

Depression Among Moms: Prevalence, Predictors, and Acting Out Among Third Grade Children

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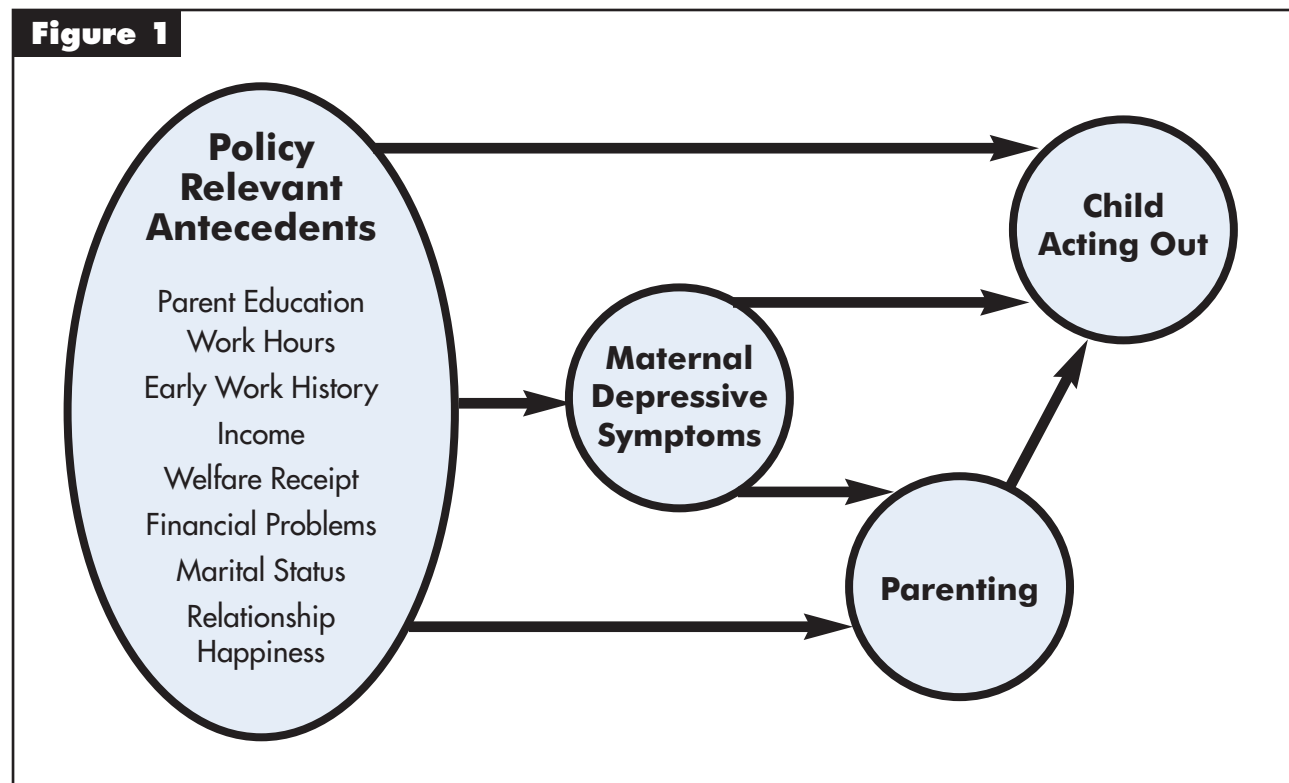
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Overview. Depression can adversely affect just about every aspect of a person's life, but when the depressed person is a mother, her children can be affected adversely as well. This brief examines the factors related to depressive symptoms among mothers and explores the implications for acting out behavior in their third grade children.

In line with other research, we find that mothers' depressive symptoms are related to more acting out behavior problems in their children. For both mothers in general and also for low-income mothers, one reason that depression appears to increase children's acting out is that depression affects parenting, particularly effective discipline. However, we also find that maternal depressive symptoms are directly related to more acting out behavior.

