

CHILD-RESPONSIBILITY ATTRIBUTIONS

Parents' Attributions for Negative and Positive Child Behavior in Relation to Parenting and Child Problems

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We thank the families who participated in this research, and the Social Sciences and Humanities
Council of Canada for research funding.

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Research has stressed the importance of both parent behaviors and attributions as contributors to the development and maintenance of children's behavior problems (Johnston, Hommersen, & Seipp, 2009; Smith Slep & O'Leary, 1998). Social cognitive theories suggest that parents make judgments regarding the intentions behind child behavior, and these attributions in turn determine parents' responses (Dix, Ruble, Grusec, & Nixon, 1986). These parental responses then play a part in determining future child behaviors. However, most extant literature examining these relations has focused solely on attributions for child misbehavior, harsh discipline, and the mother-child dyad (Johnston & Ohan, 2005). In this study, we extend the focus to include fathers, other parenting practices, and attributions for positive child behaviors.

Child-Responsibility Attributions for Negative and Positive Child Behaviors

In a seminal longitudinal study, Nix et al. (1999) assessed a community sample of 4- to 6-year-old children over a 4-year period and found that mothers' more hostile/negative attributions for child misbehavior significantly predicted children's future externalizing behavior, and this relation was mediated by mothers' harsh discipline. Other longitudinal and experimental studies, across both clinical and community samples, have confirmed these findings (e.g., Johnston et al., 2009; Smith Slep & O'Leary, 1998). This focus on attributions that hold the child responsible for negative behaviors is understandable, especially because these behaviors are those most likely to elicit attribution-making processes in a parent (Miller, 1995). In contrast, little is known about parents' attributions for positive or prosocial child behaviors.

Just as some studies demonstrate that the presence of parental warmth reduces the association between harsh parenting and child behavior problems (e.g., Deater-Deckard, Ivy, &

Petrill, 2006), it is possible that parents' ability to give their child credit for positive behavior, despite also holding the child responsible for negative behavior, may be associated with fewer child behavior problems. Literature on moral development in children supports the importance of positive attributions for positive child behavior. For example, when parents made more dispositional attributions for their 7-10 year old children's prosocial behaviors (e.g., because he is a nice person who likes to help), children were more prosocial as a result (Grusec & Redler, 1980; Grusec, Chaparro, Johnston, & Sherman, 2013). Similarly, studies of academic achievement in elementary-school-aged children have found that when parents make child-centered achievement attributions (e.g., "My child's achievement is a result of her own efforts"), this is related to more parenting that promotes the child's interests in academics, which is in turn related to higher school achievement (e.g., Georgiou, 1999; Simpkins, Fredricks, & Eccles, 2015). Although few studies have considered parents' attributions for positive child behaviors in relation to child behavior problems, evidence suggests these attributions may be important. For example, Johnston and Leung (2001) found that parents of 6-13 year-old boys with ADHD who made attributions of greater internal child locus, control, stability and intentionality for compliant child behavior had more positive reactions to the child. Similarly, a longitudinal study demonstrated that mothers' attributions for their preschool-aged children's prosocial behavior (e.g., their child's prosocial behavior was dispositional, stable, intentional, and typical of their child) predicted more prosocial actions by the children in the future (Hastings, Mcshane, Parker, & Ladha, 2007). These findings, in combination with knowledge that greater positive parenting is associated with fewer child behavior problems in both clinical and community samples and across all child ages (e.g., Hovee et al., 2009; McKee, Colletti, Rakow, Jones, & Forehand, 2008a), and findings from related research areas such as children's moral development and

academic achievement, suggest that child-responsibility attributions for positive behavior may be linked to better child outcomes, via their influence on positive parenting. However, previous studies have not typically examined attributions for both positive and negative child behaviors, nor considered their unique contributions to parenting and child behavior problems.

Harsh, Lax, and Positive Parenting

In addition to only targeting child-responsibility attributions for negative behavior, many previous studies have focused exclusively on harsh parenting as the mediator between parents' attributions and child behavior problems. The links among parents' attributions of negative intention for children's misbehavior, feelings of anger, and conflict and retaliatory actions (i.e., harsh parenting) have been well established (Bugental & Johnston, 2000; Dix et al., 1986). However, other parenting behaviors, such as lax or inconsistent discipline (Barry, Dunlap, Lochman, & Wells, 2009) and positive parenting (Lansford et al., 2013) also are associated with child adjustment. Dimensional models, such as Maccoby and Martin's (1983) two-dimensional framework of parenting, suggest that the quality of parenting may be assessed on two dimensions: warmth (i.e., behaviors that make the child feel comfortable and accepted) and control (i.e., placing demands on and controlling the child; Darling & Steinberg, 1993). Harsh parenting (i.e., "authoritarian") is high on control and low on the warmth dimension, but is only one possible combination of dimensions. Lax parenting (i.e., "indulgent" or "neglectful") is best characterized as low in control, and positive parenting (i.e., "authoritative") as indicating high levels of warmth combined with moderate levels of control, and each has been associated with child functioning. For example, in a meta-analysis, Hoeve et al. (2009) demonstrated that harsh parenting (ES from 0.26 to 0.33) and poor parental monitoring (one component of lax parenting; ES from 0.23 to 0.31) were strongly related to greater externalizing problems, and supportive, or

positive, parenting was moderately linked to fewer externalizing problems in children ($ES = -0.23$). Similarly, there are significant associations between child internalizing problems and harsh, lax, and positive parenting (McKee et al., 2008a).

Although linkages between parent attributions, harsh parenting, and child behavior problems have been demonstrated in previous research, the linkages and mediating roles of lax or positive parenting between attributions and child behavior problems remain unexplored. For example, when a parent holds a child responsible for misbehavior, the parent may overreact with threats of discipline but fail to follow through; or a parents' belief that the child is responsible for misbehavior due to his/her disposition may incline the parent to withdraw from attempts to discipline or monitor the child. Each of these reactions would constitute lax parenting. In support, Leung and Slep (2006) found significant, positive correlations between lax parenting and attributions for child misbehavior in a community sample of parents of children between the ages of 3 and 7. It also is possible that seeing the child as responsible for positive behaviors is associated with more positive parenting, and this may mediate between these attributions and reduced child behavior problems. For example, if a parent sees his or her child completing a chore and attributes this to the child's positive intentions, the parent may respond with praise or increased involvement with the child, leading to better child behavior. Despite this reasoning, the associations between child-responsibility attributions for both negative and positive behaviors and the different types of parenting (harsh, lax, and positive), and the pathways by which these attributions and parenting are linked to child behavior problems remain relatively unexplored.

