Maternal and paternal attributions in the prediction of boys’ behavior problems across time.


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Abstract

**Objective:** Examine the extent to which mother and father attributions for child behavior problems predict child behavior problems over time, accounting for the other parent's attributions, initial child problems and the child’s ADHD status.

**Method:** Parents of 7 to 12 year old boys with ($n = 26$) and without ($n = 38$) ADHD participated. Parents completed the Strengths and Difficulties Questionnaire (SDQ) as a measure of their son's behavior problems as well as the Written Analogue Questionnaire (WAQ), reporting their attributions for child behavior problems. Parents completed the SDQ a second time 7 months later.

**Results:** Both mother and father attributions were associated with child behavior problems at Time 1 and again 7 months later. However, when ADHD status and the other parent's attributions for child behavior were controlled, only father attributions predicted child behavior problems, and continued to be uniquely predictive of child behavior problems at Time 2 even with initial child behavior problems controlled.

**Conclusion:** Father attributions provide unique information above and beyond mother attributions when considering current and future child behavior problems.

Keywords: Parental attributions, mother, father, child behavior problems, ADHD
Maternal and Paternal Attributions in the Prediction of Boys' Behavior Problems Across Time

Parental attributions reflect their interpretations and causal explanations for child behaviors. Negative parental attributions are those in which parents see their child's problem behavior as intentional, pervasive and stable over time, and the child is held responsible for the outcomes of the behavior. Such attributions are associated with a range of child problems (Bugental & Johnston, 2000), and are predictive of these problems above and beyond the contributions of child characteristics (e.g., Johnston, Hommersen, & Seipp, 2009). Recent studies suggest that mother and father attributions may be differentially predictive of child problems (e.g., Werner, 2012) and in this study, we extend this previous research, and investigate whether both mother and father attributions are concurrently and longitudinally associated with child behavior problems.

**Parental Attributions and Child Attention-Deficit/Hyperactivity Disorder (ADHD)**

Previous studies have found that parents of children with ADHD offer different, often more negative, attributions for child misbehavior than parents of typically developing children (e.g., Johnston et al., 2009; Markel & Wiener, 2012). Indeed, the chronic nature of child ADHD and its association with pervasive impairments in a variety of domains, including parent-child interactions (Barkley, 2006), leads parents of children with ADHD to experience significant stress and parenting challenges (Deault, 2010), and is a likely influence on these attributions. In addition, ADHD is highly comorbid with psychopathologies including opposition/conduct problems (30-60%) and mood/anxiety symptoms (20-40%; Barkley, 2006) and parental attributions for these types of associated problems may play an important role in predicting their presence and/or development over time. Thus, our inclusion of children with and without ADHD allows not only for coverage of a range of parent attributions, but also for clarity in controlling
for ADHD when testing unique links between parental attributions and general child problems. Although inclusion of both sons and daughters with ADHD would be ideal, we focus in this study on sons, given the higher prevalence of ADHD in male children (Barkley, 2006) and a desire to maximize attention to differences between mother and father attributions. We predict that even with child ADHD status controlled, negative parental attributions will positively predict child behavior problems. Given that psychological functioning is a known predictor of both parental attributions and child behavior problems (Geller & Johnston, 1995; Montes, de Paúl, & Milner, 2001), we also control for parental psychological functioning if warranted.

**Mother and Father Attributions**

Existing literature addressing negative parental attributions is limited by a focus on mother attributions—excluding, or under-representing father attributions (Bugental & Johnston, 2000). Even when fathers are included, mother and father attributions are often combined into a single variable, or analyses are conducted separately for mothers and fathers (e.g., Natale, Aunola, & Nurmi, 2009). However, the critical role that fathers play within families is increasingly apparent (McDowell & Parke, 2005). Compared to mothers, fathers make unique contributions to aspects of child development such as social skills (Kaiser, McBurnett, & Pfiffner, 2011), empathy (Pleck, 1997), and adjustment in adolescence (Leidy et al., 2011). In addition, mother and father attributions for child behavior may not only be different (e.g., Chen, Seipp, & Johnston, 2008; Lansford et al., 2011), but also may be differentially associated with child outcomes (Chen, Johnston, Sheeber, & Leve, 2009; Markel & Wiener, 2012; Werner, 2012).