Considering the total effects (the combination of both the indirect and direct effects) of a mother's prior circumstances on a child acting out, we find that maternal depression, welfare receipt, financial problems, longer work hours, and working during the child's preschool years are related to more subsequent acting out behavior among third graders, while higher parental education, being married, better relationship quality with a partner, and higher family income are related to less acting out behavior.

Figure 1



ABOUT THE RESEARCH SOURCE FOR THIS BRIEF AND THE METHODOLOGY USED

Child Trends used data from the Early Childhood Longitudinal Study: Kindergarten Class of 1998-99 (ECLS-K), a nationally representative study that has been following nearly 20,000 children who entered kindergarten in the fall of 1998. Thus, these children were born prior to the 1996 welfare reform and were preschoolers during the early years of Temporary Assistance to Needy Families (TANF).

The survey includes interviews with parents, teachers, and school administrators, as well as direct assessments of children in the fall and spring of kindergarten, and, later, in the spring of first and third grade. We limited our sample to 9,037 children whose mother or female guardian responded in the spring of 1999 and 2000 to the parent questionnaire, which included questions about depressive symptoms.

To measure depressive symptoms, the ECLS-K has used an abbreviated version of the original 20-item Center for Epidemiological Studies of Depression Scale (CES-D),¹ developed by the National Institute of Mental Health. We used the threshold established in prior research¹ on the CES-D scale administered to mothers to indicate the presence of symptoms of depression at the spring of kindergarten.

Prior circumstances that we hypothesized would lead to mothers' depressive symptoms (and that may be amenable to policy intervention) include: welfare receipt,ⁱⁱ maternal work,ⁱⁱⁱ income,^{iv} financial difficulties,^v marital status,^{vi} relationship quality,^{vii} and mother's educational attainment.^{viii} We also used these data to examine four measures of parenting behavior: cognitive stimulation,^{ix} positive communication,^x disengaged parenting,^{xi} and discipline. Discipline was measured as a *lack* of inappropriate discipline (spanking, hitting, ignoring, making fun of, and or yelling at the child).

In our analyses, we accounted for relevant factors that might also be related to maternal depression and/or child outcomes, including: child's gender, child's race/ethnicity, child's age at the fall of kindergarten, low birthweight (below 5.5 pounds), child's disability status, language spoken in the home other than English, and mother's fair or poor health status or inability to work because of health issues.

In addition, because we wanted to explore how policy-relevant and background factors affect children through parental depression, we examined the pathways of influence from the antecedents, to depression, to parenting behaviors, to a child outcome.^{xiii}

The child outcome on which we focus here is child externalizing, or "acting out" behaviors,^{xiii} as reported by the child and the child's teacher. Although we did study other outcomes (internalizing, self-control, and math and reading test scores), we focus on acting out behavior in this brief because it is an important measure of child development in the early elementary years and is related to poorer academic outcomes and problem behaviors when children are older. Additionally, acting out in class disrupts learning not only for the child who misbehaves, but also for the child's classmates.

EARLIER FINDINGS

This brief builds on a foundation of previous research on maternal depression and child outcomes. Here we share some highlights to place the new analyses in a larger context.

- The prevalence of depressive symptoms varies with the measure used and the population studied, but recent estimates indicate that four to seven percent of adults suffer from major depression in any given year,²⁻⁴ and between seven and 17 percent experience major depression in their lifetimes.⁵ Studies consistently find that the prevalence of depressive symptoms is higher among those with lower incomes and socioeconomic disadvantage.^{2,3,6-8} For example, low income and welfare receipt are associated with depression rates at least twice that of the general population.^{4,5} Additionally,

unemployment, particularly due to job loss, is associated with increased depression.^{5,9,10}

