>
<td>.69</td>
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<td>9. A</td>
<td>.34</td>
<td>.26</td>
<td>-.32</td>
<td>-.21</td>
<td>-.16</td>
<td>-.80</td>
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<td>10. C</td>
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<td>-.27</td>
<td>-.13</td>
<td>-.19</td>
<td>-.61</td>
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<td>.78</td>
<td>.49</td>
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<tr>
<td>11. RAgg</td>
<td>-.04</td>
<td>.00</td>
<td>-.30</td>
<td>.05</td>
<td>.11</td>
<td>.23</td>
<td>-.07</td>
<td>-.12</td>
<td>-.23</td>
<td>-.16</td>
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<tr>
<td>12. PAgg</td>
<td>-.19</td>
<td>-.06</td>
<td>.13</td>
<td>.12</td>
<td>.21</td>
<td>.25</td>
<td>-.10</td>
<td>-.16</td>
<td>-.25</td>
<td>-.20</td>
<td>.33</td>
<td></td>
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<tr>
<td>13. Age</td>
<td>-.08</td>
<td>-.01</td>
<td>-.03</td>
<td>-.07</td>
<td>.27</td>
<td>-.02</td>
<td>-.04</td>
<td>.02</td>
<td>.01</td>
<td>.02</td>
<td>-.05</td>
<td>-.06</td>
<td></td>
</tr>
</tbody>
</table>

Descriptive statistic

| M     | 40.48| 24.84| 12.43| 3.53| 3.95| 3.49| 4.99| 5.13| 4.91| 4.52| 7.58| 4.50| 11.61 |
| SD    | 4.26| 2.82| 3.20| .10| .10| .69| .65| .76| .75| .95| 2.47| 1.31| .82 |

Note: N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness; RAgg = relational aggression; PAgg = physical aggression. Correlation coefficients listed in bold are significant (p < .05).

TABLE 2 Multiple Regression Analysis of Parenting Practices and Personality Traits Predicting RAgg and PAgg Scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>RAgg</th>
<th>PAgg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental involvement</td>
<td>-0.06 0.04 [.14, .01] .14 11.30***</td>
<td>-0.05 0.02 [-.09, -.01] .07 5.78***</td>
</tr>
<tr>
<td>Positive parenting</td>
<td>0.09 0.05 [-.02, .19]</td>
<td>0.03 0.03 [-.03, .09]</td>
</tr>
<tr>
<td>Inconsistent discipline</td>
<td>0.22*** 0.04 [.14, .30]</td>
<td>0.02 0.02 [-.02, .07]</td>
</tr>
<tr>
<td>Corporal punishment</td>
<td>0.44 1.29 [-2.11, 2.98]</td>
<td>0.99 0.71 [-.41, 2.39]</td>
</tr>
<tr>
<td>Poor monitoring and supervision</td>
<td>3.21 1.24 [.77, 5.65]</td>
<td>2.10** 0.69 [.75, 3.44]</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>0.39 0.32 [-.24, 1.02] .11 8.88***</td>
<td>0.19 0.17 [-.16, .53] .08 6.00***</td>
</tr>
<tr>
<td>Extraversion</td>
<td>1.25*** 0.30 [.65, 1.85]</td>
<td>0.16 0.17 [-.17, .48]</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>-0.67 0.35 [-1.37, .02]</td>
<td>-0.01 0.19 [-.38, .37]</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-0.90** 0.29 [-1.46, -.33]</td>
<td>-0.30 0.16 [-.60, .01]</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.23 0.24 [-.23, .70]</td>
<td>-0.12 0.13 [-.37, .14]</td>
</tr>
</tbody>
</table>

Note: RAgg = relational aggression; PAgg = physical aggression.

