Parental Depression and Child Wellbeing: How Do Fathers Matter?

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Abstract: Parental depression can significantly impact children. Prior research has focused mostly on the impact of mothers on young children, ignoring fathers and a broad range of children's ages. Theories addressing paternal depression have considered three possible ways it affects children: the spillover effect, where maternal depression is buffered by fathers; the interactive effect, where maternal and paternal depression work together to negatively impact children; and the independence hypothesis, where maternal and paternal depression have unique, independent effects on children. We use three pooled longitudinal panels of the Medical Expenditure Panel Survey (MEPS) to test these models on three measures of child (age 5-17) behavior problems. The results show no support for the spillover, nor interactive models, suggesting that maternal and paternal depression have unique effects. Our results highlight the importance of fathers and the need for additional work on the unique influence of fathers on child health and wellbeing.

A growing body of research is addressing the importance of parental depression on children and families (i.e., Fisher, et al., 2015; Gladstone, Beardslee, & Diehl, 2015; Shafer, Fielding, & Wendt, 2017; Weitzman, Rosenthal, & Liu, 2011). In general, parental depression appears to have substantial negative effects on the developmental, health, behavioral, cognitive, and social wellbeing of children (Pilowsky, et al., 2014). However, the literature to date has focused primarily on maternal depression, while ignoring the potential effects of paternal depression, or the combined effects of having a depressed mother and father. The overwhelming focus on maternal depression is primarily motivated by two factors. First, women are twice as likely to be depressed as men (Wendt & Shafer, 2015) and are at a substantial risk to experience depression prior to childbirth, immediately after birth, and during childrearing (Goodman, 2007). Second, gender disparities in time with children and time spent engaging in child care remain and mothers are often the primary parent to their children (Parker & Livingston, 2017). Thus, researchers often assume, either explicitly or implicitly, that maternal depression is more important to child wellbeing than paternal depression (Weitzman, et al., 2012).

Yet, an increased focus on paternal depression is warranted for several reasons. First, fathers have become increasingly involved in the daily affairs of their families—including an active role in childcare (Bianchi, Robinson, & Milke, 2006). Thus, paternal depression may play an increasingly important role in shaping child outcomes (Shafer, et al., 2017). Second, despite gender differences in the prevalence of depression—parents, both mothers and fathers, are approximately 15% more likely to be depressed than non-parents (National Research Council and Institute of Medicine, 2009). As a result, depression is a significant mental health condition among fathers, as well (Shafer & Wendt, 2015). Third, there is good theoretical reason to expect that maternal and paternal depression have unique effects on children, due to the gendered

nature of depressive symptoms (Addis, 2008). At the same time, having a depressed mother and father may be particularly disruptive to the family system and deeply problematic for children. Combined, these factors suggest the importance of integrating fathers into the study of parental depression and increased attention on how maternal and paternal depression, combined, may impact children.

Despite the need for research on paternal depression and the combined effects of maternal and paternal depression, little research has addressed the question (but, see Fisher, et al., 2015, Shafer, et al., 2017, and Weitzman, et al, 2012). To address this gap in the literature, we use a nationally representative sample to address parental depression and behavioral and emotional problems in children. More specifically, we use Panels 18 and 19 (2013-2015) from the Medical Expenditure Panel Survey (MEPS) to examine the unique and combined effects of maternal and paternal depression on the functional impairment of children aged 5-17. Furthermore, we consider the impact of parental depression on overall behavioral/emotional problems and impairment in three domains: at school, at home, and within social interactions.

Parental Depression, Parenting, and Child Wellbeing

Depression is the most common mental health issue in the United States, with 1 in 5 Americans experiencing a major depressive episode (MDD) in their lifetimes (Kessler, et al., 2003). Because depression impacts interpersonal relationships, it negatively influences parent-child interactions and influences the ways in which mothers and fathers parent their children (Cummings & Davies, 1999). Wilson and Durbin (2010) argued that children interact with depressed parents in two distinct ways: the lack of positive parenting and an overabundance of negative parenting. Positive parenting practices, such as warmth, engagement, responsibility, and the use of positive control are focused on helping children become self-confident, feeling

supported and loved, build self-regulatory behaviors, and foster a nurturing home environment (Holden, et al., 2017). In contrast, negative parenting may include hostility, the use of harsh discipline, or indifference to the child's emotional and physical needs (Padilla-Walker, Nielson, & Day, 2016).

