Running head: MATERNAL DEPRESSION AND CHILDREN'S SELF-BLAME

Children's Self-blame Appraisals about their Mothers' Depressive Symptoms and Risk for
Internalizing Symptoms

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Abstract

Maternal depressive symptoms are a robust predictor of children's risk for internalizing symptoms; yet not all children are negatively affected by exposure to their mothers' symptoms. The present study tested children's self-blame appraisals as a moderator of the association between maternal depressive symptoms and children's internalizing symptoms, controlling for children's negative attributional style. We hypothesized that the relation between maternal depressive symptoms and children's internalizing symptoms would be stronger for children who blamed themselves more for their mothers' symptoms. Participants were 129 mother-child dyads (M child age = 13.63, SD = 2.2; 52.7% female; 38.8% White, 31% African American, 22.5% Latinx/Hispanic) recruited from the community. Results indicated that maternal depressive symptoms were associated with higher levels of children's internalizing symptoms for children who reported higher, but not lower, levels of self-blame appraisals. Results were consistent using mothers' or children's reports of their own and each other's symptoms. The findings highlight the importance of assessing children's appraisals about their mothers' depressive symptoms, and suggest that preventive interventions should target children who endorse higher levels of self-blame appraisals. Further, children's self-blame appraisals about mothers' depressive symptoms should be considered as a target of treatment for child internalizing disorders.

Keywords: *self-blame appraisals, maternal depressive symptoms, internalizing symptoms, children's perceptions*

Children's Self-blame Appraisals about their Mothers' Depressive Symptoms and Risk for Internalizing Symptoms

Children of depressed mothers are at increased risk for experiencing internalizing symptoms of depression and anxiety throughout development (e.g., Kouros & Garber, 2010; Mennen, Negri, Schneidmann, & Trickett, 2018; O'Connor, Langer, & Thompson, 2017; see also Connell & Goodman, 2002). For example, offspring of depressed mothers are four to six times more likely to experience depressive symptoms themselves, and continue to experience risk for recurrent depression and associated negative outcomes into adulthood (Beardslee, Versage, & Gladstone, 1998; Weissman et al., 2016). Goodman and colleagues' (2011a) meta-analytic review highlighted that there are significant individual differences among offspring of mothers experiencing depressive symptoms and, thus, not all children are negatively affected by exposure to maternal depressive symptoms. Therefore, an important research direction is to identify which youth are most vulnerable to developing internalizing problems, so that current preventive interventions can be targeted to those most at risk (Beekman, Smit, Stek, Reynolds III, & Cuijpers, 2010). In the present study, we tested the extent to which the association between maternal depressive symptoms and children's internalizing symptoms differed based on children's self-blame appraisals about their mothers' depressive symptoms.

Children's negative attributional style is highlighted as a general risk factor in cognitive vulnerability models of internalizing symptoms. The diathesis stress model in particular posits that exposure to stress is most likely to predict psychopathology for individuals with certain vulnerabilities (Beck, 1967; Monroe & Simons, 1991). Negative cognitive thinking patterns, or negative attributional style, can serve as one such vulnerability increasing the risk for depression by leading to a pattern of negatively biased views about the self, the world, and the future (i.e.,

negative cognitive triad; Robins & Block, 1989). Substantial empirical evidence demonstrates that children who make more negative attributions about stressful experiences, especially global and internal attributions, are at greater risk for internalizing symptoms in the context of various stressors (Abela & Skitch, 2007; Cohen, Young, & Abela, 2012; Morris, Ciesla, & Garber, 2008; see Jacobs, Reinecke, Gollan, & Kane, 2008 for a review). For example, Abela and Skitch (2007) showed that cognitive vulnerability predicted increased depressive symptoms following daily hassles in a sample of children whose parents had a history of depression. Moreover, in a recent longitudinal study, unidirectional associations were found whereby parental depressive symptoms predicted subsequent worsening of children's negative attributional style (Sunderland et al., 2019).

Self-blame is a specific type of appraisal where one assumes personal responsibility for the cause of a negative event or situation (Fosco, DeBoard, & Grych, 2007). Goodman and colleagues (2011b) recently developed a conceptual model for the role of children's cognitive appraisals in the link between maternal depressive symptoms and children's adjustment. They posit that children who blame themselves for their mothers' symptoms may feel more helpless and more likely to experience heightened negative emotions and use maladaptive coping processes, thereby increasing their risk for psychopathology. Goodman and colleagues created a measure to directly assess children's perceptions about their mothers' depressive symptoms, called the Children's Perceptions of Others' Depression Scale-Mother Version (CPOD-MV). Using the total score, they provided evidence for discriminant validity between their measure and a measure of children's general negative attributional style. Further, children's self-blame appraisals about their mothers' depressive symptoms significantly predicted concurrent levels of child internalizing problems over and above their negative attributional style, suggesting

incremental validity in assessing children's appraisals about their self-blame to advance our understanding of children's socio-emotional development in the context of maternal depression.