**p < .01. ***p < .001.
### TABLE 3 Hierarchical Regression Analyses With Parenting Practices, Personality Traits, and Their Interaction Predicting RAgg and PAgg Scores

| Step | Variable     | RAgg |       |       |       |       |       |       | PAgg |       |       |       |       |       |
|------|--------------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
|      |              | B    | SE_β | β    | 95% CI | R²   | F     | B    | SE_β | β    | 95% CI | R²   | F     |
| 2    | PI × N       | -0.05| 0.05  | -0.06| [-0.15, 0.05] | .16  | 6.28***| -0.07| 0.03  | -0.15| [-0.12, -0.01] | .14  | 5.38***|
|      | PP × N       | 0.05 | 0.08  | 0.04 | [-0.10, 0.20] | .04  | 0.04  | 0.05 | [-0.04, -0.12] |    |       |       |       |       |       |
|      | ID × N       | 0.12 | 0.06  | 0.11 | [0.01, 0.24] | .00  | 0.03  | 0.00 | [-0.06, 0.07] |    |       |       |       |       |       |
|      | CP × N       | -1.31| 1.99  | -0.04| [-5.22, 2.61] | .81  | 1.07  | -0.04| [-2.92, 1.30] |    |       |       |       |       |       |
|      | PMS × N      | -0.60| 1.95  | -0.02| [-4.43, 3.23] | 0.8  | 1.05  | 0.11 | [0.02, 4.15] |    |       |       |       |       |       |
| 2    | PI × E       | 0.06 | 0.06  | 0.07 | [-0.06, 0.17] | .17  | 6.41***| 0.05 | 0.03  | 0.11 | [-0.01, 0.11] | .11  | 3.84***|
|      | PP × E       | -0.10| 0.09  | -0.08| [-0.27, 0.07] | .05  | 0.05  | -0.07| [-0.15, 0.04] |    |       |       |       |       |       |
|      | ID × E       | -0.17***| 0.06 | -0.14| [-0.30, -0.05] | .02  | 0.03  | -0.03| [-0.09, 0.05] |    |       |       |       |       |       |
|      | CP × E       | -0.38| 1.93  | -0.01| [-4.16, 3.41] | 2.27 | 1.06  | 0.12 | [.18, 4.35]   |    |       |       |       |       |       |
|      | PMS × E      | -0.97| 2.04  | -0.03| [-4.98, 3.04] | -1.39| 1.12  | -0.07| [-3.60, 0.81] |    |       |       |       |       |       |
| 2    | PI × O       | -0.01| 0.05  | -0.01| [-0.10, 0.09] | .16  | 6.23***| 0.02 | 0.03  | 0.06 | [-0.03, 0.07] | 3.47***|       |       |
|      | PP × O       | -0.06| 0.07  | -0.06| [-0.20, 0.08] | .03  | 0.04  | -0.05| [-0.11, 0.05] |    |       |       |       |       |       |
|      | ID × O       | -0.15***| 0.06 | -0.14| [-0.26, -0.04] | .01  | 0.03  | -0.02| [-0.07, 0.05] |    |       |       |       |       |       |
|      | CP × O       | 1.76 | 1.75  | 0.05 | [-4.19, 5.21] | 0.70 | 0.97  | 0.04 | [-1.21, 2.61] |    |       |       |       |       |       |
|      | PMS × O      | -1.01| 1.59  | -0.04| [-4.14, 2.12] | -1.16| 0.88  | -0.08| [-2.89, 0.57] |    |       |       |       |       |       |
| 2    | PI × A       | 0.07 | 0.05  | 0.09 | [-0.02, 0.16] | .18  | 7.08***| 0.05 | 0.03  | 0.12 | [0.00, 0.10] | 1.6 | 6.13***|
|      | PP × A       | -0.07| 0.07  | -0.06| [-0.21, -0.07] | .07  | 0.04  | -0.10| [-0.14, -0.01] |    |       |       |       |       |       |
|      | ID × A       | -0.12| 0.05  | -0.12| [-0.22, -0.02] | .01  | 0.03  | -0.02| [-0.06, -0.05] |    |       |       |       |       |       |
|      | CP × A       | -1.53| 2.01  | -0.04| [-5.48, 2.43] | -0.67| 1.08  | -0.03| [-2.80, 1.47] |    |       |       |       |       |       |
|      | PMS × A      | -1.07| 1.67  | -0.05| [-4.35, 2.22] | 2.98**| 0.90  | -0.18| [-1.76, 1.21] |    |       |       |       |       |       |
| 2    | PI × C       | -0.01| 0.04  | -0.01| [-0.09, 0.08] | .16  | 5.97***| 0.02 | 0.02  | 0.05 | [-0.05, 0.06] | 5.6 | 3.56***|
|      | PP × C       | -0.07| 0.06  | -0.08| [-0.18, -0.04] | .02  | 0.03  | -0.05| [-0.09, 0.04] |    |       |       |       |       |       |
|      | ID × C       | -0.10| 0.04  | -0.12| [-0.18, -0.01] | .02  | 0.02  | -0.04| [-0.06, 0.03] |    |       |       |       |       |       |
|      | CP × C       | 1.80 | 1.62  | 0.06 | [-1.38, 4.98] | -0.50| 0.89  | -0.05| [-2.25, 1.25] |    |       |       |       |       |       |
|      | PMS × C      | -0.47| 1.38  | -0.02| [-3.18, 2.25] | -0.25| 0.76  | -0.02| [-1.74, 1.25] |    |       |       |       |       |       |