- Economic pressure is related to parents' depressed mood and to marital conflict, which, in turn, decreases parents' ability to be nurturing, involved parents. As a result, children of economically stressed parents have been found to have poor school performance, less satisfactory peer relations, and lower self-confidence.^{11,12}
- Parental depression has been linked to less effective parenting behaviors, and, in turn, to child outcomes. For example, in a study of welfare mothers with pre-school children, the combination of low literacy and depressive symptoms was particularly related to poorer child development, and parenting was found to explain or "mediate" this association.^{13,14}

Thus, an extensive body of research has established links between maternal depression and negative child outcomes.¹⁵⁻¹⁷ Yet, research gaps remain. For example, little work has been done to assess how the prior conditions or circumstances that can lead to maternal depression can indirectly affect children. That is, researchers have not examined the connections between the predictors or *antecedents* of maternal depression and how parental depression is in turn connected to child outcomes over time. Further, while some studies have revealed links between depression and parenting behaviors over time,^{13,14} this work did not examine groups that were representative of the larger U.S. population.

CURRENT FINDINGS

Here we summarize the results of Child Trends' new analyses of the prevalence of depressive symptoms among mothers; the antecedents to these symptoms; and the intersection of these antecedents and symptoms with parenting and acting out behavior.

PREVALENCE

Overall, 6.4 percent of children in the kindergarten class of 1998-99 had a mother who reported symptoms of depression in the spring of the children's kindergarten year. As expected, we found that depressive symptoms are more common among mothers of children in low-income families: About one in 10 children in families with incomes below 200 percent of the poverty threshold have mothers who reported this level of depressive symptoms (10.4 percent), compared with about one in 50 children (2.3 percent) in families with incomes at or above 400 percent of the poverty threshold. Depressive symptoms are also more common among mothers who received TANF within the past year, with 15.7 percent of these mothers reporting depressive symptoms compared with 4.4 percent of mothers who had not received TANF since their child's birth

Prevalence also varies by marital status and relationship satisfaction, with the lowest rate found for children whose mothers are either married and "very happy" (3.2 percent) or cohabiting and "very happy" with their relationship (3.2 percent). The highest prevalence of depressive symptoms is for those women who are either married but are "not too happy" with their relationship (28.9 percent) or cohabiting but "not too happy" (30.8 percent). Of those

who are not in a cohabiting or married relationship, 13.0 percent reported symptoms suggestive of depression.

ANTECEDENTS

A number of important demographic and background characteristics are found to predict depressive symptoms, even with other relevant factors taken into account:

- Maternal depressive symptoms tend to be more common if the mother's education level is lower, the family received TANF, the family has had financial problems, family income is low, the mother's relationship with her spouse or partner is poor, and (after accounting for relationship quality, income and other factors) if the mother is married. As noted above, depressive symptoms are most common among mothers who are either married and cohabiting, but are "not too happy" with their relationship. These findings suggest the importance of distinguishing relationship quality and financial hardship from marital status.¹⁸
- Depressive symptoms are also more likely if the mother's health is fair or poor, or if her child has a disability.
- Work hours and work history are not found to be related to symptoms of maternal depression.
- The findings are similar for children and their mothers in low-income families. When looked at separately though, among that subgroup, family income and marital status do not predict depressive symptoms.

"ACTING OUT"

