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The Effect of Children's Gender on Living Arrangements and Child Support

By KRISTIN MAMMEN*

Historically in the United States, a child's gender has affected the level of education he or she is likely to receive, the occupation he or she will choose, and the wages he or she will be paid (e.g., Francine D. Blau 1998). A growing body of research examines how child gender may be associated with differential treatment by parents from birth, which could contribute to differences by gender in these adult market outcomes.¹ One strand of this literature has found associations between child gender and parents' marriage formation and dissolution, with implications for the living arrangements of children. Fathers are more likely to be present in the home if a child is male; the presence of sons decreases the probability of divorce; and a nonmarital birth is more likely followed by marriage if the child is a son (e.g., Shelly Lundberg and Elaina Rose 2003; Gordon B. Dahl and Enrico Moretti 2004; Frank Mott 1994).

These findings may have serious consequences for the well-being of children, because family structure is an important predictor of children's later life outcomes. Research on children's well-being broadly supports the idea that children growing up with only one parent—most often the mother—fare worse than those who grow up with two married biological parents (e.g., Ron Haskins, Sara McLanahan, and Elisabeth Donahue 2005). The lower income of a single mother is a major contributor to the relatively poorer outcomes for her children (McLanahan and Gary Sandefur 1994). An important factor in single mothers' low income levels is the low levels of child support paid by absent

fathers: despite increased enforcement efforts, aggregate child support award rates, receipt rates, and amounts have not increased over the past 30 years (e.g., Anne Case, I-Fen Lin, and McLanahan 2003).

The research on effects of child gender suggests that girls may be allocated disproportionately to single-mother families. Researchers have argued that this results from a preference of fathers for boys, or a stronger commitment to the well-being of sons than to that of daughters (S. Philip Morgan, Diane N. Lye, and Gretchen A. Condran 1988; Dahl and Moretti 2004). Such a preference could disadvantage girls through a second channel: if fathers are more likely to get married or stay married for the sake of sons, it may also be the case that absent fathers are more likely to pay child support for sons than daughters. Using a large, nationally representative dataset, this paper examines whether girls are at a double disadvantage: are they more likely than boys to live in single mother families, and are absent fathers of girls less likely to pay child support?

I. Data

I analyze pooled data from the March Current Population Survey Supplement (CPS) from 1988–2006. The chief advantage of the CPS is that it gives a large sample of women and children with reasonably consistent data over many years. Pooling the 19 years of data and using observations with month-in-sample 1–4 only, to exclude multiple observations on the same people, I create a child-level sample of 415,229 children under the age of 18, and a mother-level sample of 51,267 women age 15 and over. To examine how children's gender is associated with their living arrangements, the child sample comprises all children in the CPS, except those of widow(er)s or with no listed parent in the household (together, about 5 percent of children). The mother sample is used to

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¹ Shelly Lundberg (2005) provides a useful overview. Many references are omitted here due to space constraints; they are available from the author upon request.

investigate how the gender composition of her children affects a mother's child support receipt, so it includes the women who can reasonably be identified as child-support eligible: the separated (16.5 percent of the sample), divorced (41.5 percent), and never married mothers (42 percent), with children under the age of 18.² The March CPS does not report whether a mother has a legal child support award or agreement, so "eligible" here means that the children presumably have an absent father who could potentially pay child support, not that they are legally entitled to such support.

A limitation of the CPS is that we do not observe in the data whether children are biological, step, or adopted. For the child sample, this means that in married-parent families, I am unable to identify whether children are living with both biological parents or with a parent and stepparent. For the mother sample, it means that I cannot consistently identify which married mothers are child-support eligible, so all married mothers are excluded from the sample. A Data Appendix containing additional details about the sample and variables created is available from the author upon request.

II. Results

Table 1 presents tabulations investigating how children's gender is associated with the marital status of the parent(s) they live with.³ The first row in column 1 shows that the percentage of children in the entire sample who are boys is 51.2 percent, consistent with the biological sex ratio at birth (number of boys to number of girls born) of about 105 to 100 (Sten Johansson and Ola Nygren 1991). Column 2 shows that girls indeed are disproportionately represented in single-mother households; only 49.9 percent of these children are boys. One of

the disadvantages disproportionately conferred on girls in this household status is illustrated in the second row: children of single mothers have an average household income of \$33,421, half of the average over all households. About 21.5 percent of girls live in these households compared to 20.5 percent of boys, a 1 percentage point difference, or a 5 percent greater likelihood for girls as compared to boys.