Differential Relations among Attributions, Parenting, and Child Behavior

Moreover, little is known about the unique associations of attributions for both positive and negative child behavior, with harsh, lax, and positive parenting, and of each type of

attribution and parenting with child behavior problems. Parents continually make decisions, not only about why their children misbehave, but also why their children act in more positive ways, and each parent typically demonstrates a combination of harsh, lax, and positive parenting (Caron, Weiss, Harris, & Catron, 2006). Therefore, it is important to examine the unique associations of child behavior problems with different types of attributions and parenting, controlling for other attributions and types of parenting. Although studies have separately tested the links between attributions for positive child behavior and child behavior problems, and attributions for negative behavior and child behavior problems (e.g., Hastings et al., 2007; Nix et al., 1999), no studies have yet examined these links in the context of the other nor their associations with different types of parenting. In addition, studies investigating unique relations of parenting with child behavior problems have yielded contradictory results. For example, one study of elementary-school-aged children with concurrent internalizing and externalizing problems found a unique association between greater parental behavioral control (i.e., low levels of lax parenting) and decreased externalizing child behavior problems when controlling for positive parenting and psychological control, although a different pattern emerged for internalizing problems (Caron et al., 2006). Other studies, using samples of 6-11 year old African American children (Jones et al., 2008), and 9-15 year old children with parents with a history of depression (McKee et al., 2008b), find that positive, not lax parenting, is uniquely related to fewer child behavior problems, although these studies did not simultaneously control for harsh parenting. These contradictory findings support the need for further investigation of the unique relations among different types of attributions, parenting and child behavior problems.

What about Fathers?

Compared to mothers, the relations between fathers' attributions, parenting, and child behavior problems have been understudied (Pleck, 2012) and, likely due to variations in methodology and samples, existing studies offer differing results. In a sample of parents of adolescents experiencing depressive symptoms (Sheeber et al., 2009) and a sample of parents of 7- to 12- year old boys with and without ADHD (Williamson & Johnston, 2015), replicating associations found for mothers, fathers' attributions were associated with harsh parenting and child behavior problems. Conversely, other studies report no significant correlations between fathers' attributions and child behavior problems. For example, Werner (2012) found that in a cross-sectional study of a community sample, fathers' attributions were not significantly correlated with child aggression. However in this study, fathers' attributions were measured as a composite of attributions for adult-peer interactions, parent-child interactions, and children's interactions with classmates, and therefore the attributions for adult and child peers may have obscured a potentially significant relation between negative attributions specifically for the child and the child's aggression. These differences across studies combined with the relative paucity of studies that include fathers makes these findings difficult to interpret and call for further work to test the extent to which the same relations seen among mothers' child-responsibility attributions, parenting, and child behavior problems are replicated with fathers.

The Current Study

Although harsh parenting has been robustly demonstrated to mediate between parents' negative attributions and child behavior problems (e.g., Nix et al., 1999), far less is known about the role of attributions for positive child behaviors, or the roles of lax or positive parenting. In addition, the multidimensional and dynamic nature of parent-child interactions requires models that examine the uniqueness of the links among these constructs. The current cross-sectional

study investigates the relations among parents' child-responsibility attributions for negative and positive child behaviors and child behavior problems, and whether these relations are mediated by harsh, lax, and/or positive parenting. We recognize that mediation consists of causal processes that unfold over time, and that mediation assessed using cross-sectional data may produce biased estimates of longitudinal parameters (Maxwell & Cole, 2007). However, we argue that mediation analysis using cross-sectional data is warranted as a first step to performing more resource intensive longitudinal and experimental studies. Therefore, we frame this study as examining mediational questions, but acknowledge the limits of testing these questions with cross-sectional data.

We hypothesize that, for both mothers and fathers, all three types of parenting will be uniquely associated with child behavior problems. We also hypothesize some specificity, such that harsh and lax parenting will significantly mediate the relation between attributions for negative behaviors and child behavior problems, while positive parenting will mediate the relation between attributions for positive behaviors and child behavior problems. Other links between attributions, parenting, and child behavior problems will be examined in an exploratory fashion (e.g., harsh parenting in association with attributions for positive behavior). Given that parents make different attributions and demonstrate different parenting behaviors with boys versus girls (e.g., Gretarsson & Gelfand, 1988; Gryczkowski, Jordan, & Mercer, 2009), we test whether the hypothesized relations are moderated by child gender.

Method

Participants

Participants were 148 mother-father pairs with a child between the ages of 9-12 years recruited from an urban center in Canada through advertisements in community centers,

elementary schools, medical clinics, lab newsletters, and a volunteer registry of families interested in research. Children in this age range have not yet gained independence from parents, but are old enough to provide accurate self-reports. Inclusion criteria required that the parents be fluent in English, parents had lived with their child for the past year or, if noncustodial parents, they saw their child at least three times a week or on alternating weeks. Stepparents were included if they had lived with the child for more than 3 years. Children diagnosed with autism or other developmental disorders were excluded, however, children with behavior problems were eligible to participate. Although most parents were married and were the biological parents of the child ($n = 132$), four families included a biological mother and step-father, eleven families included biological parents who were divorced, separated, or never married, and one family was missing this information.¹ Married couples had been together an average of 14.67 years ($SD = 4.14$). The average household income was in the \$50,000 to \$74,999 range. Other demographic information is displayed in Table 1.

Measures

Parents' Attributions for Positive and Negative Child Behavior. Each parent completed the attribution rating scale (ARS) examining interpretations of the causes of four negative child behavior scenarios and two positive child behavior scenarios.² Using scenarios and rating scale formats adapted from previous studies (e.g., Halligan, Cooper, Healy, & Murray,

¹ Fathers' relationship to the child (1 = biological father, 2 = other) was not significantly associated with any of the study variables.

² As part of the larger study, each mother-father pair responded to eight negative scenarios and four positive scenarios. Half of these scenarios were completed in the questionnaire format described above, and the other half of the scenarios were completed as open-ended interviews. Only the questionnaire format responses were utilized in this study. Which scenarios were assigned to which format was counterbalanced across families, although mothers and fathers within a family received the same scenarios in the same format. In summary, each parent completed only four negative scenarios and two positive scenarios in the questionnaire format reported in this study.