Strained interpersonal interactions between depressed parents and children may lead to behavioral problems in the children of depressed parents. Negative emotions and feelings are often manifest through behavioral and emotional problems in children. Emotional (or, internalized) problems are often the product of issues directed inward—leading to high levels of withdrawal, anxiety, depression, and other emotional issues (Eisenberg, et al., 2001). The lack of parental warmth has been linked to emotional problems, particularly when the child feels as if they are not loved or supported by their mother and/or father (Waller, et al., 2015). Likewise, prior research finds that the children of depressed parents often exhibit low self-esteem, elevated levels of hopelessness, and tend to be more pessimistic than the children of parents who are not depressed. Openly hostile parents may impact how children feel about themselves, how they view the world, and negatively affect the emotional health of children (Kessler, 2012). Likewise, hostile parents can be highly conflictual and coercive, which has been linked to an increased risk of psychopathology in children (Kane & Garber, 2004, 2009).

The children of depressed parents may also exhibit elevated levels of behavioral (or, externalized) problems, such as anger, aggression, and other forms of acting out (Aunola & Nurmi, 2005). Depressed parents are less likely to monitor their children—meaning that they may be unaware of their children's activities and whereabouts (Stattin & Kerr, 2000). The lack of disclosure by children into their activities, coupled with the lack of parental inquiry about what children are doing and with whom has been linked to increased behavioral issues in

children. Similarly, low parental warmth by depressed parents may lead to behavioral problems in children if the parent-child relationship is characterized by poor communication and distrust (Fletcher, et al., 2004). Some children may also exhibit behavioral problems in order to elicit attention and response from depressed parents—particularly if their parent is withdrawn, appears apathetic, and/or is experiencing somatic symptoms, such as fatigue, severe headaches, or other debilitating conditions (Shafer, et al., 2017; Stattin & Kerr, 2000).

Unique and Combined Effects of Parental Depression

Maternal and paternal depression may work independently or together to influence child outcomes. Three possible models addressing the effects of mothers' and fathers' depression have been tested in the literature. We discuss each in greater detail, below.

One possibility is a spillover model, which suggests that the stresses and difficulties associated with parenting when one parent is depressed affects the mental health and wellbeing of the other parent (Idstad, Ask, & Tambs, 2010; Goodman, et al., 2014; Whisman, Davila, & Goodman, 2011). Spillover models addressing the impact of parents' depression tend to treat paternal depression as a mediating variable between maternal depression and child wellbeing. This model assumes that mothers serve as primary parents because children spend a disproportionate amount of time with their mothers, compared to their fathers (Goodman, et al., 2011). As a result, paternal depression only affects children within the context of maternal depression and exacerbates risk to children (Coyne, et al., 1992; Goodman & Gotlieb, 1999).

A second possibility considers the interactive effects of maternal and paternal depression. This model argues that mothers' and fathers' mental health work together to impact child outcomes. Importantly, two possible relationships between maternal and paternal depression can be tested via the interactive model. The first relationship is associated with the buffering

hypothesis that low levels of depression in one parent may counteract higher levels in the other parent. In such situations, the effect of depression on child outcomes is minimized by the other, non-depressed parent, who compensates for the depressed parent by increasing their involvement, caregiving, and other parenting behaviors (Goodman & Gotlieb, 1999; Goodman, et al., 2014). The second relationship considers the impact on children when both parents exhibit high levels of depressive symptoms. We would expect that children in such homes to suffer substantially compared to their peers without a depressed parent or one depressed parent (Mezulis, et al., 2004).

The final possibility is that maternal and paternal depression work independently to influence children. Such a model would suggest that although maternal and paternal depression both impact children (Shafer, et al., 2017), they are fundamentally different from one another and affect children in unique ways. This may be due to gender differences in depressive symptoms, resulting from gender socialization over the life course (Addis, 2008). Women commonly express their depressive symptoms via internalized symptoms like sadness, feelings of worthlessness, and guilt among women. In contrast, men often externalize their depression through anger, irritability, substance abuse, and somatic symptoms (Call & Shafer, 2018; National Institutes of Mental Health, 2005; Shafer & Wendt, 2015). Studies addressing similarities and differences in the effect of maternal and paternal depression on children are limited but suggest variation by parent (Elgar, et al., 2007).

Papers adjudicating between these three possibilities are rare in the extent literature. Further complicating the issue is that many of the papers considering one or more theories regarding the influence of parental depression on children use community samples or non-representative data to address the question (e.g., Shafer, et al., 2017). Likewise, many scholars

use cross-sectional or focus exclusively on the parents of young children to address this question. In contrast, our paper uses nationally-representative, longitudinal data which includes children between the ages of 5 and 17. As a result, we argue that our analysis provides an improved test of the three theories commonly used in research on parental depression and child behavior.