Few empirical studies have studied children's self-blame appraisals about their mothers' depressive symptoms (see Connell, Danzo, Magee, & Uhlman, 2019, for an exception). Direct links between self-blame appraisals and children's risk for adjustment problems, however, have been extensively documented in the context of other family stressors, such as interparental conflict (Fear et al., 2009; Fosco & Lydon-Staley, 2017; Mueller, Jouriles, McDonald, Rosenfield, 2015; Rancher, Jouriles, Johnson, Cook, and McDonald, 2019). For example, in a sample of youth who had a parent with a history of depression, Fear and colleagues (2009) found that children who made more self-blame appraisals about their parents' marital disagreement had higher levels of internalizing and externalizing symptoms. Fosco and Lydon-Staley (2017) reported significant within-person associations, such that on days that children endorsed more self-blame appraisals for their parents' disagreements, they also reported feeling more depressed and anxious, and having a lower positive mood the same day.

Similarly, self-blame has also been shown to be a unique predictor of psychopathology in the context of peer victimization (Perren, Ettekal, & Ladd, 2013), sexual abuse (Arata, 1999; Frazier, 2000), and general family-related trauma (Sharma-Patel & Brown, 2016).

Characterological self-blame, which consists of appraisals that internal and permanent characteristics of the self, specifically, are to blame for a negative situation are particularly linked to poor psychological adjustment in the context of abuse (Hill & Zautra, 1989). Self-blame appraisals have also been demonstrated to be a mechanism of change in the reduction of trauma symptoms within trauma-focused interventions (Holliday, Holder, & Suris, 2018; Schumm, Dickstein, Walter, Owens, & Chard, 2015).

Furthermore, in addition to direct links, there is also evidence that self-blame appraisals may be a vulnerability factor that exacerbates the link between exposure to stressful situations and children's adjustment. Perren and colleagues (2013) examined the effect of children's self-blame appraisals about peer victimization they had experienced on developing internalizing problems. They found that children who had higher levels of self-blame appraisals in the context of peer victimization experienced increases in internalizing problems, whereas for children with lower levels of self-blame appraisals, victimization was not associated with increases in internalizing problems.

No studies to date, however, have tested children's self-blame appraisals specifically about their mothers' depressive symptoms as a vulnerability factor. Frampton, Jenkins, and Dunn (2010) showed that children's perceptions of their relationship with their mothers increased their risk for child internalizing symptoms. Specifically, children who perceived their relationship with their mother as more negative (i.e., more conflict, less closeness, less time spent together) had higher levels of internalizing symptoms in the context of maternal depressive symptoms compared to children who had a less negative perception of their mother. Thus, there is indirect evidence to support the hypothesis that children's self-blame appraisals may moderate the link between maternal depressive symptoms and child internalizing symptoms.

The purpose of the present study was to test children's self-blame appraisals as a moderator of the association between maternal depressive symptoms and children's internalizing symptoms. We controlled for children's negative attributional style to test the unique role of self-blame appraisals and utilized a measure of self-blame that was created specifically for children's perceptions of mothers' depression. Moreover, we used multiple reporters of maternal depressive symptoms and children's internalizing symptoms. We hypothesized that children's self-blame

appraisals would be a significant moderator, such that the relation between maternal depressive symptoms and children's internalizing symptoms would be stronger for children who blamed themselves more for their mothers' symptoms.

Method

Participants

Participants were 129 mother-child dyads from two independent data collections who completed overlapping measures. Families from the first study ($N = 55$) participated in a study about family relationships and children's socio-emotional development. Families in the second study ($N = 74$) participated in a study about family relationships and attributions about mental health. Families in both studies were recruited from the community through local schools, flyers, and online advertisements. On average, children were 13.63 years old ($SD = 2.20$; range: 9-17) and 52.7% female. The sample was ethnically and racially diverse; children were 38.8% White, 31% African American, 22.5% Latinx/Hispanic, and 7.8% reported another or more than one race. Mothers were 41.45 years old on average ($SD = 7.28$). Mothers self-identified as 43.4% White, 30.2% African American, 20.9% Latinx/Hispanic, and 5.5% reported another or more than one race. Mothers reported a median yearly family household income of US\$60,001 to \$80,000 (13.2%); 10.9% reported a family income less than \$30,000, 15.5% reported an income between \$30,001 and \$40,000, 6.2% reported an income between \$40,001 and \$50,000; 10.1% reported an income between \$50,001 and \$60,000; 17.8% reported an income between \$80,001 and \$100,000; and 25.6% reported an income over \$100,000. Approximately 43% of mothers reported having a college degree (42.6%); 0.8% reported less than a high school education; 14% reported a high school diploma or GED; 23.3% reported some college education; and 19.4% reported an advanced degree. An eligibility criterion for Study 1 was that parents were married