2007; Johnston & Freeman, 1997; Johnston et al., 2009; MacBrayer, Milich, & Hundley, 2003; Williamson & Johnston, 2015), this scale depicted child behaviors characteristic of two externalizing behaviors (e.g., playing a board game where the child is losing and knocks the pieces to the floor), two internalizing behaviors (e.g., child does not respond when parent says goodnight), and two positive behaviors (e.g., child helps set the table without being asked) within the context of the parent-child relationship.³

For each scenario, parents were to imagine themselves and their child, and rate the reason for the child's behavior on 6-point scales reflecting dimensions of causal locus (1 = *because of your child* to 6 = *not because of your child*; Scores were reversed), stability (1 = *a one time thing* to 6 = *will happen again in the future*), globality (1 = *specific to this situation* to 6 = *happens in many situations*), intent (1 = *not at all intentional* to 6 = *completely intentional*), blame /credit (for negative scenarios: 1 = *no blame at all* to 6 = *complete blame*; for positive scenarios; 1 = *no credit at all* to 6 = *complete credit*), and responsibility (1 = *Not at all responsible* to 6 = *Completely responsible*). Higher scores indicate more negative child-responsible attributions in the negative child behavior scenarios and more positive attributions for the positive behavior scenarios. Scores on multiple attributional dimensions are proposed to have an additive effect (Dix & Grusec, 1985), therefore each parent's scores across attributional dimensions for the four negative behavior scenarios (internalizing and externalizing) were averaged to create a composite for attributions for negative child behaviors (mothers' $\alpha = .83$, fathers' $\alpha = .84$). Likewise, scores across attributional dimensions and the two positive scenarios were averaged in a composite score for attributions for positive child behaviors (mothers' $\alpha = .80$, fathers' $\alpha = .81$).

Parenting.

³ Scenarios are available from the author on request.

Harsh Parenting. Harsh parenting was assessed using the 10-item Power Assertion subscale of the brief version of the Parent Child Relationship Questionnaire (PCRQ; Furman & Giberson, 1995). Parent-child relationship qualities are rated on a 5-point scale (1 = *hardly at all*, 2 = *not too much*, 3 = *somewhat*, 4 = *very much*, and 5 = *extremely much*). The measure has demonstrated good psychometric properties (e.g., Furman & Giberson, 1995; Gerdes, Hoza, & Pelham, 2003). The Power Assertion subscale depicts parent behaviors such as physical punishment and/or verbal aggression (e.g., “How much do you yell at your child for being bad?”) and demonstrated good internal consistency estimates of .93 and .88 for mothers and fathers, respectively, in this sample.

Lax Parenting. Lax parenting was measured using the Alabama Parenting Questionnaire (APQ; Shelton, Frick, & Wootton, 1996), which is a 42-item questionnaire that assesses five dimensions of parenting behavior. Items were rated on a 5-point scale ranging from 1 (*never*) to 5 (*always*). This questionnaire demonstrates adequate test-retest reliability and convergent validity (Shelton et al., 1996). As calculated in previous studies, the Poor Monitoring/Supervision (e.g., “Your child fails to leave a note or let you know where he/she is going”) and the Inconsistent Discipline (e.g., “You threatened to punish your child and then do not actually punish him/her”) subscales were converted to z-scores and summed to create a composite measure for lax parenting (Barry, Frick, & Grafeman, 2008). Internal consistency for both mothers and fathers was in the acceptable range (mothers’ $\alpha = .82$, fathers’ $\alpha = .78$).

Positive Parenting. Positive Parenting was assessed using a combination of subscales from the APQ and the PCRQ. Specifically, the Involvement (e.g., “You have a friendly talk with your child”) and the Positive Parenting (e.g., “You let your child know when he/she is doing a good job with something”) subscales from the APQ and the Disciplinary Warmth (i.e., shared

decision-making and praise; “How much do you tell your child that he/she did a good job?”), Personal Closeness (i.e., companionship and intimacy; “How much do you and your child tell each other everything?”) and Warmth (i.e., affection and admiration for and by the parent; “How much do you admire and respect your child?”) subscales from the PCRQ were used. Internal consistency of this composite measure was excellent (mothers’ $\alpha = .95$, fathers’ $\alpha = .95$).

Composite Child Behavior Problems. Several indices of child behavior problems were utilized to account for differing reporters (mother, father, and child), methods (questionnaire and observations), and both externalizing and internalizing problems.

Child Behavior Checklist. On the 113-item Child Behavior Checklist 6-18 (CBCL) (Achenbach & Rescorla, 2001), both mothers and fathers reported how well each item described their child on a 3-point scale from 0 (*not true at all*) to 2 (*very true or often true*). The CBCL Total Problems score encompasses the sum of all the subscales, including Internalizing and Externalizing Problems, as well as Social Problems, Thought Problems, and Attention Problems. The CBCL Total Problems score has been well established with good internal consistency ($\alpha = .97$), as well as good to excellent test-retest reliability and validity (Achenbach & Rescorla, 2001). Mother and father CBCL Total Problems T-scores based on age and gender norms were utilized in the current study.

Child Depression Inventory. Children completed the 10-item Children’s Depression Inventory Short Form (CDI-S; Kovacs, 1992). For each item, children chose one of three sentences that best described them in the past 2 weeks. Each sentence was scored from 0-3, with higher scores indicating greater severity of depressive symptoms. The total score was obtained by summing across items. The CDI-S demonstrates adequate reliability and validity (Kovacs, 1992), more validly discriminates between clinical and normal populations than among specific

internalizing disorders, and significantly correlates with theoretically-related internalizing disorder constructs, such as lower self-esteem, self-concept, and social adjustment (Kovacs, 1992). Internal consistency of the CDI-S score in this sample was acceptable ($\alpha = .71$).

Observational Coding. Mothers and children were video-recorded interacting in a playroom setting and these interactions were assessed via observational coding using the Response Class Matrix (RCM; Mash, Terdal, & Anderson, 1973). Six coders independently coded interactions during 5 minutes of child-led play and 5 minutes of a clean-up interaction (details discussed below). The RCM codes parent and child behaviors every 15 seconds and summary measures indicating the proportion of intervals in which mothers and children displayed various behaviors are derived. The proportion of intervals in which the child displayed oppositional or negative responses (e.g., having a tantrum, throwing something at the parent, or not complying with the parent's directions) across the play and clean-up interactions served as the observational measure of externalizing child behavior problems for this study. Twenty-eight percent of the videos were independently coded by two observers who were unaware of which interactions were double-coded. Inter-observer agreement was adequate ($ICC = .68$).