Note: The variables entered in Step 1 of the models were parental involvement, positive parenting, inconsistent discipline, corporal punishment, and poor monitoring and supervision along with one of the five personality traits. RAgg = relational aggression; PAgg = physical aggression; PI = parental involvement; PP = positive parenting; ID = inconsistent discipline; CP = corporal punishment; PMS = poor monitoring and supervision; N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness.

*pp < .01. **p < .001.
traits. Specifically, inconsistent discipline was associated with RAgg when E was low ($b = .33$), $t(356) = 5.99$, $p < .001$, but was not associated with RAgg when E was high ($b = .11$), $t(356) = 1.90$, $p = .058$. Inconsistent discipline was also associated with RAgg when O was low ($b = .33$), $t(356) = 5.58$, $p < .001$, but was not associated with RAgg when O was high ($b = .09$), $t(356) = 1.58$, $p = .115$. In contrast, when examining PAgg (see Figure 2 and Table 3), the association between poor monitoring and supervision was significantly moderated by A. Specifically, poor monitoring and supervision was associated with PAgg when A was low ($b = 3.90$), $t(356) = 4.27$, $p < .001$, but was not associated with PAgg when A was high ($b = .54$), $t(356) = .56$, $p = .578$.

**DISCUSSION**

This investigation provides evidence that child personality traits differentially moderate the impact of negative parenting practices on aggressive behavior in youth. Specifically, the influence of inconsistent discipline on RAgg was moderated by E and O, whereas the influence of poor monitoring and supervision on PAgg was moderated by A. The moderation by E and O was largely unexpected, and contrary to our hypothesis that N and C would moderate the association between negative parenting practices and RAgg and PAgg. Our findings provide support for the
hypothesis that A would moderate associations between negative parenting practices and aggression (specifically PAgg). Parenting practices were also shown to have specific main effects on youth aggression, such that inconsistent discipline was uniquely associated with RAgg, whereas poor monitoring and supervision was uniquely associated with PAgg. These findings provide support for our hypothesis that negative parenting practices would be associated with RAgg and PAgg. This work extends the small literature on associations between parenting, RAgg, and PAgg, both by highlighting specific parenting practices that confer risk for different types of aggression, and by highlighting child personality traits that might exacerbate the effects of negative parenting.