or living together for at least two years and 85.5% were married; in Study 2, 65.8% of mothers were married. There were no significant differences between the two study samples based on child age, child sex, mother age, race/ethnicity, family income, or mothers' educational level.

Procedure

Mothers and children completed surveys during a laboratory visit as part of larger studies. Children were assisted by a research assistant. Questionnaires were administered in the same order across both samples; however, for child participants from the first study ($N = 55$), the questionnaires were spread out across the visit in two sets (with other lab activities in between) to reduce fatigue. All procedures were approved by the Southern Methodist University and Texas Christian University Institutional Review Boards. Based on all tasks completed in the studies, families were paid \$140 in Study 1 and \$50 in Study 2. Only the measures pertinent to the present study are described below.

Measures

Mothers' self-reported depressive symptoms. Mothers completed the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), a 20-item self-report measure of depressive symptoms. Mothers selected how often specific feelings or behaviors applied to them in the past week on a scale from 0 (*rarely or none of the time [less than 1 day]*) to 3 (*most or all of the time [5-7 days]*). An example of a statement was "I felt that everything I did was an effort." The CES-D has shown good internal consistency ($\alpha = .84 - .90$) and construct validity (Radloff, 1977). The measure showed good internal consistency in the current study ($\alpha = .79$). Based on a cutoff score of 16 and above (Radloff, 1977), 11.63% of mothers in our study reported potentially clinical levels of depressive symptoms.

Children's perceptions of maternal depression. Children completed the Children's Perceptions of Others' Depression Scale-Mother Version (CPOD-MV; Goodman et al., 2011b). Children rated 21 items about their thoughts and feelings when their mother is sad and depressed as either true, sort of true, or false. In order to separate out items about children's self-blame appraisals from their perceptions of the severity and chronicity of mothers' depressive symptoms, we conducted an exploratory principle-axis factor analysis, using promax rotation. Based on initial results, and the results of a complementary minimum average partial (MAP) test and parallel principal components analysis (O'Connor, 2000), three factors were retained (see Supplemental Materials and Supplemental Table 1). Seven items did not load on any factor or cross-loaded on more than one factor and were not included. The first factor was children's appraisals of self-blame and included 6 items (e.g., "Even if she doesn't say it, I know it's my fault that my mother gets sad"; $\alpha = .71$). The second factor was children's perceptions of the severity and chronicity of their mothers' depressive symptoms and included 4 items (e.g., "My mom stays sad for a long time"; $\alpha = .66$). The third factor related to children's perceptions of their ability to alleviate their mothers' symptoms and included 4 items (e.g., "I am good at helping my mother get over her sadness"; $\alpha = .72$); this third factor was not used in the current study. Items within each subscale were summed, with higher scores reflecting higher levels of self-blame appraisals and perceptions of greater severity of mothers' symptoms.

Children's internalizing symptoms. Children and mothers completed the internalizing symptoms subscale of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001). The SDQ consists of 10 items that assess a variety of internalizing symptoms such as worry and sadness. Respondents rated statements (e.g., "I /my child worry(ies) a lot") on a scale of 0 (*not true*) to 2 (*certainly true*). Items were summed to create a total internalizing symptom score, with

higher scores reflecting higher levels of symptoms. The SDQ has shown good internal consistency ($\alpha = .63 - .77$; Bourdon, Goodman, Rae, Simpson, & Koretz, 2005) and construct validity (Goodman, 2001). In the current study, $\alpha = .74$ for mothers' report of child internalizing symptoms, and $\alpha = .62$ for children's self-reported internalizing symptoms.