Differential relations with mother and father attributions have been found for both internalizing and externalizing child problems. For example, in a study of parents of adolescents
with depressive symptoms, Chen and colleagues (2009) found that both mother and father negative attributions for their daughter's behavior were associated with the daughter's depressive symptoms. However, although negative mother attributions partially mediated the association between mother and daughter depressive symptoms, there was no evidence of such mediation for father attributions. Further, Werner (2012) found that more negative mother attributions were associated with higher levels of child relational aggression, but only for girls. There were no significant associations between father attributions and aggression, regardless of the child’s gender. Another indication of mother vs. father differences emerged in a study by Nelson, Mitchell, and Yang (2008) which found that father attributions were related to child relational aggression, while mother attributions were related to instrumental, but not relational, aggression. Finally, the distinctive nature of mother vs. father attributions has also appeared in samples of youth with ADHD (e.g., Chen et al., 2008). For example, Markel and Wiener (2012) found that mother attributions did not predict parent-child conflict above and beyond youth ADHD status, however, fathers’ attributions were related to conflict with the youth regardless of ADHD status.

These differences between mother and father attributions in their associations with child outcomes underscore that it is critical that fathers not only be included in studies, but that analyses be conducted to identify whether associations between father attributions and child outcomes are significant above and beyond mother variables. In this study, we include both mother and father attributions in the same predictive model in order to control for shared variance between parental attributions and to assess not only the strength of the relations between both mother and father attributions and child behavior, but also whether mother and father attributions are uniquely related to child problems. Based both on the different roles that mothers and fathers play in child-rearing and the results of previous studies of mother and father
attributions, we expect that mother and father attributions will each be associated with child problem behaviors, but that the nature and strength of these relationships may vary. However, the limited number of previous studies and their somewhat inconsistent findings preclude specific predictions regarding the nature of such differences.

**Longitudinal Analyses**

The majority of research on attributions and child behavior problems is cross-sectional (Bugental & Johnston, 2000), and the longitudinal studies that do exist often included only mothers (e.g., Nix et al., 1999). For example, Johnston and colleagues (2009) found that mothers' initial attributions for their child's oppositional behavior significantly predicted child oppositional behavior 1 year later, even when controlling for child ADHD status, initial levels of child oppositional behavior, and parenting behavior. Child oppositionality did not predict subsequent mother attributions. Similarly, Nix and colleagues (1999) investigated child misbehavior longitudinally and found that mother hostile attributions predicted subsequent child externalizing behavior even after controlling for previous levels of child externalizing behavior. In contrast, Wilson, Gardner, Burton, and Leung (2006) found that conduct problems in toddlers predicted change in mother attributions over time, but not the reverse. However, given the young age of the children in this study, it is difficult to compare these results with studies of older children (e.g., Johnston et al., 2009; Nix et al., 1999).

Thus, the limited longitudinal research tentatively suggests that negative mother attributions can predict subsequent child problems (Johnston et al., 2009; Nix, 1999), although the likely reciprocal and transactional relation between parental attributions and child problems over time is acknowledged. However, the contribution of mother vs. father attributions to the longitudinal prediction of child problems has not been examined. We address this issue by
including fathers in our longitudinal analysis and predict that initial levels of both mother and father negative attributions will positively predict child behavior problems at Time 2, even after Time 1 child problems are controlled. In summary, this study is the first to address questions of the unique associations of mother and father attributions with child problems, both concurrently and longitudinally.