Procedure

The study was approved by the university Research Ethics Board. Participants were recruited from clinical sources, community advertisements, and a volunteer registry. Upon arrival at the lab, research assistants met the family and explained study procedures. Once informed consent was received from mothers and assent from children, they were taken to separate rooms to fill out questionnaires, with the order of measures counterbalanced across families. Mothers and their child were then recorded interacting in a playroom. Mothers first had their children complete a series of tasks, but due to practical constraints, this session was not

coded. Next, mothers were told to let their child lead in a 5-minute play time and then to direct their child to put away the toys in the 5 minute clean up task. After the interaction, mothers and their children were again separated to complete further questionnaires. On completion, the child was given a tee shirt and the mother a \$35 honorarium.

If fathers accompanied mothers and children to the lab, they were given a questionnaire package and consent form, with questionnaires in the same order as mothers, to complete as they waited. Once they had completed the questionnaires, they were given a \$25 honorarium. If fathers chose not to come to the lab but still agreed to participate, mothers took the questionnaire package home to the father to be returned by mail. Twenty-four percent of participating fathers completed the questionnaires in the lab. If fathers completed the questionnaire at home ($n = 113$, 76% of participating fathers), they returned them 22.3 days after the lab visit on average.⁴

Data Analysis Plan

Means and standard deviations for mothers' and fathers' attribution and parenting scores, and measures of child behavior problems were calculated. Bivariate correlations were calculated between all variables, including relevant demographic variables. The hypothesized relations among variables were examined via structural equation modeling (SEM), conducted using the lavaan package (Rosseel, 2012) in RStudio Version 0.98.501. Separate models were assessed for mothers and fathers. For all models, the criterion variable, child behavior problems, was a latent variable constructed from mother and father report on the CBCL, child self-report on the CDI-S, and observed child externalizing behaviors.

If demographic variables were significantly related to study variables, they were included as covariates in the SEM analyses. Several fit indexes were used to evaluate model fit, including

⁴ Bivariate correlations indicate no significant associations between this variable and any study variables.

the chi-square goodness of fit test, the root-mean-square-error of approximation (RMSEA), the Tucker-Lewis index (TLI) and the comparative fit index (CFI). A non-significant chi-square test, a value close to .95 for the TLI and the CFI, and a value close to .06 for the RMSEA indicate a good fit between the proposed model and the observed data (Hu & Bentler, 1998). To assess whether the hypothesized relations existed, the pathway coefficients and the indirect pathway coefficient of the hypothesized mediational variable were examined.

As child gender may be an important moderator, model parameters were estimated by allowing separate regression estimates for boys and girls (i.e., residual and covariance estimates constrained to be equal, regression estimates allowed to vary between groups). Using chi-square difference testing, this model was compared to a model with all parameters constrained to be equal for boys and girls (i.e., residual, covariance, and regression estimates constrained to be equal). If the models were significantly different, this provided evidence of gender moderation.

Results

Data Inspection

The means, standard deviations, and ranges of variables are presented in Table 2. All data were assessed for completeness and normality. Scores on each measure were prorated if at least 75% of items were completed. Across all measures, including potential covariates (e.g., SES, ethnicity), the percentage of missing scores ranged between 0.7% and 5.4%. Little's MCAR (Missing Completely At Random) test (Little, 1988) supported the assumption that data were missing completely at random and not associated with participant characteristics, $\chi^2(114) = 128.43, p = .17$. The main SEM analysis utilized Full Information Maximum Likelihood (FIML) for model estimation to address missing data.

The distributions for all variables were considered and only the proportion of intervals of

externalizing child behaviors and the CDI-S scores indicated issues with non-normality. These variables were successfully transformed using square-root transformations.

Description of Scores

The mean of parents' attributions for negative child behavior scenarios fell at approximately the midpoint of the scale. Mean attribution ratings for the positive child behavior scenarios were in the upper range of the scale. There was no difference between mothers' and fathers' ratings of attributions for negative child behavior, $t(147) = -0.11, p = .92$ or attributions for positive behavior, $t(141) = 1.18, p = .24$.⁵

Overall, parents reported relatively low levels of harsh parenting, but mothers reported using more than fathers, $t(142) = 4.18, p < .001$. Both mothers and fathers endorsed relatively low levels on the subscales forming the lax parenting measure and their scores did not differ: poor monitoring, $t(144) = -1.78, p = .08$, and inconsistent discipline, $t(146) = 0.08, p = .94$. Ratings on the positive APQ subscales suggested that both mothers and fathers endorsed high levels of positive parenting and parent involvement, although mothers reported using more involvement, $t(141) = 6.09, p < .001$, and positive parenting, $t(141) = 4.23, p < .001$. Similarly, mothers reported more positive parenting than fathers on a composite of the three positive parenting scales of the PCRQ, $t(142) = 2.40, p = .02$.

Mean CBCL T-scores indicated that the children, on average, demonstrated behavior problems in the normal range. However, 8% ($n = 12$) and 6% ($n = 8$) of children scored in the borderline clinical range or above (i.e., above the 94th percentile) according to mother reports and father reports, respectively. In the observed interactions, children demonstrated externalizing problems in 4% of the time intervals, with the proportions ranging from 0% to 28% of the

⁵ Missing values were not substituted in this section, and therefore degrees of freedom varied slightly for each analysis.

intervals. Mean T-scores on the CDI-S indicated an average level of internalizing problems. However, there was a wide range of scores (40-72), with 2.70% ($n = 4$) of children reporting subclinical or higher levels of internalizing problems (i.e., 94th – 98th percentile). This suggests that, although the majority of children in this sample exhibited behaviors within the normal range, up to 8% were described as showing clinical or borderline levels of problems.

Correlations Among Study Variables and with Demographic Variables

Bivariate correlations are presented in Table 3. For mothers, expected relations among most variables were observed, such that mothers' child-responsibility attributions for negative behaviors were significantly related to greater harsh and lax parenting, and their attributions for positive behaviors were significantly associated with greater positive parenting. However, neither mothers' attributions for negative nor positive behaviors were related to child behavior problems. Mothers' harsh parenting was significantly related to more lax parenting and less positive parenting as expected. Both mothers' lax and harsh parenting were significantly related to greater child behavior problems, but positive parenting was not.