Children and mothers also completed the Screen for Child Anxiety Related Disorders (SCARED; Birmaher et al., 1997), a 41-item questionnaire that assesses symptoms of a variety of anxiety disorders. Individuals rated each item on a scale of 0 (*not true or hardly ever true*) to 2 (*very true or often true*). An example item was "When I (my child) feel(s) frightened, it is hard for me (him/her) to breathe." Items were summed to create a total anxiety score, with higher scores reflecting higher levels of anxiety symptoms. The reliability of the SCARED is excellent; in a meta-analysis of cross-cultural samples that assessed the SCARED's psychometric properties, the average alpha was .91 (Hale, Crocetti, Raaijmakers, & Meeus, 2011). Both mothers' ($\alpha = .93$) and children's ($\alpha = .90$) reports on the SCARED demonstrated good reliability in the current study.

Children also completed the Children's Depression Inventory (CDI; Kovacs, 1981). The CDI consists of 27-items that assess depressive symptoms such as sadness and anhedonia. The CDI provides three alternative statements for each item (e.g., "I am sad once in a while," "I am sad many times," and "I am sad all the time") and children were asked to select the statement that best described them within the past two weeks. Higher scores indicate higher levels of depressive symptoms. The CDI has shown good internal consistency ($\alpha = .86$; Kovacs, 1981) and construct validity. In the current study, Cronbach's alpha for children's self-report was .78.

We created a composite for mother-reported child internalizing symptoms by standardizing and summing their reports on the SDQ-internalizing scale and the SCARED total

score ($r = .67, p < .001$; composite alpha = .93). A composite for children's self-reported internalizing symptoms was created by standardizing and summing their reports on the SDQ-internalizing scale, SCARED total score, and the CDI (r between scales = .52-.65; composite alpha = .92).

General Negative Attributional Style. Children completed the Adolescent Cognitive Style Questionnaire (ACSQ; Hankin & Abramson, 2002). The original ACSQ was conducted with adolescents ages 13 to 18 (M age = 15.8 years) and included 12 hypothetical negative events (e.g., "You want to go to a big party, but nobody invites you," "You take a test and get a bad grade"), followed by five questions to assess children's internal, stable, and global cognitive attributions, as well as their cognitive inferences about the consequences of the negative event. All items are rated on a 7-point Likert Scale. In the present study, the ACSQ was revised to include only eight of the negative events that were relevant for the age range of children in this study (e.g., removed "your boss yells at you," "you don't get accepted to any colleges"). The total score for the ACSQ was used, with higher scores reflecting a more negative attributional style. Reliability of the ACSQ in the present sample was .93, which is comparable to the reliability reported in the original ACSQ with 12 negative events ($\alpha = .95$).

Results

Missing data

One parent was missing data on the CES-D and the SDQ, and one child did not complete the CPOD-MV. Little's MCAR test, which included the study variables, child age, child sex, and study sample, was not significant, indicating that the data was missing completely at random, $\chi^2(27) = 11.61, p = 0.996$. Multiple imputation, using total scores from those with complete data and demographic data, was used to create one imputed data set for analyses.

Preliminary analyses

Descriptive statistics and bivariate correlations among the study variables are presented in Table 1. There were no significant differences between the two samples on child age, distribution of child sex, or any of the main study variables; however, there was a significant mean difference in children's general negative attribution style, $t(127) = 2.56, p = .012$. Participants in the study about family relationships and attributions about mental health ($N = 74$) reported significantly higher levels of general negative attributional style ($M = 114.55, SD = 37.48$) compared to participants in the first sample ($M = 98.38, SD = 32.66$). Study sample was therefore included as a covariate in all subsequent analyses. Maternal depressive symptoms and child internalizing symptoms were positively correlated when based on the same informant (Mothers: $r = .30, p < .001$; Children: $r = .31, p < .001$), but not correlated when based on cross-informant reports. Children's self-blame appraisals were positively correlated with child age, $r = .26, p = .003$, and their general attribution style, $r = .29, p = .001$. Children who made more self-blame appraisals also self-reported more internalizing symptoms, $r = .34, p < .001$. Mothers' self-reported depressive symptoms, however, were not significantly correlated with children's self-blame appraisals, $r = -.12, p = .17$, nor were children's self-blame appraisals correlated with children's perceptions of their mothers' depressive symptoms, $r = .16, p = .07$.

Children's Self-blame Appraisals as Moderator

Children's self-blame appraisals were tested as a moderator of the association between maternal depressive symptoms and children's internalizing symptoms, using the PROCESS macro in SPSS v. 24 (Hayes, 2018). Following guidelines for testing interaction effects (Aiken & West, 1991), variables were mean-centered. Analyses controlled for child age, sex, study sample, as well as children's general negative attribution style. Significant two-way interactions were

found between maternal self-reported depressive symptoms and children's self-blame appraisals predicting both mother-reported, $b = 0.03$, $SE = 0.01$, $p = .009$, and children's self-reported, $b = 0.03$, $SE = 0.01$, $p = .034$, internalizing symptoms (Table 2). Interactions were plotted and simple slopes were calculated at +1 and -1 SD from the mean. Across both interactions, mothers' self-reported depressive symptoms were positively related to children's internalizing symptoms, only among children who had higher, but not lower, levels of self-blame appraisals (Figure 1).