Research Questions

1. What impact do maternal and paternal depression have on overall child behavior, internalized behavioral problems, and externalized behavioral problems?
2. Does a spillover, interactive, or independent model better explain any relationship between parental depression and child behavioral problems?

Data & Method

Data source. Data were pooled from the 17th (2012-2013), 18th (2013-2014), and 19th (2014-2015) longitudinal panels of the Medical Expenditure Panel Survey (MEPS). MEPS is a nationally-representative survey of the civilian, non-institutionalized population in the United States. MEPS panels remain in the sample for two years, with five data collection points during that time. Households in the MEPS data are randomly selected from those that participated in the National Health Interview Survey in the prior year. During each round, the same parent (~93%) tends to respond to the interview, with questions pertaining to the health and wellbeing of the entire household. We used data from the household component of the MEPS, which contains information on the sociodemographic characteristics, health, and wellbeing of families. All data were weighted using longitudinal weights to approximate national estimates. Only children raised in homes with a biological mother and father (including non-biological fathers) are included in the data.

Outcome variables. Child behavior was measured with the 13-item Columbia Impairment Scale (CIS), measured at Wave 4 of each panel. The scale measures problems at home, in school, with peers, with adults; involvement in activities; difficulty with school work; and a variety of feelings, such as anxiety and depression. The scale has good validity (alpha= 0.89). Only those adults with children aged 5 to 17 answered the CIS questionnaire. Each item was scored on a 0 (no problem) to 4 (a very big problem) scale and when summed the scale ranges from 0 to 52. Consistent with Singer and colleagues' (2011) analysis, we also created two additional variables from the CIS. One measured externalizing behavioral issues, while the other addressed internalizing issues. The externalizing scale consisted of nine items, centering on an inability to get along with parents and adults, inability to get along with siblings and peers, behavioral problems at school, behavioral problems at home and school, and general behavioral issues. This scale ranged 0 to 36 and showed good internal consistency (alpha= 0.87). The internalizing scale included four items: feeling unhappy/sad, inability to have fun, nervousness/anxiety, and disinterest in activities. This scale ranged 0 to 16 and showed good internal consistency (alpha= 0.94).

Key independent measures. Maternal and paternal depressive symptoms were measured with the Patient Health Questionnaire-2 (PHQ-2). The PHQ-2 is based on two items used for depressive symptoms. The scale has been shown to correlate well with other measures of depressive symptoms, including the CES-D scale and the PHQ-9. This measure ranged from 0 to 6. Parental depression was measured at Wave 2 and Wave 4 of each panel. In order to maintain causal ordering of the data, we used the Wave 2 measures.

Control variables. We included a number of control variables in our analysis, including: child sex (male=0, female=1), child race (White, Black, Latino, and other—including

multiracial), child's age (in years), maternal and paternal age (in years), maternal and paternal education (a nine category scale), poverty category (0-100% of poverty line, 101-200% of poverty line, >200% of poverty line), mother's relationship status (married to biological father, married to non-biological father, cohabiting with biological father, cohabiting with non-biological father), change in marital status between Waves 2 and 4 (0=no, 1=yes), family size (number of children, continuous), change in family size between Waves 2 and 4 (0=no, 1=yes), child's immigration status (0=born in US, 1= born elsewhere), who responded to CIS measures (0=mother, 1= father), and panel (17, 18, or 19).

Data analysis. We used OLS regression analyses for our models. There are siblings within the data set, introducing non-independence of observations. We used both multilevel models and clustered OLS regression models to address the potential effects of clustering in the data. Both models returned substantively similar results. As a result, we report the OLS models here. We also imputed on several variables in our analyses (m= 20) to preserve sample size. Tests on the missing data suggested that the missingness was random, allowing for the imputation. Nevertheless, we ran regressions with both imputed and non-imputed data. The results were substantively similar in both.

We ran four sets of models for each outcome. The first three models address the spillover model—the first two look at the effects of maternal and paternal depression alone, without controlling for the other. The third model (which also focuses on the independence model) includes both maternal and paternal depression. The fourth model addresses the interactive model by introducing an interaction between the two measures. Full controls were included in each model.