Fathers' child-responsibility attributions for negative behaviors were significantly associated with greater harsh and lax parenting, and negatively with positive parenting. Conversely, fathers' attributions for positive child behaviors were negatively associated with harsh and lax parenting, but positively associated with positive parenting. All relations among parenting variables for fathers mirrored mothers' relations and were as expected. Finally, in contrast to mothers, fathers' attributions and parenting were all significantly associated with child behavior problems in the expected directions.

Correlations of the attribution, parenting, and child problem variables with child age, child gender, family ethnicity, SES, and marital status were examined to identify potential

confounding variables. If a demographic variable was significantly associated with any of the attribution or parenting variables and also with child behavior problems (a composite variable that averaged z scores of mother and father CBCL, Child CDI-S, and observed externalizing problems constructed to mirror the latent variable in the SEM analysis), it was included as a covariate in the SEM analyses. However, no demographic variables were significantly correlated with both the study variables and child behavior problems.

Primary Models

To assess the validity of the measurement model, we first performed a confirmatory factor analysis on the latent variable. Results demonstrated that the observed variables loaded adequately onto the child behavior problems latent variable, $\chi^2(2) = 0.386, p = .83, CFI = 1.00, TLI = 1.08, RMSEA = 0.00$. All factor loadings were of adequate strength and significantly contributed to the latent variable (range .20 to .76).

Model for Mothers. We constructed a model to address whether different types of mothers' parenting mediate the relation between mothers' child-responsibility attributions for positive and negative behaviors and child behavior problems (See Figure 1). The model fit was good, $\chi^2(17) = 14.51, p = .63; CFI = 1.00, TLI = 1.03; RMSEA = 0.00$. In partial support of our hypotheses, lax and harsh parenting were significantly and positively associated with child behavior problems. Lax parenting was, in turn, significantly associated with more negative attributions for negative child behaviors and less positive attributions for positive child behaviors, while harsh parenting was only significantly related to more negative attributions for negative child behaviors. The association between harsh parenting and child-responsibility attributions for positive behaviors was marginal. In addition, and as expected, child-responsibility attributions for positive behaviors were significantly and positively associated with positive parenting. Results from

mediation analyses only partially supported our hypotheses. Only harsh parenting mediated the relation between attributions for negative behavior and child behavior problems ($\beta = 0.09, p = .02$). Comparisons of a model in which all parameters were constrained to be equal for boys and girls with a model in which all parameters were constrained to be equal except for regression weights, which were allowed to vary for boys and girls, demonstrated no significant difference, $\chi^2(11) = 11.78, p = .38$. Child gender did not moderate these relations.

Model for Fathers. The model assessing relations among fathers' attributions, parenting, and child behavior problems also fit well, $\chi^2(17) = 14.55, p = .63$; CFI = 1.00 TLI = 1.03; RMSEA = 0.00 (Figure 2). Interestingly, for fathers, child-responsibility attributions for both positive and negative behaviors were significantly associated with all three types of parenting in the expected directions. However, only harsh parenting was significantly and positively related to child behavior problems, and significantly mediated the relation between attributions for negative behaviors and child behavior problems ($\beta = 0.11, p = .01$), and mediated the inverse relation between attributions for positive behaviors and child behavior problems ($\beta = -0.09, p = .02$). Similar to mothers, comparison of a model in which all parameters were constrained to be equal for boys and girls with a model in which all parameters were constrained to be equal except for regression weights, demonstrated no significant difference, $\chi^2(11) = 5.92, p = .88$. Again, child gender did not moderate these relations.

Discussion

In this study, we expand research linking different patterns of parents' attributions and parenting to child behavior problems. We predicted that for both mothers and fathers, harsh, lax, and positive parenting would each be uniquely associated with child difficulties. In addition, we predicted that harsh and lax parenting would mediate the association between child behavior

problems and parents' attributions for negative child behaviors, and positive parenting would mediate the association between attributions for positive behaviors and child behavior problems. Our results provide partial support for these hypotheses. Partially consistent with Caron et al. (2006), for mothers, two types of parenting difficulties (lax and harsh practices) were uniquely positively associated with child behavior problems, but positive parenting was not. For fathers, only harsh parenting was uniquely related to greater child behavior problems, although all three types of parenting were related to child behavior problems at the bivariate level. Moreover, for both parents, harsh parenting mediated the relation between attributions that blamed the child for negative behavior and worse child behavior problems. For fathers, harsh parenting also mediated the relation between their attributions for positive child behaviors and less child maladjustment. Lax and positive parenting did not mediate links between attributions and child behavior problems for either parent. This work confirms the importance of harsh parenting in its association with child behavior problems and as a potential mediator for how parents' attributions are linked to child difficulties. It also extends the literature by demonstrating the importance of attributions for positive child behaviors.

Specifically, consistent with Hastings et al. (2007), our results indicate that when parents give their child credit for positive behaviors, this is significantly associated with more positive parenting, and for fathers, with less lax or harsh parenting. Confirming the independent importance of these attributions for positive child behavior, these associations emerged, not only as bivariate correlations, but also in models controlling for attributions for negative behaviors. Our results also are suggestive of a role for low levels of child-responsibility attributions for positive behaviors as drivers of child behavior problems via harsh parenting, at least for fathers. Perhaps for fathers, being unable to see the child as responsible for good behaviors leads to an

overall view of the child in which attributions of positive intent are outweighed by those of negative intent, potentially increasing the likelihood for harsher parenting reactions. However, for mothers in the SEM model, there was no significant association between attributions for positive child behavior and child behavior problems. It is possible that, for mothers, child-responsibility attributions for positive behavior serve more to promote or reinforce prosocial child actions, rather than to prevent negative outcomes, such as in the Hastings et al. (2007) study. In addition, we note that in this sample, mothers' attributions for negative child behavior were not significantly related to positive parenting. Mothers reported higher levels of both positive and negative parenting strategies than fathers, however there was no evidence that restriction of range or low reliability could account for the lack of association of negative attributions and positive parenting for mothers. The possibility of other factors, such as sample characteristics or age of children, reducing this association for mothers remains to be explored.