Next, we tested children's self-blame appraisals as a moderator of the association between children's perceptions of their mothers' depression severity and their own internalizing symptoms. As before, analyses controlled for child age, sex, study sample, children's general attributional style, and we also controlled for mothers' self-reported depressive symptoms. Significant two-way interactions were found between children's perceptions of their mothers' depressive symptoms severity and their self-blame appraisals in predicting both mother-reported, $b = 0.09$, $SE = 0.03$, $p = .002$, and child-reported, $b = 0.07$, $SE = 0.04$, $p = .049$, internalizing symptoms (Table 3). Simple slopes analyses showed that children's perceptions of greater maternal depressive symptom severity predicted higher levels of child internalizing symptoms for children with higher, but not lower, levels of self-blame appraisals (Figure 2).

Discussion

Although children's self-blame appraisals have been posited to be a vulnerability factor increasing the risk for child internalizing symptoms (Beardslee et al., 2011; Goodman & Gotlib, 1999), and have been examined in the context of other stressors (e.g., interparental conflict, peer victimization), this is the first study to our knowledge to directly test children's appraisals specifically about their mothers' depressive symptoms as moderator of the association between maternal depressive symptoms and children's internalizing symptoms. Using a multi-reporter

approach, we found that children who blamed themselves more and felt responsible for their mothers' sad mood had higher levels of internalizing symptoms compared to children who reported lower levels of self-blame appraisals. Our results were consistent regardless of whether mothers or children reported on their own or each other's symptoms, increasing confidence in our findings. Of importance, analyses controlled for children's general negative attributional style, suggesting that our results were specific to self-blame appraisals about maternal depression, and supports Goodman and colleagues' (2011b) work showing that self-blame appraisals are conceptually distinct from a general depressogenic cognitive style.

Our results are consistent with cognitive vulnerability models of depression (e.g., Jacobs et al., 2008) and previous research showing that self-blame appraisals can increase the risk for psychopathology in the context of stressful experiences (Perren et al., 2013; Sharma-Patel & Brown, 2016). In the context of maternal depressive symptoms, there are several potential explanations for why children with higher levels of self-blame appraisals are at greater risk of experiencing elevated internalizing symptoms. Self-blame appraisals may lead to rumination among children about their causal role in their mothers' depression. Research has shown that children living with a depressed parent and who reported more rumination and intrusive thoughts experience more internalizing and externalizing symptoms (Langrock, Compas, Keller, Merchant, & Copeland, 2002). Additionally, if children believe they are to blame for their mothers' depressive symptoms, they may be more likely to engage in ineffective and maladaptive coping behaviors, such as trying to problem-solve their mothers' depressed mood (Compas, Banez, Malcarne, & Worsham, 1991). Although primary engagement coping strategies, such as problem-solving, are generally effective, research has shown that in the context of *uncontrollable* stressors, such as maternal depression, children who used secondary

coping strategies (e.g., cognitive restructuring, distraction) showed lower levels of internalizing symptoms (Langrock et al., 2002). Children's self-blame appraisals may also cause feelings of helplessness, failure, and low self-worth, which have all been shown to be vulnerability factors for the development of internalizing symptoms (Abramson, Seligman, & Teasdale, 1978; Morris et al., 2008; Roberts & Monroe, 1999).

The specific process by which self-blame appraisals confer risk for psychopathology, however, remains an empirical question. In this study, we tested self-blame as a moderator, consistent with theoretical models of internalizing symptoms that highlight negative cognitive styles as a vulnerability factor for depression in the context of stress. Self-blame appraisals, however, have also been tested as mediators of the link between stress and children's risk for internalizing symptoms. For example, self-blame about interparental conflict has been shown to mediate the relation between conflict and internalizing symptoms (Grych, Fincham, Jouriles, & McDonald, 2000; Kim, Jackson, Conrad, & Hunter, 2008). Goodman and colleagues (2011b) acknowledged that research should test self-blame appraisals as both a mediator and moderator of the association between maternal depressive symptoms and children's adjustment to explicate the specific role they play in children's risk for internalizing symptoms. Thus, further studies with longitudinal data should test the possibility that exposure to mothers' depressive symptoms may lead to child internalizing symptoms indirectly through an increase in self-blame appraisals, taking into account children's developmental level. It may be the case that self-blame appraisals play a mediating role only early in development; that is, early exposure to maternal depressive symptoms, and therefore mothers' negative attributional style, may lead to a similar negative attributional style in their offspring (Garber, Goodman, Brunwasser, Frankel, & Herrington, 2019), which in turn predicts greater risk for internalizing symptoms. Over time and into

adolescence, however, self-blame appraisals may become a stable individual difference variable that differentiates which children are at higher versus lower risk for depressive symptoms; thus, operating as a moderating factor (Hankin, 2008).