Method

Participants

Sixty-four two-parent families of 7-12 year old boys from an urban center in Canada participated. The average household income was in the $50,000 to $74,999 range. All but one set of parents were biological parents; this family was not atypical in their responses on any measure. Families with members who had been speaking English for less than 3 years or children with physical or mental disorders that would prevent them from participating fully were excluded. Twenty-six families of children with ADHD were recruited from clinical sources and 38 control families were recruited via community advertisements and a volunteer registry. See Table 1 for demographic information.

The ADHD Rating Scale-IV (ADHD-IV; DuPaul, Power, Anastopoulos, & Reid, 1998) was completed by mothers and other informants (78% teachers) to assess child ADHD symptoms. This 18-item measure is keyed to DSM-IV criteria with items rated on a 4-point scale ranging from 0 (Never or Rarely) to 3 (Very Often) and has good psychometric qualities (DuPaul et al., 1998). In this study, the internal consistencies ranged from .80 to .91 across the two subscales and across mothers and other informants.

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1In an initial sample of 65 families, one outlier was observed. This mother responded inconsistently both within and across questionnaires and rated herself as relatively low on acculturation. As a result, we omitted this family.
In order to be considered to have ADHD, either the mother or other informant had to rate a boy as *often* or *very often* showing at least six inattentive or hyperactive-impulsive symptoms. In addition, boys had to have been diagnosed by a health professional, symptoms had to be present before the age of 7, and either the mother or the other informant had to rate the child as impaired by his symptoms as measured by a single-item rating on a 4-point scale (*Not At All Impaired* to *Very Impaired*). Ratings above the mid-point of the scale were considered to indicate impairment. Although parents completed measures of child behavior thinking of the child off medication, 16 of the 26 boys with ADHD were taking medication and 7 of these were medicated while participating. Neither excluding families whose children remained on medication nor controlling for the type or presence of ADHD medication altered the results.

**Measures**

**Parental attributions for child behavior.** Mothers and fathers completed a version of the Written Analogue Questionnaire (WAQ; Johnston & Freeman, 1997) where they imagined their son in 14 written scenarios and responded to six questions about each scenario that correspond to dimensions of causal attributions (child responsibility, child intent, child blame/credit for the behavior, globality of the cause of the behavior, and stability of the cause of the behavior\(^2\)) on a 10-point scale (1 = *Not at all* to 10 = *Completely*). Three scenarios present inattentive child behavior, three describe hyperactive/impulsive behavior, four present oppositional behavior, and four scenarios reflect positive child behavior. Attribution ratings for positive scenarios were reversed such that higher scores always indicate more negative attributions (e.g., seeing oppositional behavior as more intentional, seeing the cause of positive

\(^2\)There was also a question assessing parent blame, but this was omitted from analysis as it does not focus on attributions for the child.
behavior as less stable). Ratings for all questions within and across scenarios were averaged to form a total WAQ negative attribution score for each parent. In previous studies, similar versions of the WAQ have demonstrated good internal consistency, test-retest reliability, and validity (e.g., Johnston & Freeman, 1997; Johnston et al., 2009). In this sample, we found that $\alpha = .91$ for mother and $\alpha = .93$ for father attributions.

**Child behavior problems.** Mothers and fathers each completed the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001) to measure child behavior problems. The SDQ is a 25-item measure of the child's behavior in the previous 6 months, with ratings on a 3-point scale from *Not True* to *Certainly True*. The measure has acceptable psychometric properties (Goodman, 2001). A total difficulties score was computed as the sum of the 5-item subscales measuring hyperactivity-inattention, emotional problems, conduct problems, and peer problems. The SDQ was administered to parents twice, approximately 7 months apart ($M_{\text{days}} = 216.8$, $SD = 28.30$). At Time 1, the correlation between mother and father SDQ scores was $r(62) = .79$, $p<.001$, and at Time 2, it was $r(62) = .78$, $p<.001$. Internal consistencies ranged from .83 to .89 across mothers and fathers, and across Time 1 and Time 2. In addition, mother and father SDQ ratings did not differ significantly at Time 1, $t(63) = .46$, $p = .64$ nor Time 2, $t(63) = -.39$, $p = .70$. To reduce the effects of rater variance in the relations between parent attributions and child problems, mother and father SDQ scores were averaged at both Time 1 and Time 2 to create composite SDQ variables used in all analyses.  