Interactions between parenting practices and child E and O were somewhat unexpected, as these traits have not previously shown strong associations with RAgg. Only limited prior research has similarly observed associations between openness and RAgg (Tackett et al., 2014). E and O are generally highly intercorrelated and are both positively associated with effective coping strategies, general adaptation, and low risk for psychopathology (Abe, 2005; Costa & McCrae, 1980; Hampson, 2012; Herzhoff & Tackett, 2012; Lamers, Westerhof, Kovács, & Bohlmeijer, 2012). These findings suggest that children evidencing low levels of these traits—that is, children who are more introverted and show lower levels of intellectual approach and engagement—might be especially susceptible to inconsistent disciplinary strategies, and ultimately manifest

FIGURE 2 Parenting practices × personality trait interaction for Agreeableness predicting physical aggression (PAgg).

Note: The simple slope for low Agreeableness is significant ($p < .001$).
higher levels of RAgg in such a context. These findings are consistent with the dual risk model, which suggests that the combined effects of trait vulnerability (e.g., low E and O) and environmental risk (e.g., inconsistent discipline) increase susceptibility for negative outcomes (Sameroff, 1983). Accordingly, introverted and intellectually conservative children reared in highly inconsistent environments might be more likely to use RAgg than extroverted and intellectually curious children. However, it is also possible that inconsistent discipline might have contributed to children’s low levels of trait E and O, such that exposure to inconsistent discipline strategies over time could have resulted in lower levels of E and O, thus increasing risk for RAgg. In contrast to our hypotheses, child personality traits N, A, and C did not moderate the effects of parenting on RAgg; nevertheless, correlations between these traits and parenting and RAgg were in expected directions.

In line with prior research on general externalizing problems (De Clercq et al., 2008; Morris et al., 2002; Prinzie et al., 2003; Van Leeuwen et al., 2004), A moderated the impact of poor monitoring and supervision on PA gg. Specifically, disagreeable children showed elevated levels of PA gg relative to agreeable children when exposed to poor monitoring and supervision. Low A is often associated with poor self-regulatory skills, which may lead to under controlled behavior (Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996). Furthermore, individuals who are low on A are more likely to see disruptive conflict resolution tactics (e.g. physical action) as acceptable means to handle interpersonal conflict (Jensen-Campbell, Gleason, Adams, & Malcolm, 2003). In contrast to our hypotheses, child personality traits N and C did not moderate the effects of parenting on PA gg; nevertheless, correlations between these traits and parenting and PA gg were in expected directions.

Altogether, these results suggest that certain parenting practices might differentially increase vulnerability for either RA gg or PA gg. Whereas inconsistent discipline was positively associated with RA gg, poor monitoring and supervision was positively associated with PA gg. Children reared in unpredictable environments (e.g., those characterized by inconsistent discipline) might have greater difficulty predicting when consequences for misbehavior will occur (Patterson et al., 1992; Prinzie et al., 2003). These children might experience increased frustration over the inability to predict environmental consequences, which could lead to a reliance on manipulative strategies to try and regain control over other aspects of their environment where they have more control (e.g., peer interactions), thereby contributing to RA gg. Children reared in permissive environments (e.g., those characterized by poor monitoring and supervision) might interpret lack of supervision as approval of their behavior (Dodge, 1991). As a result, permissive parenting might inadvertently reinforce negative behaviors, increasing children’s reliance on physical strategies to exert
dominance and control over their environment (e.g., peer interactions), thereby contributing to PAgg. Future research should work toward understanding the mechanisms through which these differences occur.

Clinical Implications

These results have relevance for developing effective interventions that target children at highest risk for aggressive behavior (RAgg and PAgg). In particular, these findings provide potential targets (inconsistent discipline and poor monitoring and supervision strategies, vulnerable personality traits) for early intervention. Clinicians should focus intervention efforts on those children with vulnerable personality profiles, as they are at a higher risk for the development of psychopathology. For example, behavioral family interventions, which teach parents to increase positive interactions and reduce inconsistent parenting practices, might be effective for conduct problems (Sanders, Markie-Dadds, Tully, & Bor, 2000). Ways in which parents can increase positive interactions include establishing quality time between the parent and the child, increasing displays of physical affection, modeling appropriate actions, and reinforcing positive behaviors. To decrease inconsistent parenting practices, parents can set rules, provide clear and simple directives, and carry out consequences as soon as the child misbehaves.