Limitations

Limitations of the present study provide directions for future research. First, we had a relatively healthy sample and the majority of mothers had lower levels of depressive symptoms. This restriction in range limits the generalizability of our findings for children whose mothers have more severe and clinical levels of depression. Thus, further research is needed to compare community and clinical samples with respect to children's perceptions of their mothers' depression and, specifically, examine the extent to which children's self-blame appraisals increase risk for internalizing symptoms in clinical versus community samples. Second, our study employed a cross-sectional design, and thus, we only considered concurrent levels of maternal depressive symptoms and child internalizing symptoms. Longitudinal research is needed to draw inferences about temporal ordering, as well as to test other characteristics of mothers' depressive symptoms, such as chronicity across the child's life. Longitudinal research is also needed to test for developmental differences in children's self-blame appraisals and the extent to which there are specific developmental periods in which self-blame appraisals are most harmful for children's psychological health and wellbeing. Third, given the correlational nature of the data, we cannot draw causal conclusions regarding the relation between maternal depression, child self-blame appraisals, and child internalizing symptoms. Additionally, we may not have accounted for other potential moderators or predictors that could have affected the relation between children's self-blame appraisals, their internalizing symptoms, and their mothers' depressive symptoms.

Fourth, our study did not include fathers and we did not examine how children's self-blame appraisals about their fathers' depressive symptoms may place children at risk for internalizing symptoms. In a meta-analysis of the relations between paternal depression and children's psychopathology, Kane and Garber (2004) found that paternal depression was significantly related to children's internalizing disorders; therefore, future studies should assess children's appraisals of their fathers' symptoms as well as test the extent to which appraisals about mothers' and fathers' depressive symptoms differ or confer the same risk for internalizing symptoms in children. Another future direction is testing the extent to which the presence of two depressed parents worsens children's self-blame appraisals or, alternatively, the extent to which the presence of one parent without depressive symptoms may protect children from developing self-blame appraisals about the other parent's symptoms.

Fifth, the reliability of the CPOD-MV subscales assessing children's perception of their mothers' depressive symptoms was low (0.66) compared to recommended values, and our sample was not large enough to split in order to run both exploratory and confirmatory analyses on the structure of the CPOD-MV. Thus, future work should replicate our findings with regard to the creation of our CPOD-MV subscales in a larger and independent sample, as well as provide further tests of the psychometric properties of this scale. Finally, we did not distinguish between behavioral (controllable and situational aspects of the self) and characterological (uncontrollable and stable characteristics about the self) self-blame appraisals in our study. Graham and Juvonen (1998) noted that this distinction is important because specific types of self-blame appraisals have been related to different psychological consequences (e.g., Anderson, Miller, Riger, Dill, & Sedikides, 1994). For example, characterological self-blame has been associated with poorer and stronger negative effects than behavioral self-blame in the context of sexual assault

(Breitenbecher, 2006; Sigurvinsdottir & Ullman, 2015). Future studies may consider modifying the CPOD-MV to consider distinguishing between characterological and behavioral self-blame appraisals and behaviors in the context of children's perception of their mothers' depression.

Practical Implications

Findings from the present study suggest that children with higher self-blame appraisals may be at greater risk of developing anxiety and depressive symptoms in the context of their mothers' depressive symptoms. This understanding can facilitate targeted interventions for offspring of depressed mothers specifically addressing self-blame appraisals. Evidence-based interventions for internalizing disorders, including Cognitive Behavioral Therapy (CBT; Klein, Jacobs, & Reinecke, 2007) and Trauma-Focused Cognitive Behavioral Therapy (Cohen & Mannarino, 1998), have been shown to successfully target and change unhelpful appraisals in adolescents. Self-blame appraisals specifically have been linked with treatment outcomes in trauma-focused cognitive therapies with adolescents (Cohen & Mannarino, 2000), suggesting they likely play a critical role in symptom resolution within this population, and are a malleable target in therapy. Given that self-blame appraisals have been identified as a vulnerability factor for adolescents with depressed mothers, existing interventions such as CBT that are commonly used to treat internalizing disorders in adolescents should be adjusted to address potential self-blame appraisals rather than just broad negative attributions (Sunderland et al., 2019). Understanding self-blame as a vulnerability factor also provides the opportunity to better target *preventative* interventions for children with depressed parents. Preventative interventions have been developed for children of depressed parents in order to limit the negative impact of parental depression and show promise in effectively targeting cognitive coping skills (e.g., Compas et al.,

2011; Garber et al., 2009). Incorporating modules that specifically challenge self-blame appraisals may benefit these existing prevention approaches.