**Parental psychological symptoms.** Parents completed the six-item depression and five-item hostility subscales of the Brief Symptom Inventory (BSI; Derogatis, 1993), with each item

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3 At Time 2, four fathers did not complete the SDQ, and their scores were imputed as equal to their wives. We re-ran analyses with these four families omitted and this did not change the pattern of results, so the imputed results are reported.
rated on a 5-point scale (0 = Not at all to 4 = Extremely). The BSI has demonstrated good psychometric properties (Derogatis, 1993). Internal consistencies for mother ratings were $\alpha = .71$ for hostility and $\alpha = .87$ for depression. For father ratings, $\alpha = .76$ for hostility and $\alpha = .87$ for depression.

**Procedure**

This study was approved by the ethics board of our university and informed consent was obtained from parents and assent from the children. Mothers completed questionnaires during a lab visit\(^4\), and fathers completed the questionnaires at home. Seven months after initial participation, both mothers and fathers were contacted and completed the SDQ a second time by telephone. Parents each received an honorarium for participating, and the child received a t-shirt.

**Data Analytic Plan**

We examined bivariate relations between child ADHD status, mother attributions, father attributions, and child behavior problems, and also examined correlations of these variables and possible covariates of parental psychopathology and family demographics. If potential covariates were significantly related to both child behavior and a predictor variable, they were included in the analysis. Given that mothers and fathers share the same child, their attributions for child behavior are not theoretically independent. However, previous studies have demonstrated differences in the associations of mother and father attributions with child behavior problems (e.g., Nelson et al., 2008). Therefore, although we acknowledge their nonindependence, we conceptualized mother and father attributions as separate constructs reflecting each parent’s cognitions, rather than as a within-subject variable\(^5\). This is consistent with the modest

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\(^4\)Data were collected as part of a larger project that required mothers and children to attend a lab visit.

\(^5\)In addition, analyses using hierarchical linear modeling (HLM) with parent nested within family were conducted, and the results were nearly identical to those presented here. This was due to an ICC of 1.42e-
correlations between mother and father attributions, \( r(62) = .21, p = .07 \) and allowed us to
determine their unique predictive contributions. We conducted a regression predicting Time 1
child behavior problems from child ADHD status and mother and father attributions, and a
hierarchical regression predicting child behavior problems at Time 2, with initial child behavior
problems controlled. All regression assumptions were met. Regression coefficients were
bootstrapped to help correct for the statistical idiosyncrasies of our small sample.

**Results**

**Child ADHD status, Parental attributions, and Child Behavior Problems**

Overall, neither parents of children with ADHD nor parents of control children made
particularly negative attributions for child behavior with average scores in the middle of the
WAQ's 10-point scale. Children with ADHD scored at the 93rd percentile on average on the
SDQ at both Time 1 and Time 2, while control children scored at the 36th percentile at Time 1
and the 50th percentile at Time 2 (Goodman, 2001). Comparison of families of children with
ADHD and control families indicated that mothers of children with ADHD made significantly
more negative attributions than mothers of control children, \( t(62) = 3.17, p = .002 \), although the
group difference for father attributions was not significant, \( t(62) = 1.68, p = .099 \). Paired \( t \)-tests
comparing mother and father attributions indicated no significant difference, \( t(63) = .41, p = .68 \).
Parents of children with ADHD reported more child behavior problems than parents of control
children at Time 1, \( t(62) = 11.12, p < .001 \), and Time 2, \( t(62) = 8.53, p < .001 \), and also reported
significantly more mother hostility, \( t(62) = 2.97, p = .004 \), and father hostility, \( t(62) = 2.02, p = .047 \).
Descriptive information is shown in Table 1.