Results

The results for the full CIS scale are reported in Table 1. In Model 1, the effect of maternal depression, without paternal depression, is reported. We found that a one-point increase in maternal depressive symptoms was associated with a 1.242-point increase in child behavioral problems ($p<.001$). In Model 2, we focused on father's depression, finding a one-point increase in his depression symptoms was associated with a 0.852-point increase in child behavioral problems ($p<.001$). In Model 3, both depression scores are included. Here we find that both maternal depression ($b= 1.113$, $p<.001$) and paternal depression ($b= 0.400$, $p<.05$) have statistically significant effects on child behavioral problems. Inconsistent with the spillover hypothesis, we found that the effect of maternal depression was not significantly mediated by paternal depression (Sobel's test was not significant). However, the effect of father's depression was weakened in the presence of maternal depression. Nevertheless, both measures had independent effects on the outcome. Turning to the final model, Model 4, we found that maternal and paternal depression do not significantly interact to affect child's behavioral issues.

In Table 2, we focus on externalizing problem behaviors. In Table 3, we focus on internalizing problems. Here, we found patterns largely consistent with those found for overall behavioral problems. In both tables, the effects of maternal and paternal depression, alone, were significant for child externalizing behavior, as shown in Models 1 and 2, respectively. Model 3 indicated that there was not significant mediation of maternal depression by paternal depression, although the effect of paternal depression was substantially weaker in the presence of maternal depressive symptoms. And, Model 4, showed that there was no significant interaction.

Discussion and Conclusion

This paper tested three competing hypotheses about the effects of depression on children. The first, the spillover effect, suggests that children with depressed parents do worse because

maternal depression affects paternal depression, which in turn, effects children. We found no evidence for this relationship for any of our measures of child behavioral problems. The second, the interactive model, suggests that maternal and paternal depression can combine to negatively impact children. In other words, as both maternal and paternal depression increase, child's behavior will get worse. Yet, we found no evidence for this for overall behavioral issues, nor did we find evidence of this effect for internalizing or externalizing issues, more specifically.

The final model, the independence model, suggests that maternal and paternal depression have unique influences on children. Some work, to date, has supported such a model (e.g., Shafer, et al., 2017), though the findings tend to be from small samples or from data lacking a diverse age range of children. Our results support such a model. More specifically, we find that maternal and paternal depression have unique, problematic effects for child behavior. While maternal depression has stronger effects on children, the independent effect of fathers should not be discounted. Indeed, the impact of paternal depression is both statistically significant and substantial. The results suggest that as fathers become increasingly involved in the lives of their children, the effects of paternal depression on children may become increasingly important. Likewise, the findings also suggest that future research should include fathers in their analyses, given their significance for child wellbeing.

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Table 1. OLS Regression Results for Child Behavior Problems, Averaged Over 20 Imputations

	Model 1	Model 2	Model 3	Model 4
Maternal depressive symptoms	1.242 ***		1.113 ***	1.182 ***
	(0.096)		(0.099)	(0.119)
Paternal depressive symptoms		0.852 ***	0.400 *	0.505 ***
		(0.108)	(0.105)	(0.119)
Maternal x Paternal depressive symptoms				-0.072
				(0.069)
Constant	3.193	3.691	3.691	3.202
n	8,580	8,580	8,580	8,580
r-squared	0.085	0.053	0.103	0.107

***p<.001, **p<.01, *p<.05 (two-tailed tests) Note: all models include full controls.

Table 2. OLS Regression Results for Externalized Behavior Problems, Averaged Over 20 Imputations

	Model 1	Model 2	Model 3	Model 4
Maternal depressive symptoms	0.729 ***		0.614 ***	0.567 **
	(0.058)		(0.081)	(0.102)
Paternal depressive symptoms		0.621 ***	0.369 **	0.292 **
		(0.078)	(0.102)	(0.079)
Maternal x Paternal depressive symptoms				0.051
				(0.035)
Constant	5.269	5.361	5.412	5.114
n	8,580	8,580	8,580	8,580
r-squared	0.113	0.105	0.135	0.138

***p<.001, **p<.01, *p<.05 (two-tailed tests) Note: all models include full controls.

Table 3. OLS Regression Results for Internalized Behavior Problems, Averaged Over 20 Imputations

	Model 1	Model 2	Model 3	Model 4
Maternal depressive symptoms	0.334 ***		0.281 ***	0.269 ***
	(0.026)		(0.029)	(0.034)
Paternal depressive symptoms		0.282 ***	0.168 **	0.148 ***
		(0.038)	(0.041)	(0.033)
Maternal x Paternal depressive symptoms				0.013
				(0.017)
Constant	2.354	2.436	2.296	2.299
n	8,580	8,580	8,580	8,580
r-squared	0.096	0.091	0.112	0.115

***p<.001, **p<.01, *p<.05 (two-tailed tests) Note: all models include full controls.