Concomitantly, children in the remaining families, those where a father figure is present (whether biological, adopted, or stepfather), are significantly and disproportionately more likely to be boys, at 51.5 percent (column 3). Access to a man's income in these families more than doubles a child's average household income, to about \$76,000. Girls are about 1.7 percent less likely to live in these families compared to boys. Columns 4 and 5 divide the father-present families in column 3 into single-father families and married-parent families (which includes stepfamilies). The percentage of boys in single-father families is quite high, at 56.4 percent; girls are 19 percent less likely to live with single fathers than are boys. While the average household income for these children is lower than the average over all families, it is substantially higher than for the single-mother families. The number of boys in married-parent families (column 5) is also disproportionately high, although the magnitude of the difference is much smaller than for single-father families, at 51.3 percent compared to the overall average of 51.2 percent. However, the difference is statistically significant and these families have the highest average household income, at about \$77,000. Girls are 0.7 percent less likely to live in married-parent homes than are boys.

Columns 4 and 5 illustrate that while boys are most highly overrepresented in single-father homes, they are also more likely to live in married-parent homes than would be expected given the sex ratio. Although the difference for girls and boys in the probability of living in a married-parent family is the smallest among the household categories, the average income of these households is the highest, so the cumulative effects for girls' outcomes are potentially large.

Table 1 shows that children's gender is associated with differences in the marital status of their parents and differential household income. Table 2 presents ordinary least squares

² A negligible number of these women will have children who have no living father, so that they have no potential to receive child support. This group includes adoptive mothers where no father was involved in the adoption, never married mothers whose children's father has died, and divorced or separated women who have children from relationships prior to the most recent marriage, whose fathers have died. These women are not distinguishable in the data.

³ All figures discussed are statistically significantly different from each other at the 1 percent level. Significance tests account for correlation between observations on multiple children of the same parent.

TABLE 1—CHILDREN'S LIVING ARRANGEMENTS BY PARENT MARITAL STATUS

	All families (1)	Single mothers (2)	Father figure present (3)	Single fathers (4)	Married parents (5)
Percentage of children who are boys	51.2	49.9	51.5	56.4	51.3
Household income	\$66,783	\$33,421	\$76,263	\$52,499	\$77,465
Percentage of all girls living in this family type		21.53	73.24	3.16	70.08
Percentage of all boys living in this family type		20.48	74.49	3.91	70.56
Percentage point difference		1.05	-1.23	-0.75	-0.48
Percentage change		5.13	-1.65	-19.18	-0.68
Number of children	415,429	87,844	327,585	15,978	311,607

Notes: March Current Population Survey data 1988–2006, using the March supplement weight. The unit of observation is the child, from months in sample 1–4 only. Incomes are in 2006 dollars. Column 1 pools column 2 and 3 observations; column 3 pools column 4 and 5 observations. Children of widow(er)s and with no listed parent in household (together about 5 percent of children) are excluded; this does not qualitatively change results. Probabilities that girls or boys live in each type of family are over all children, including those of widow(er)s and with no listed parent, so probabilities do not sum to 100 percent over columns 2 and 3.

regressions focusing on child support, an income source that may be particularly affected by child gender. The sample of all single mothers is used, and the gender composition variable is an indicator for having at least one boy, interacted with being divorced, separated, and never-married, in order to allow for the effect of child gender to differ across these three types of mothers.⁴ The measures of child support payment are whether or not the mother received any child support in the previous calendar year, and the amount received that year, for the entire sample, and then conditioned on having received a positive amount.⁵ The usual demographic controls are included as described in the table notes. State-year fixed effects control for the child support enforcement environment.

The results in column 1 show that having at least one boy does affect child support receipt, and that the effect differs by mothers' marital status. Divorced mothers are 1.5 percent

less likely to receive child support (significant at $p = 0.066$), there is no significant effect on separated mothers, and never married mothers have a 1.4 percent greater likelihood of receiving child support, if they have at least one son. The coefficients in rows 4 and 5 for separated and never married mothers who have only girls show they are less likely to receive child support than the reference category of divorced women with only girls. The gender effects are quite small compared to these marital status effects.

Column 2 presents effects on average amounts received. For this outcome, the coefficient on having at least one boy becomes positive and insignificant for divorced women, remains positive and insignificant for separated women, and becomes negative for never married mothers. Having at least one boy is associated with child support \$115 lower per year for never married mothers, a 7 percent reduction from the average. The results are similar in column 3, where the sample is limited to those women who received any child support last year: child gender effects for divorced and separated women are insignificant, but the never married mothers with at least one boy received \$420 less last year in child support, or about 9 percent lower than the sample average. The negative coefficients on having at least one boy are contrary to the hypothesis that girls are disadvantaged in child support receipt by fathers' preference for boys.