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11, indicating that variance due to family membership was negligible. Due to the small sample size,
hierarchical linear regressions are presented rather than the HLM results.
6An interaction term between mother and father WAQ scores was included in the analyses for each
regression but was not significant in any instance and therefore not discussed further.
Correlations between attributions and child problems, and with possible covariates can be found in Table 2. As expected, more child behavior problems were associated with more negative mother and father attributions, as well as increased mother hostility and depression. However, attributions were not related to parent psychopathology symptoms and thus these symptoms were not controlled in regression models.

**Parental Attributions as Concurrent and Longitudinal Predictors of Child Behavior Problems**

The full model of a regression assessing whether child ADHD and mother and father attributions collectively accounted for significant variance in Time 1 child behavior problems was significant, \( R^2_{\text{adj}} = .67, F(3, 60) = 43.9, p < .001 \), with child ADHD status and father, but not mother, attributions significantly and uniquely associated with child problems (see Table 3). These results suggest that both mother and father attributions are associated with child behavior problems at the bivariate level, but only father attributions have an additional and unique association with child behavior problems once child ADHD status and mother attributions are included in the model.

To determine if parental attributions account for levels of child behavior problems over time, a hierarchical regression was conducted predicting child SDQ scores at Time 2 using SDQ Time 1 scores as a predictor at Step 1, and entering parental attributions and child ADHD status at Step 2. At Step 1, Time 2 SDQ scores were significantly predicted by Time 1 SDQ scores, \( R^2_{\text{adj}} = .80, F(1, 62) = 253.1, p < .001 \) (see Table 4). The addition of parental attributions and child ADHD status significantly increased the predictive ability of the model, \( \Delta R^2 = .04, F(3, 59) = 4.56, p = .006 \), and father attributions were significantly associated with Time 2 SDQ scores above and beyond Time 1 SDQ scores, ADHD status, and mother attributions.
Discussion

We found that both mother and father attributions were significantly associated with boys' behavior problems, even after accounting for the boys’ ADHD status. Further, these associations held when predicting behavior problems in the boys 7 months in the future. However, only father negative attributions significantly predicted behavior problems above and beyond ADHD status and mother attributions at Time 1, and continued to predict subsequent behavior problems at Time 2 with initial levels of behavior problems also controlled. The relations of negative parental attributions to boys' behavior problems are not surprising, and replicate previous research across range of child behavior problems (e.g., Chen et al., 2009; Markel & Wiener, 2012; Werner, 2012). However, compared to the previous literature, the strength of the current study is its equal focus on fathers and mothers, and our results support the importance of father attributions, at least for sons.

Although both mother and father attributions were associated with child problems at the bivariate level, the unique predictive ability of father attributions confirms that fathers’ views of their sons hold important information that is not redundant with mother attributions. The contribution of father attributions may reflect the fact that mother attributions were more closely linked to child ADHD symptoms than were father attributions, given that mothers and teachers served as raters of child ADHD symptoms. Alternately, mother and father attributions may be based in their different child-rearing roles and their interactions with the child in somewhat different contexts. For example, mothers’ attributions may reflect more task or chore-based interactions with the child and thus, their attributions may be more influenced by the impact of the child’s ADHD symptoms than fathers’ attributions which may, instead, be more reflective of father-son play or sport interactions (Chen et al., 2008; Fabiano, 2007). Although it is beyond the
scope of this study to address questions of why mother and father attributions show differential unique relations with child problems, we hope our findings will spur research in this important direction.

Our finding that father attributions predict child behavior problems longitudinally adds to the growing body of research suggesting that parental attributions may be a contributor to the development of child behavior problems. Although we recognize the reciprocal and transactional nature of parent and child interactions, our longitudinal results nevertheless are consistent with the hypothesis that parental attributions contribute to child problems over time. That this longitudinal effect was uniquely present for fathers highlights not only the influence of father attributions, but also the stability of that influence.