Understanding the family-level processes that underlie self-blame appraisals is also important for determining how to include family members into preventive efforts or treatment. Given that excessive levels of guilt and internal attribution patterns are characteristic of depression, children may have developed self-blame appraisals because their parents model self-blame thinking patterns. Alternatively, maternal depression has also been linked with attempts to control child behavior by fostering anxiety or guilt in children (e.g., Donatelli, Bybee & Buka, 2007; Sheeber et al., 2009; Susman et al., 1985); therefore, parents may be directly blaming their child for their depressed mood, which children then internalize. In such cases where parents may be reinforcing children's self-blame appraisals, intervening with children alone is unlikely to be sufficient. Interventions and treatment may also need to include parents. Although we focused only on children's self-blame appraisals, these types of appraisals may be relevant on a family-level regardless of the specific family member who exhibits internalizing symptoms. Therapies may benefit from exploring the potential role of self-blame appraisals within the family beyond the mother-child dyad (e.g., mother's self-blame relating to child's depression; sibling's self-blame related to their sibling's symptoms). Future research should also explore such self-blame attributions as potential vulnerabilities for the transmission of depression within families.

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Table 1

Descriptive Statistics and Bivariate Correlations of Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Child Age	--								
2. Child Sex	.01	--							
3. Study Sample	.05	.00	--						
4. Negative Attribution Style (ACSQ)	.20*	.10	.22*	--					
5. Mother Self-reported Depressive Symptoms (CES-D)	-.07	.04	-.11	-.19*	--				
6. Children's Perceptions of Mothers' Depressive Symptoms (CPOD-M)	-.11	-.08	-.08	.17	.17	--			
7. Children's Self-Blame Appraisals (CPOD-M)	.26**	.08	.13	.29**	-.12	.16	--		
8. Mother-reported Child Internalizing Composite	.04	.06	.08	.08	.30***	.11	.02	--	
9. Child-reported Internalizing Composite	.03	.26**	.13	.43***	.00	.31***	.34***	.47***	--
<i>M</i>	13.63	--	--	107.66	8.05	2.19	3.02	0.00	0.00
<i>SD</i>	2.20	--	--	36.27	6.01	1.79	2.50	1.83	2.54

Note. $N = 129$ mother-child dyads. ACSQ = Adolescent Cognitive Style Questionnaire; CPOD-

MV = Children's Perception of Others' Depression-Mother Version; Sex coded 0 = male, 1 =

female; Study Sample coded 1 = study with 55 mother-child dyads, 2 = study with 79 mothers-

child dyads.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2

Children's Self-blame Appraisals as a Moderator of the Association between Mothers' Self-reported Depressive Symptoms and Children's Internalizing Symptoms

Variable	Mother-Reported Child Internalizing Symptoms			Child Self-reported Internalizing Symptoms				
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>B</i>
Intercept	-1.89	1.14	.100	0.03	-2.15	1.43	.13	0.02
Child Age	0.05	0.07	.50	0.06	-0.11	0.09	.239	-0.03
Child Sex	0.05	0.31	.87	0.01	0.96	0.38	.014	0.19
Study Sample	0.25	0.32	.43	0.06	0.09	0.40	.82	0.02
Children's Negative Attribution Style	0.01	0.005	.092	0.16	0.03	0.01	<.001	0.40
Mothers' Self-reported Depressive Symptoms	0.13	0.03	<.001	0.42	0.06	0.03	0.06	0.16
Children's Self-Blame Appraisals	-0.003	0.07	.97	-0.004	0.25	0.08	.003	0.24
Mother Depressive Symptoms X Children's Self-Blame Appraisals	0.03	0.01	.009	0.23	0.03	0.01	.034	0.17
<i>R</i> ²			.17				.32	

Table 3

Children's Self-blame Appraisals as a Moderator of the Association between Children's Perceptions of their Mothers' Depressive Symptoms and Children's Internalizing Symptoms