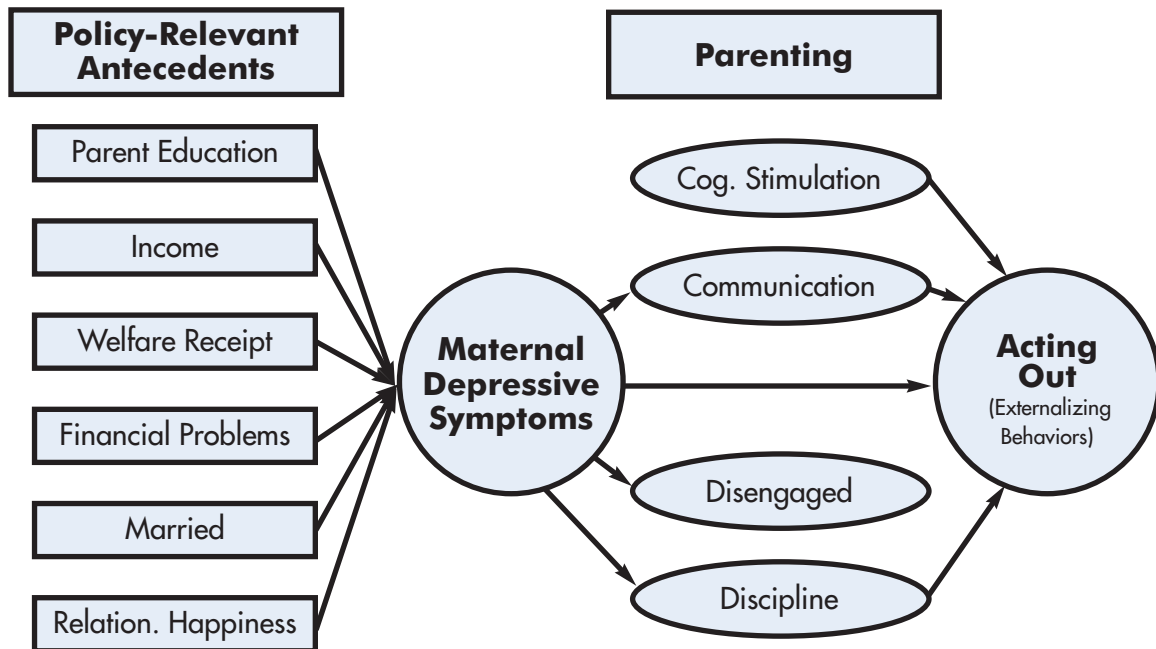
Nearly all of the factors examined in our study (except relationship satisfaction) affect children's acting out behavior *directly*. Increased maternal educational attainment, higher income, and marriage are found to be directly associated with less acting out behavior among the mothers' children – see **Figure 2**. Longer working hours, working before the child entered kindergarten, receiving welfare, and a history of financial problems are also directly associated with more acting out behavior.

In addition, we found evidence in some instances that the influence of these factors is also indirect, influencing children's behavior through their effect on mothers' depressive

Figure 2

Significant Pathways Between Policy Antecedents, Maternal Depressive Symptoms and Acting Out Behaviors (Externalizing), Full Sample

(Pathways from antecedents to other variables not shown here)



symptoms and parenting. What does this mean? Consider one possible scenario: A mother is struggling to support her family or is in a difficult personal relationship or has health problems; this situation makes her feel depressed; being depressed causes her to act harshly toward her child; in the presence of harsh parenting, the child is more likely to misbehave. Taking a closer look at the pathways through which depressive symptoms indirectly increase children's acting out, we see that:

- Parental discipline and communication are pathways through which maternal depressive symptoms affect the child's acting out. The greater the symptoms of depression, the more likely mothers are to engage in inappropriate discipline, such as hitting or making fun of the child. Mothers with more symptoms of depression are also less likely to communicate positively with their children. These mothers are less likely to encourage their child to share feelings or concerns than are mothers with fewer or no depressive symptoms. (Note in **Table 1**, however, that the remaining direct effect of maternal depressive symptoms on acting out behavior is substantially larger than these indirect effects, which suggests that additional parenting behaviors or family

factors may be involved that are not measured by this study, or possibly that there may be a hereditary component underlying the association.)

- Maternal education and the mother's marital or cohabiting relationship quality are directly related to parenting behaviors. Mothers with higher levels of educational attainment and "happier" relationships tend to engage in more positive parenting. In addition, lower income, welfare receipt, financial problems and marital status all affect parenting indirectly through maternal depressive symptoms. In turn, as noted above, these symptoms affect children's acting out behavior through parental discipline practices.
- Most of the variables studied have direct (as well as indirect) effects on parenting. For example, being married has a direct effect which is related to less acting out. Mothers who have sons use more inappropriate discipline, but also participate in more enriching activities with their boys. Children with siblings and children who were older at the start of kindergarten have mothers who use less positive parenting practices. Moreover, nearly all of the policy relevant antecedents have direct effects on acting out.