Limitations and Future Research

The study is limited in several respects. We studied only two-parent families with little ethnic diversity, and thus our sample is not representative of all or most families of children with behavior problems. In addition, because of our inclusion of children with ADHD, we examined only parents of sons, and we cannot discount the possibility that parent-child gender similarity may be accounting for the strength of father attributions. Previous evidence of interactive effects between parent and child gender in the relations between parental attributions and child behavior (e.g., Werner, 2012) supports the future importance of including both sons and daughters. Similarly, examining possible interactive effects of child ADHD status and parental attributions would be an important future direction.

We did not measure parental attributions for child behavior at Time 2. Doing so would have allowed us to more fully evaluate the bidirectionality of the relations between parental attributions and child behavior problems. We also note that we do not assume that parents are
inaccurate or biased in their negative attributions for their child's behavior and it is possible that children with more behavior problems do engage in these behaviors intentionally. However, even if accurate, our longitudinal analysis suggests that negative parental attributions are predictive of changes in child problems over time, although the causal nature of this association awaits fuller study.

In addition, the 7 month period between the initial and follow-up assessment of child behavior problems was relatively brief and there was a strong correlation between Time 1 and 2 SDQ scores ($r=0.90$) and relatively small mean changes. However, despite this stability and lack of overall change, father attributions were still predictive of this change. Thus, we believe the short longitudinal follow-up was, if anything, attenuating our results.

Because ADHD diagnosis, child problems, and parent attributions were all measured using parent-reported measures, it is possible that shared method and/or rater variance is inflating our results. This possibility is tempered somewhat by the usage of mother-father composite SDQ scores and combined mother-other informant ADHD ratings. Nevertheless, more objective ratings of ADHD and other child problems would increase confidence in these results. Similarly, although there is evidence that parent and teacher ratings of ADHD are as valuable as structured diagnostic interviews (Pelham, Fabiano, & Massetti, 2005), the use of a diagnostic interview would provide not only a diagnosis but also a more thorough assessment of impairment than the single item measure used in this study would have been preferred. Given these limitations, it is important that our results be interpreted cautiously until they have been replicated.

**Clinical Implications**

Our findings underscore the importance of recognizing and accounting for the unique relationships that mothers and fathers have with their sons, and suggest that fathers’ cognitions
about their children are at least as important as those of mothers in predicting future child behavior problems. Clinicians are strongly encouraged to include both parents in their assessment and treatment planning whenever possible. Consistent with previous literature suggesting that parental attributions have a meaningful impact on child outcomes (e.g., Johnston et al., 2009), we suggest that these attributions are legitimate and appropriate targets for intervention, and, in addition to the usual focus on parents' behavior, parent training programs should continue to find ways to integrate changing parental attributions as well as parent behaviors (e.g., Sanders et al., 2004).
References


### Table 1

*Family Characteristics*

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADHD</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Range</td>
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<tr>
<td>Mother WAQ</td>
<td>5.48a (.83)</td>
<td>4.30-7.57</td>
</tr>
<tr>
<td>Father WAQ</td>
<td>5.26 (.89)</td>
<td>3.50-7.24</td>
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<tr>
<td>SDQ Time 1</td>
<td>.82b (.19)</td>
<td>.4-1.13</td>
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<tr>
<td>SDQ Time 2</td>
<td>.80c (.26)</td>
<td>.20-1.30</td>
</tr>
<tr>
<td>Family Socioeconomic Status†</td>
<td>2.04 (.79)</td>
<td>1-4</td>
</tr>
<tr>
<td>Child Age in Months</td>
<td>117.23 (14.67)</td>
<td>92-141</td>
</tr>
<tr>
<td>Number of Years Married</td>
<td>12.74 (5.62)</td>
<td>1.50-27</td>
</tr>
<tr>
<td>BSI Mother Hostility</td>
<td>.92d (.49)</td>
<td>.20-2</td>
</tr>
<tr>
<td>BSI Mother Depression</td>
<td>.60 (.64)</td>
<td>0-2</td>
</tr>
<tr>
<td>BSI Father Hostility</td>
<td>.82e (.66)</td>
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<tr>
<td>BSI Father Depression</td>
<td>.51 (.61)</td>
<td>0-2.67</td>
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<table>
<thead>
<tr>
<th>Variable</th>
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<tbody>
<tr>
<td></td>
<td>Percent</td>
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<tr>
<td>Mother Ethnicity</td>
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<td>Other</td>
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<td>5</td>
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<tr>
<td>Unknown</td>
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Note: SDQ scores are the average of mother and father responses; SDQ = Strengths and Difficulties Questionnaire; WAQ = Written Analogue Questionnaire; BSI = Brief Symptom
Inventory; \(^{†}\) The Hollingshead Four Factor Index of Social Status was used to assess Family Socioeconomic Status (Hollingshead, 1975); Values with the same superscript are significantly different from one another at \(p<.05\).
### Table 2