When considering different types of parenting, although at the bivariate level there were consistent associations between each type of parenting and child behavior problems, the only unique associations were for lax (mothers) and harsh (both mothers and fathers) parenting. In addition, as noted above, only harsh parenting mediated between attributions and child behavior problems. The importance of harsh parenting is consistent with previous research on parents' attributions and child behavior problems (e.g., Johnston, Reynolds, Freeman, & Geller, 1998; Nix et al., 1999; Smith Slep & O'Leary, 2007). However, despite our null results for lax and positive parenting, further research is needed before concluding that these are unimportant aspects of parenting. It is possible that the community nature of our sample makes it more difficult to detect unique effects of different types of parenting. Perhaps harsh parenting is especially important in its link with child behavior problems among relatively low risk families,

while lax parenting may be more important in maintaining child behavior problems once these already exist. For example, among clinic-referred boys (7-12 years), Burke, Pardini, and Loeber (2008) found that only timid discipline, not harsh or positive parenting, uniquely predicted oppositional behavior. Timid discipline was defined as reluctance to discipline because of concern that the child would respond with hostile behavior. This definition would encompass not only a lack of action following misbehavior (i.e., lax parenting), but also parent expectations of child misbehavior as likely to recur and to be used intentionally in retaliation for discipline (i.e., parents' negative attributions). Therefore, Burke et al.'s results suggest that, in a clinical sample, lax parenting may be an important bridge between attributions and child behavior problems. In support of this, Caron et al. (2006) demonstrated that when controlling for other aspects of parenting, only behavioral control (i.e., the opposite of lax parenting), and not positive parenting or psychological control (which carries similarities to harsh parenting such as hostile tone), was uniquely related to lower levels of externalizing problems. Unexpectedly, Caron et al. also found unique relations between behavioral control and higher levels of internalizing problems.

In addition, our results contradict work by McKee et al. (2008b) and Jones et al. (2008) in demonstrating the lack of a unique link between positive parenting and child behavior problems when controlling for other types of parenting (although there was a significant, negative bivariate correlation between fathers' positive parenting and child behavior). Both McKee et al. (2008b) and Jones et al. (2008) found unique effects for positive parenting, but not lax parenting, when only these two types of parenting were considered. However, neither study simultaneously controlled for harsh parenting. It is possible that once harsh parenting also is considered, such as in the current study, the unique effects of positive parenting on child behavior problems are more difficult to detect. Like with attributions for positive behaviors, the contribution of positive

parenting may be more clearly seen when examined in relation to positive child outcomes in contrast to the focus on child difficulties in this study (e.g., Hastings et al., 2007). It also is possible that our community sample, and the relatively high levels of positive parenting, makes it more difficult to examine the relation between positive parenting and child behavior problems. For instance, studies with adolescents of mothers with psychopathology (Garber, Robinson, & Valentiner, 1997) or with low income families of toddlers (Shaw et al., 1998) have demonstrated significant relations between positive parenting and child behavior problems.

Although no direct comparisons were made, our findings suggest that there are more similarities than differences in the relations found among mothers' and fathers' attributions, parenting, and child behavior problems. For both parent genders, the same general conclusions emerge. That is, harsh parenting appears to be most important in mediating the relations between parents' attributions and child behavior problems, and also that parents' attributions for positive child behaviors are important insofar as they link to parents' positive, lax, and harsh parenting. Therefore, consistent with the overall similarity of these relations found in studies across a range of types and severities of child behavior problems and ages (e.g., Halligan, et al., 2007; Hastings et al., 2007; McKee et al., 2007; Nix et al., 1999; Williamson & Johnston, 2015), our results suggest reasonable generalization of the proposed pathways between attributions, parenting, and child adjustment across mothers and fathers.

Our analyses found that the relations between attributions, parenting, and child behavior are not moderated by child gender. Thus, despite evidence of differences in the attributions and parenting behaviors that parents show for sons versus daughters (e.g., Gretarsson & Gelfand, 1988; Gryczkowski et al., 2009), the associations among these constructs appear similar and support a broad applicability of the proposed linkages among attributions, parenting, and child

outcomes. However, our sample size limits the power of the moderator analyses of child gender and prohibited inclusion of mothers and fathers within the same model. Thus, testing for possible specificity of associations to parent or child gender, or their pairings, should continue.

Limitations and Future Research

This study contributes to our understanding of interrelations between parents' attributions for positive and negative behaviors, different types of parenting practices, and child behavior problems, however, there are a number of limitations that must be noted. First, the cross-sectional nature of the study clearly precludes conclusions regarding the directionality of these associations. Although from a theoretical perspective, we have examined the link from parents' attributions to child behavior, through parenting, it is possible and even likely that these relations also exist in the opposite direction. That is, the occurrence of child behavior problems may lead to harsh parenting and to parents seeing the child behavior problems as more the responsibility of the child. Furthermore, given concerns that mediation assessed using cross-sectional data may produce biased estimates of longitudinal parameters (Maxwell & Cole, 2007), the mediation analyses in this study serves only as a precursor to further longitudinal investigations. However, our cross-sectional results indicating that harsh parenting significantly and uniquely mediated the relation between child-responsibility attributions for positive and negative behavior and child maladjustment provide support for conducting more resource intensive longitudinal studies to further investigate the causal nature of these unique associations and to explore the strongest directions of influence.

Although a strength of this study is the use of multiple raters to inform the latent construct of child behavior problems (e.g., mother, father, child and observer reports), the attribution and parenting measures were self-reported. Research with observational or other-informant measures

of parenting variables is called for to provide more unbiased assessments of these constructs.

We studied only two-parent community families characterized by a relatively high level of social advantage, which may limit generalizability of findings to families with more frequent or more severe problems. However, to the extent that social learning and cognitive behavioral models would predict that similar mechanisms are expected in clinical as in community samples, it is possible that the observed links in the current study may be even stronger in more distressed clinical samples or samples where a wider range of parent or child functioning is investigated.