LOW-INCOME FAMILIES

Child Trends repeated these analyses with a subgroup of children in low-income families (those with 1998 family incomes below 200 percent of the poverty line). The results are substantively very similar,^{xiv} with maternal depressive symptoms affecting acting out behaviors directly and also indirectly. However, among low-income children, the only parenting practice that depressive symptoms affect is discipline, whereas among children more generally it affects acting out indirectly through communication as well as discipline.

TOTAL EFFECTS

As discussed above, many variables have both direct and indirect effects on children's acting out. The sum of these direct and indirect effects yields the total effect that variable has on acting out. Total effects on acting out, shown in **Table 1** for each variable in our model, indicate that all of the variables except disengaged parenting are significantly related to acting out. Parent education has the largest protective effect against acting out behavior, while more

recent welfare receipt has the largest negative effect, contributing to more acting out behavior. Maternal depressive symptoms have a smaller but still important total effect on subsequent acting out. Much of the effect of maternal depressive symptoms is direct, although, as noted above, depressive symptoms also work indirectly to affect children's acting out behavior through parental discipline and communication. Both marriage and relationship satisfaction each have total effects similar in magnitude to depressive symptoms and both are associated with less acting out behavior. Finally, an early return to work, extensive work hours, a lower income-to-poverty ratio, and financial problems are all modestly and similarly related to more frequent acting out.

Findings for the low-income sample are similar, with all variables (except disengaged parenting, cognitive stimulation and work hours) affecting acting out behavior. In the low income sample, however, a mother's marital status has the largest protective effect on children's acting out behavior.

Table 1 Structural Equation Modeling (SEM), Standardizing Betas for Direct and Indirect Effects of Policy-Relevant Factors, Maternal Depression, and Parenting on Children's Acting Out (Externalizing) Behavior

Variables	Full Sample		
	Direct β	Indirect β	Total β
Depressive Symptoms			
Maternal Depression	0.05*	0.001*	0.05**
Parenting Measures			
Cognitive Stimulation	-0.04*		-0.04*
Positive Communication	-0.02+		-0.02+
Disengaged Parenting	0.01		0.01
Lack of Inappropriate Discipline	-0.05**		-0.05**
Policy Relevant Antecedents			
Parental Education	-0.076***	-0.017***	-0.093***
Work Hours	0.044*	0.001	0.045*
Work Early	0.040*	0.000	0.039*
Income Ratio	0.032*	-0.002	0.034*
Welfare Receipt	0.095***	0.004*	0.099***
Financial Problems	0.032*	0.006*	0.038*
Marriage	-0.061*	0.003*	-0.058*
Relationship Satisfaction	-0.020	-0.018**	-0.035*

Note: RMSEA = 0.03

Source: Early Childhood Longitudinal Survey, Kindergarten Class of 1998-99 (weighted estimates)

+p < 0.1. *p < .05. **p < .01. ***p < .001.

DISCUSSION

We found that children's acting out (externalizing) behavior in the third grade can be affected by a variety of difficulties in the lives of their mothers. Some of these difficulties include financial problems, welfare receipt, relationship unhappiness, and low income, which may be amenable to policy intervention.

Considering the total effects (the sum of both the indirect and direct effects; see **Table 1**) of policy-relevant factors on child acting out, we find that higher parental education, marriage, better relationship quality, and a higher family income are related to less child acting out (externalizing) behavior. On the other hand, welfare receipt, financial problems, longer work hours, and working during the child's preschool years are related to more subsequent acting out (externalizing) behavior.