Variable	Mother-Reported Child Internalizing Symptoms			Child Self-reported Internalizing Symptoms				
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>B</i>
Intercept	-2.27	1.17	.054	-0.04	-2.39	1.44	.10	-0.02
Child Age	0.03	0.07	.72	0.03	-0.09	0.09	.33	-0.07
Child Sex	0.10	0.30	.74	0.03	1.14	.38	.003	0.23
Study Sample	0.38	0.31	.23	0.10	0.34	0.39	.38	0.07
Children's Negative Attribution Style	0.004	0.005	.42	0.07	0.02	0.01	<.001	0.30
Mothers' Self-reported Depressive Symptoms	0.10	0.03	.003	0.32	0.02	0.03	.59	0.04
Children's Perceptions of Mothers' Depressive Symptoms	0.06	0.09	.50	0.06	0.34	0.11	.003	0.24
Children's Self-Blame Appraisals	-0.05	0.07	.48	-0.07	0.18	0.08	.035	0.17
Children's Perceptions of Mothers' Depressive Symptoms X Children's Self-Blame Appraisals	0.09	0.03	.002	0.23	0.07	0.04	.049	0.13
<i>R</i> ²			.19				.36	

Panel A

Panel B

Figure 1. Children's self-blame appraisals as a moderator of the association between mothers' self-reported depressive symptoms and mother-reported (Panel A) and child-reported (Panel B) child internalizing symptoms. Note. $N = 129$ mother-child dyads. CES-D = Center for Epidemiological Studies Depression Scale. Analyses controlled for child age, child sex, study sample, and children's general negative attributional style.

Panel A

Panel B

Figure 2. Children's self-blame appraisals as a moderator of the association between children's perceptions of their mothers' depressive symptoms and mother-reported (Panel A) and child-reported (Panel B) child internalizing symptoms. *Note.* N = 129 mother-child dyads. Analyses controlled for child age, child sex, sample, and children's general negative attributional style.

Supplemental Materials

Given the Children's Perceptions of Others' Depression Scale-Mother Version (CPOD-MV; Goodman et al., 2011b) has not been widely used and includes items not related to self-blame (e.g., perceptions of the severity and chronicity of mothers' sadness), we conducted an exploratory principle-axis factor analysis, using promax rotation to identify items that indicate self-blame. The initial factor solution suggested 7 factors could be extracted (eigenvalues above 1). However, close examination of factor loadings, and results from a complementary minimum average partial (MAP) test and parallel principal components analysis (O'Connor, 2000) indicated support for a 3-factor solution. Seven items did not load onto any factor or cross-loaded on more than one factor and were removed. Factor loadings are presented in Supplemental Table 1.

Supplemental Table 1

Factor Loadings and Inter-factor Correlations from Exploratory Principal-Axis Factor Analysis (N = 129)

	Factor 1: Self-blame Appraisals	Factor 2: Severity/Chronicity of Maternal Depression	Factor 3: Ability to Alleviate Mothers' Symptoms
I'm usually to blame when my mother gets sad.	.713	.222	-.090
My mom gets sad about things I've done at school.	.702	.051	-.081
Even if she doesn't say it, I know it's my fault that my mother gets sad.	.565	.299	.083
Usually it's not my fault when my mother becomes sad.	-.475	-.144	.054
The things that make my mom sad have nothing to do with me.	-.464	-.128	.226
My mother gets sad when I make mistakes.	.395	-.079	.020
After my mom has been sad, it takes a while for her to be happy again.	.162	.820	-.179
My mom stays sad for a long time.	.073	.724	-.085
When my mom has been sad, she gets over it pretty quickly.	-.133	-.579	.097
It's hard to talk to my mother when she's sad.	.152	.345	-.147
When my mother gets sad, I can usually help make her feel better.	.059	-.194	.794
I am good at helping my mother get over her sadness.	-.069	-.063	.650
My mother pays attention to me even when she's sad.	-.106	-.096	.562
When my mother gets sad, there's nothing I can do to help her.	.160	.157	-.494
Correlation among Factor Scores			
	Factor 1	--	
	Factor 2	.21	--
	Factor 3	-.08	-.18

Note. Final results from principal-axis factor analysis (14 items from CPOD-MV). The following seven items did not load onto any

factor or cross-loaded on more than one factor: When my mother gets sad, I worry that I'll get sad like she does; I get scared when

my mother gets sad; When my mother gets sad, I'm afraid that something bad will happen; I never see my mother sad; My mother

hardly ever yells at me when she's sad; Most of the time my mother seems to enjoy things less than she used to; My mother often has times when she sleeps more or less than usual.