Clinical Implications

Although positive parenting, such as the use of praise and involvement, is already a skill included in behavioral parent training programs (e.g., Barkley, 2013; McMahon, Long, & Forehand, 2011), the apparent linkage of positive parenting with child-responsibility attributions for positive behavior suggests a potential avenue of exploration when working with parents who may have difficulty in sustaining these positive parenting practices with their child. There may be clinical benefit to encouraging parents to not only reduce attributions that hold the child responsible for negative behaviors, but also to increase the extent to which they give the child credit for acting in a positive or prosocial manner. For example, interventions such as the Triple P – Positive Parenting Program have demonstrated that parents can be taught to catch unhelpful thoughts/attributions, develop alternative thoughts, and challenge thoughts that may lead to aggressive or angry responses (Sanders, Pidgeon, Gravestock, Connors, Brown, & Young, 2004). It is possible that the same type of intervention can be applied to helping parents identify any unhelpful thoughts or assumptions about their child's positive behavior and to identify more positive attributions as well as evidence for why these positive attributions may be true for their child. Finally, our results confirm previous literature (Pleck, 2012) that fathers play an important

role in shaping child behavior, and suggest that further participation of fathers in clinical interventions and research should be encouraged.

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Table 1

Demographic Characteristics of the Sample

	<i>N</i>	<i>M (SD) or %</i>
Child Gender		
Male	74	50.0
Female	74	50.0
Age (Years)		
Child		10.81 (1.15)
Mother		42.64 (4.51)
Father		44.64 (4.39)
Marital Status		
Married/Common Law	137	92.6
Divorced/Separated	11	7.4
Socioeconomic Status (SES)		1.64 (0.87)
Family Ethnicity		
European/North American	68	45.9
East Asian	32	21.6
Mixed/Other	41	27.7

Note: SES assessed by the Hollingshead family SES score. 1 = High and 5 = Low. Across variables, sample sizes ranged from 140-148 due to missing data on reports of ethnicity.

Table 2

Mean Levels, Standard Deviations, and Ranges of Primary Variables

		<i>M(SD)</i>	<i>Range</i>	
			<i>Minimum</i>	<i>Maximum</i>
Child-Responsibility Attributions				
Negative Child Behavior	Mother	3.35 (0.75)	1.21	5.17
	Father	3.33 (0.74)	1.33	5.08
Positive Child Behavior	Mother	4.89 (0.88)	1.50	6.00
	Father	4.79 (0.82)	2.33	6.00
Harsh Parenting Practices				
Power Assertion (PCRQ) **	Mother	2.72 (0.62)	1.30	4.00
	Father	2.49 (0.63)	1.10	4.20
Lax Parenting Practices				
Poor Monitoring (APQ)	Mother	0.49 (0.45)	0.00	2.00
	Father	0.57 (0.47)	0.00	2.22
Lax Discipline (APQ)	Mother	1.28 (0.62)	0.00	2.83
	Father	1.28 (0.53)	0.17	2.60
Positive Parenting Practices				
Parent Involvement (APQ)**	Mother	2.97 (0.52)	1.00	4.00
	Father	2.62 (0.59)	0.40	3.80
Positive Parenting (APQ)**	Mother	3.19 (0.54)	1.83	4.00
	Father	2.96 (0.60)	1.33	4.00
Positive Composite (PCRQ)	Mother	4.00 (0.49)	2.31	4.91
	Father	3.87 (0.50)	1.86	4.97
Child Behavior Problems				
CBCL Total T-Score	Mother	49.54 (10.83)	24.00	73.00
	Father	47.93 (11.53)	24.00	76.00
Observed Child Externalizing Behavior		0.03 (0.04)	0.00	0.28
Child Report of Depression (CDI-S; T-scores)		46.75 (6.80)	40.00	72.00

Note. APQ = Alabama Parenting Questionnaire; CBCL = Child Behavior Checklist; CDI-S = Child Depression Inventory Short Version. ** Indicates a significant difference between mothers' and fathers' scores for that variable of $p < .01$

Table 3

Bivariate Correlations between mothers' and fathers' attributions, parenting practices, and child behavior problems

	1	2	3	4	5	6
Child-Responsibility Attributions for Negative Behavior (1)	--	.09	.27**	.18*	-.09	.15
Child-Responsibility Attributions for Positive Behavior (2)	.01	--	-.15	-.15	.28**	-.06
Harsh Parenting Practices (3)	.24**	-.26**	--	.45**	-.23**	.30**
Lax Parenting Practices (4)	.21**	-.25**	.33**	--	-.43**	.23**
Positive Parenting Practices (5)	-.16*	.39**	-.17*	-.30**	--	-.12
Child Behavior Problems (6) ¹	.16*	-.19*	.35**	.34**	-.26**	--

Note. Mothers' correlations are indicated above the diagonal, and fathers' correlations are below. * $p < .05$; ** $p < .01$. ¹A composite score created from mothers', fathers, child, and observer report.