The analyses presented here both confirm and extend previous studies. We find, again, that parental marital status and also relationship quality are related to children's development.^{19,20} Relationship quality has consistently positive effects. Mothers in happier relationships are less likely to report depressive symptoms and are likely to engage in positive parenting. This finding is important because it indicates that efforts to strengthen marriage – not simply by encouraging marriage, but by helping couples build, enhance, and sustain healthy marriages – can enhance children's development. Over and above the effect of relationship quality and economic factors, married mothers more often express depressive symptoms, yet overall their children are less likely to act out. This positive total effect reflects a large and positive direct effect whereby children of married mothers are less likely to act out.

These findings link welfare receipt, financial problems, and low income to poorer child outcomes. At the same time, these findings show that poorer child outcomes are directly linked both with substantial work hours and early maternal employment during the preschool years. This seemingly divergent set of findings suggests that a middle ground – one that avoids very long work hours but also avoids poverty and dependency – may be most supportive of children's development. Combined with the findings about marriage and relationship quali-

ty, these results suggest that married couples with positive relationships who combine their earnings, or with sufficient income to allow one parent to remain at home when children are very young, may be patterns that enhance children's development.

The important direct effect of maternal education on maternal depressive symptoms suggests that it may be advisable to offer educational opportunities for mothers who need them, and also to encourage delaying childbearing until after education is complete.

The fact that child disability and poor parental health are both linked to higher levels of maternal depressive symptoms suggests the value of preventive and ameliorative health care.

Finally, these results indicate that identification and treatment of maternal depressive symptoms, as well as efforts to address the circumstances that elevate maternal depression, are appropriate directions for private and public policy attention – not just as a way to improve the lives of adults, but to improve the lives of children as well.

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ENDNOTES

- ⁱ We used a threshold score of 16 or higher on the CES-D to indicate presence of depressive symptoms. This threshold is used in Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385-401.
- ⁱⁱ For *welfare receipt*, Child Trends created an ordinal variable with four categories: no history of welfare receipt (including none between the child's birth and the year before kindergarten); receipt only between the child's birth and the year before kindergarten but the number of months unknown; 1 to 11 months; and 12 months or more.
- ⁱⁱⁱ For *maternal work*, we coded the usual hours mothers worked per week during the fall of the child's kindergarten year: 0 hours; 1 to 20 hours; 21 to 35 hours; 36 to 40 hours; 41 to 48 hours; or more than 48 hours.
- ^{iv} For *income*, we used the ratio of each family's income to the federal poverty threshold.
- ^v For *financial difficulties*, we coded each respondent's report of experiencing financial hardship or having problems paying bills between the child's birth and kindergarten entry.
- ^{vi} For *marital status* we coded each respondent's relationship status as married, cohabiting or not married.
- ^{vii} For *relationship quality*, we measured respondent's ratings of their relationship happiness. Respondents could choose to rate their relationship as being either very happy, fairly happy, or not too happy.
- ^{viii} For *mother's educational attainment*, we coded the highest level of education: no GED or high school diploma; high school diploma; vocational/technical degree or some college; A.A. degree; B.A. degree; or graduate school or graduate degree.
- ^{ix} For *cognitive stimulation*, we looked at the survey data on how often the mother participated in stimulating activities with her child such as: reading, singing songs, telling stories, helping with art, teaching about nature, playing games, building things, or playing sports.
- ^x For *positive communication*, we considered responses on how often the mother encouraged the child to discuss troubles, daily activities, and express opinions.
- ^{xi} For *disengaged parenting*, we examined how mothers responded to a question about whether they set rules about their child's bedtime and TV-watching, and if she takes the child on outings.
- ^{xii} Specifically, we estimated structural equation models, also called path analyses.
- ^{xiii} Some examples of "acting out" behaviors include fighting, arguing, and disturbing class.
- ^{xiv} There are some differences between the full sample and low-income subgroup. In the low-income subgroup, work hours have no direct effect on acting out, and being married or having less income have no effect on depressive symptoms, though these relationships are found for the full sample. As in the full sample, child disability and poor maternal health are related to depressive symptoms.

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