In an earlier study of a small sample of divorced women, no significant differences by

⁴ Given the influence of child gender composition on living arrangements and other parental behaviors, the gender composition of children in single-mother families is endogenous. However, in using this gender composition variable, I am assuming that fathers take the gender composition as given at the point in time that they are making the child support payment decision.

⁵ Column 1 results are robust to a probit specification which accounts for the dichotomous dependent variable. Column 2 results are robust to a Tobit specification which accounts for the large number of zeroes reported for amount received.

TABLE 2—EFFECT OF HAVING AT LEAST ONE BOY ON CHILD SUPPORT RECEIVED BY SINGLE MOTHERS

	Received child support	Amount received	Amount received, if any
Divorced * At least 1 boy	-0.015* (0.008)	79.59 (74.46)	150.32 (125.17)
Separated * At least 1 boy	0.013 (0.012)	9.59 (93.83)	-177.61 (276.47)
Never-married * At least 1 boy	0.014** (0.006)	-114.62** (32.77)	-419.92*** (136.14)
Separated	-0.191*** (0.011)	-1,069.25*** (96.83)	-312.99 (262.19)
Never married	-0.222*** (0.009)	-1,152.70*** (64.10)	-802.04*** (154.88)
Mean of dependent variable	0.33	\$1,596.40	\$4,835.88
Observations	51,267	51,267	16,924
R-squared	0.17	0.16	0.21

Notes: Standard errors in parentheses. March Current Population Survey data 1988–2006, using the March supplement weight. The unit of observation is the mother, from months in sample 1–4 only. The omitted marital status is divorced. Other regressors are ages of the mother and of her oldest and youngest children; number of adult women and men in the household; state-year fixed effects; and indicators for number of children, education categories, race, and MSA status. Amounts are in 2006 dollars.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

child gender were found in child support receipt, but absent fathers' contributions to dental care and medical insurance were negatively affected by the presence of sons (Kathleen M. Paasch and Jay D. Teachman 1991). Paasch and Teachman suggested a selection story: if the presence of fathers is more important for the well-being of sons than that of daughters, those fathers of sons who divorce may be, on average, less committed to the welfare of their children than fathers of girls who divorce. The results here suggest that such selection may hold true among never married fathers as well. In addition, this selection may have become more pronounced over time, as the incidence of children living with single fathers has risen. As father custody becomes more socially acceptable, fathers are increasingly able to form households with their children which do not require being married to or living with the mother. The fathers most committed to their children thereby have a second channel by which to select out of the absent fathers group, in addition to the option of remaining or getting married. If fathers' commitment to child well-being is stronger for sons, the increase in father custody may have provided greater scope for that commitment to manifest itself in liv-

ing arrangements. Tabulations of the CPS data (unreported) show that the fraction of children living with their single fathers has indeed grown significantly from 1988 (2.46 percent) to 2006 (4.33 percent), and that the overrepresentation of boys in these families has arguably increased. Comparing the years 1997–2006 to the earlier 1988–1996 period, the proportion of boys in single-father homes rose from 55.6 percent to 57 percent (although the difference is not quite significant at $p = 0.16$). The small but opposing positive effect of having at least one boy for receipt of child support by never married mothers is anomalous to the selection story, however, and warrants further research.

Previous research has suggested that the reduction in divorce associated with having boys has attenuated over time (e.g., Dahl and Moretti 2004) and has led to speculation that the role of child gender as a factor in fathers' involvement may be diminishing in importance (Lundberg 2005; Sara Raley and Suzanne Bianchi 2006). The evidence here is consistent with the alternative explanation, that fathers are making coresidence decisions on different margins as nonmarital fertility increases (Lundberg 2005).

III. Conclusion

Although the magnitudes of the effects are not large, the results show that boys are significantly more likely than girls to live in families with access to a man's income—with two married parents (including stepfamilies) or in single father families. Girls are 5 percent more likely to live in single-mother families and are therefore disproportionately exposed to the lower average incomes in these households—equal to only 43 percent of the average income of the married-parent households.

There is no evidence, however, that girls are disadvantaged in receiving child support from absent fathers. Although the results are not entirely consistent across specifications, they suggest that if child gender has any effect, it disadvantages single mothers with sons. This is consistent with the idea that fathers who absent themselves from their sons are a negatively selected group, which reduces their payment of child support on average. This negative selection may have increased over time as fathers' decisions about coresidence with their children have become more detached from coresidence with the mother. It appears that child gender effects are not decreasing over time. Although the association of child gender and the probability of divorce has weakened, child gender effects appear to be arising in the new areas as nonmarital fertility increases, as evidenced by the negative and significant effects of having at least one boy on the amount of child support received by never married mothers.

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