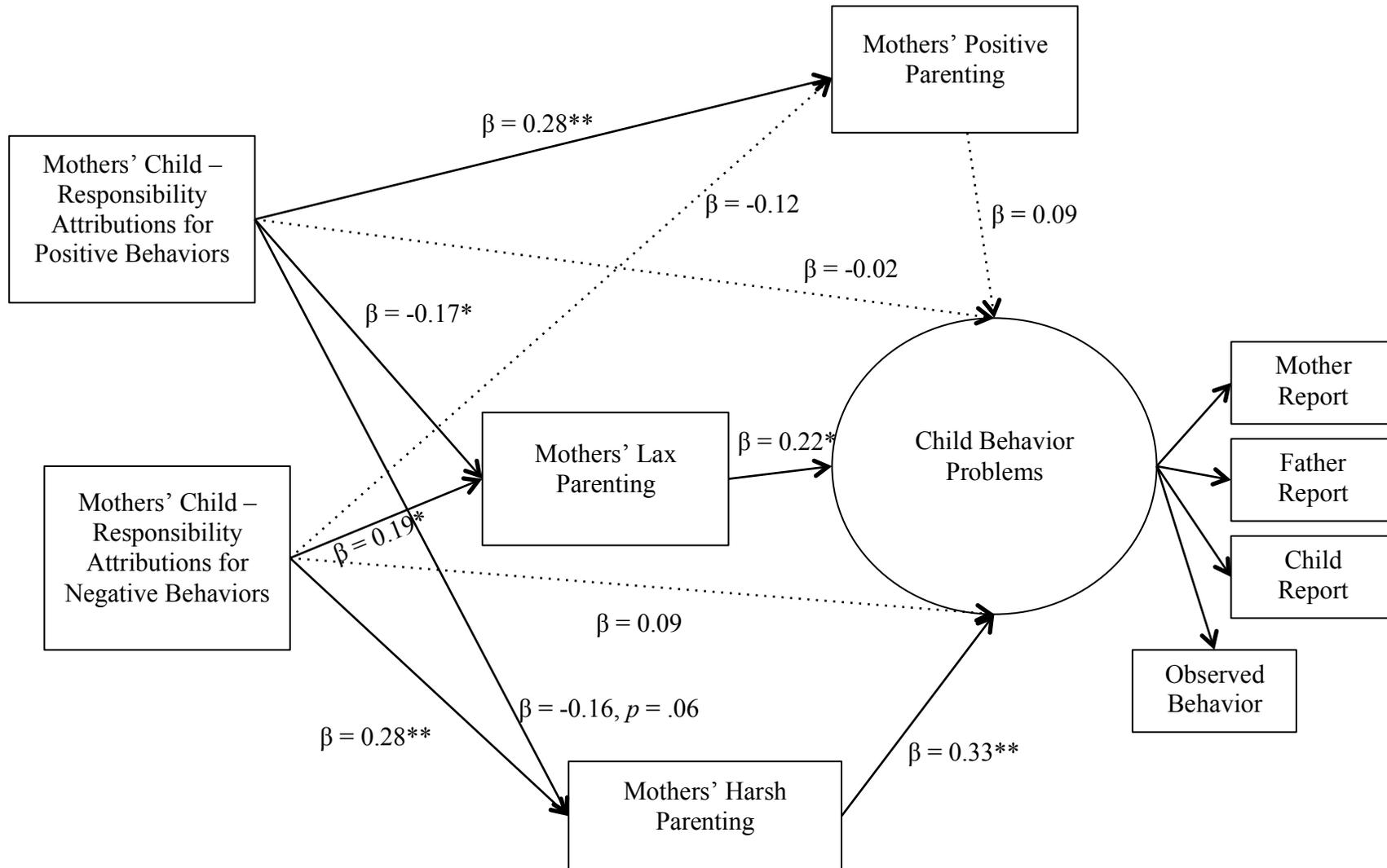


Figure 1. Full model for mothers' attributions, parenting, and child behavior problems. All variables were allowed to covary, although these relationships are not shown. Solid lines indicate significant relations, and dashed lines indicate non-significant relations. * $p < .05$, ** $p < .01$

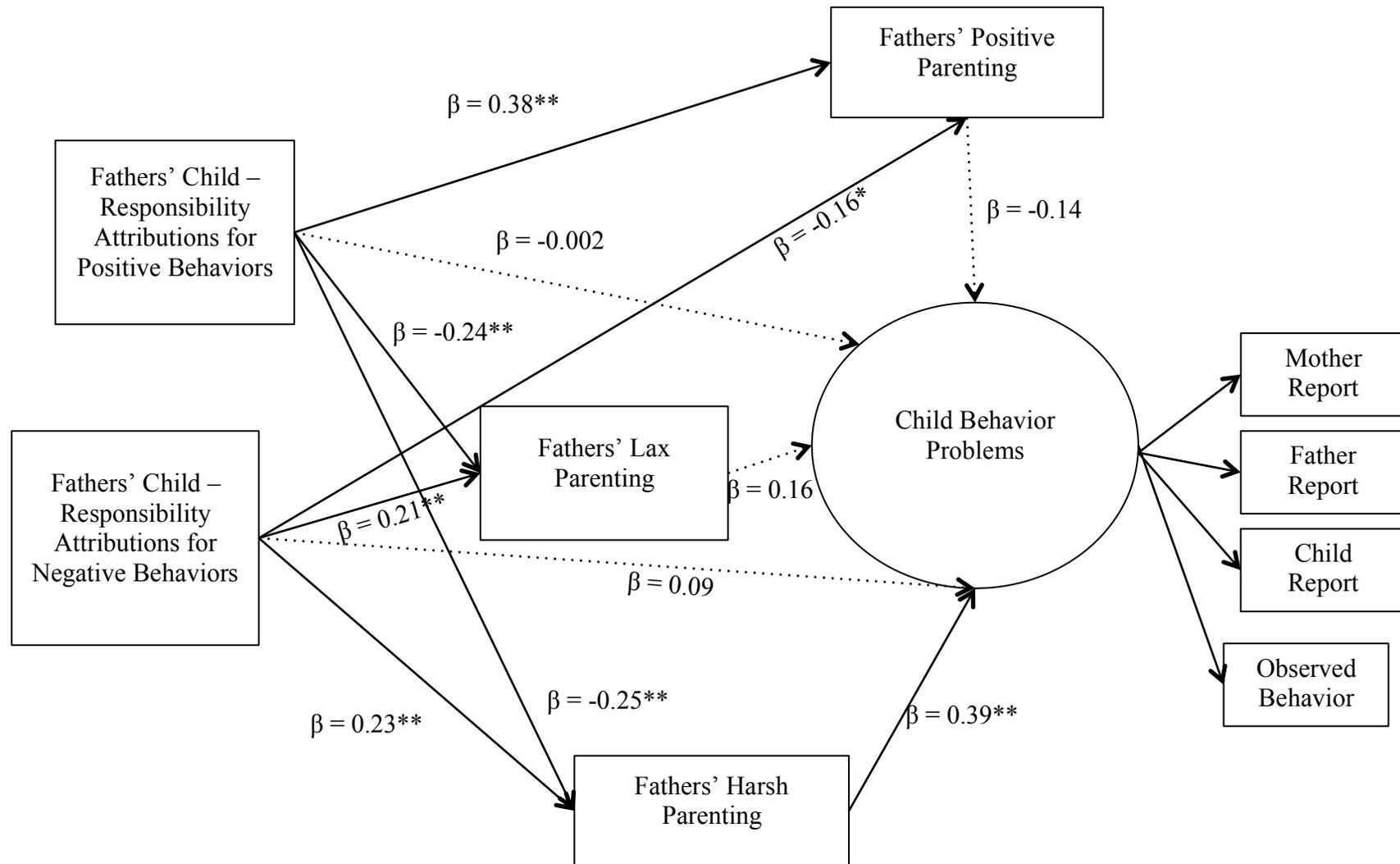


Figure 2. Full model for fathers' attributions, parenting, and child behavior problems. All variables were allowed to covary, though these relationships are not shown. Solid lines indicate significant relations, and dashed lines indicate non-significant relations. * $p < .05$, ** $p < .01$