*Correlations between predictor and criterion and criterion and covariate variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Attributions</th>
<th>SDQ</th>
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<tbody>
<tr>
<td></td>
<td>Mother</td>
<td>Father</td>
</tr>
<tr>
<td>Father Attributions</td>
<td>.23</td>
<td></td>
</tr>
<tr>
<td>SDQ Time 1</td>
<td>.32*</td>
<td>.35*</td>
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<tr>
<td>Time 2</td>
<td>.30*</td>
<td>.40*</td>
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<td>SES</td>
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<tr>
<td>Child Age</td>
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<tr>
<td>Years Married</td>
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<td>-.02</td>
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<td>Depression</td>
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<tr>
<td>Father Hostility</td>
<td>.05</td>
<td>.29*</td>
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<tr>
<td>Depression</td>
<td>.15</td>
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</tr>
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Note: SDQ scores are the average of mother and father responses; SDQ = Strengths and Difficulties Questionnaire; SES = Socioeconomic Status; *= p<.05
Table 3

*Child ADHD and Parental attributions as Predictors of Child Behavior Problems at Time 1*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>95% CI</th>
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<tbody>
<tr>
<td>Child ADHD</td>
<td>-.78</td>
<td>-11.09</td>
<td>&lt;.001</td>
<td>[-.91, -.64]</td>
</tr>
<tr>
<td>Mother WAQ</td>
<td>-.001</td>
<td>-.01</td>
<td>.99</td>
<td>[-.18, .16]</td>
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<tr>
<td>Father WAQ</td>
<td>.18</td>
<td>2.61</td>
<td>.01</td>
<td>[.05, .32]</td>
</tr>
</tbody>
</table>

*Note.* SDQ scores are the average of mother and father responses; SDQ = Strengths and Difficulties Questionnaire; WAQ = Written Analogue Questionnaire positive attributions; CI = Confidence Interval
Table 4

**Child ADHD and Parental attributions predicting Child Behavior Problems at Time 2, controlling for Child Behavior Problems at Time 1**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Step 1</th>
<th></th>
<th></th>
<th></th>
<th>Step 2</th>
<th></th>
<th></th>
<th></th>
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<tr>
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<td>$\beta$</td>
<td>$t$</td>
<td>$p$</td>
<td>95% CI</td>
<td>$\beta$</td>
<td>$t$</td>
<td>$p$</td>
<td>95% CI</td>
</tr>
<tr>
<td>SDQ Time 1</td>
<td>.90</td>
<td>15.70</td>
<td>&lt;.001</td>
<td>[.78, 1.00]</td>
<td>.88</td>
<td>9.91</td>
<td>&lt;.001</td>
<td>[.69, 1.04]</td>
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<tr>
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<tr>
<td>Mother WAQ</td>
<td>-.04</td>
<td>-.70</td>
<td>.49</td>
<td>[-.14, .07]</td>
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<tr>
<td>Father WAQ</td>
<td>.11</td>
<td>1.96</td>
<td>.05</td>
<td>[.02, .24]</td>
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Note: SDQ scores are the average of mother and father responses; SDQ = Strengths and Difficulties Questionnaire; WAQ = Written Analogue Questionnaire; CI = Confidence Interval