Previous intervention research has also highlighted the efficacy of temperament-focused psychoeducational intervention for mothers of children with difficult temperaments (Sheeber & Johnson, 1994). Perhaps developing similar interventions that include psychoeducational components for child personality—particularly for children who have a vulnerable personality profile—will be beneficial in educating parents on how the use of specific parenting strategies might differentially interact with their child’s personality. Such an intervention would include providing psychoeducation on the nature of vulnerable personality profiles (e.g., high N and low E, O, A, and C), and helping parents see how their own parenting could contribute to child behavior problems. For example, children low on self-regulatory personality traits (low A and C) might be more likely to have temper tantrums compared to children without the vulnerability. Once the parent recognizes the personality characteristics contributing to behavioral problems, the parent could then adjust their parenting to match their child’s personality profile. Using the preceding example, creating an environment that was very structured and consistent would help reduce instances where the child would be confronted with unexpected situations and thus reduce the amount of tantrums.
Limitations and Future Directions

Although this study provides novel information about the interactive effects of child personality and parenting on RAagg and PAagg, several limitations are of note. First, we examined mother-reported data only; accordingly, the observed correlations might be influenced by shared method variance. Whereas overt behaviors like PAagg are easily observable, RAagg could be harder to detect, and thus might be underreported by mothers. As such, multi-informant reports of RAagg are recommended (Archer & Coyne, 2005; Card et al., 2008; Crick & Grotpeter, 1995; Vaillancourt et al., 2003). Future research should examine interconnections among parenting, personality, and RAagg using multi-informant reports. Second, the cross-sectional design of this study limits our ability to evaluate causal connections among parenting, personality, and RAagg. Future research would benefit from using longitudinal designs to help further evaluate the interconnections among parenting, personality, and child aggression.

Third, the moderation effects for this study were small, and as such, warrant replication in future studies. Fourth, the design of the study did not allow for consideration of other factors, such as family violence, that could contribute both to maternal parenting strategies and RAagg and PAagg. Future research would benefit from disentangling whether or not associations between personality and negative parenting strategies are being influenced by family violence. Fifth, this study relies on a relatively ethnically homogenous sample (the majority of children were identified by their parents as of European descent) and thus might limit generalizability. Given emerging research that has suggested that ethnic differences might exist in rates of RAagg, such that African American youth might show higher levels of RAagg relative to their European and Hispanic American peers, (Holmes & Lochman, 2009; Reingle, Maldonado-Molina, Jennings, & Komro, 2012; Williams, Fredland, Han, Campbell, & Kub, 2009) it is important that future studies replicate these findings in more ethnically diverse samples. Finally, future research should examine other factors that could influence the development and maintenance of aggressive behavior that were not included in this study (e.g., friendship quality, popularity). Nevertheless, this study makes novel contributions to the field by examining the interaction between parenting practices and RAagg and PAagg.

Conclusion

In conclusion, these findings elucidate the interactive contributions of child personality and parenting practices for RAagg and PAagg in middle childhood and early adolescence. This study extends prior work on parenting, personality, and general externalizing behaviors (De Clercq et al., 2008; Morris et al.,
2002; Prinzie et al., 2003; Van Leeuwen et al., 2004), offering specific evidence for RAgg and PAgg behaviors. Specifically, inconsistent parenting appears to increase risk for child RAgg, and this is especially true for children who are low on E and O. Poor monitoring and supervision appears to increase risk for child PAgg, and this is especially true for those children who are low on A. These findings also highlight the importance of both the environment and individual factors in the development of psychopathology. This research has implications for parenting strategies that attend to and accommodate the child’s individual personality characteristics to increase child-specific adaptive outcomes.

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