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Changes in the Incidence of Complex Families and the Implications for Child Support Orders

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Abstract

We reexamine Wisconsin administrative records to update our previous estimates of the evolution of family complexity for first-born children of single mothers in 1997, 2002 and 2007 (Cancian, Meyer and Cook, 2011, 2013). We find very high levels of complexity: by the time a focal child is five, approximately half have at least one half-sibling. Although these levels are high in every cohort, we do find small declines in family complexity across cohorts; the proportion of children with half-siblings at age five falls by about 3 percentage points between the 1997 and 2002 birth cohorts, and by another 3 points between the 2002 and 2007 cohorts. We consider factors that may be related to this decline, and show that decreases in the proportion of births in our sample to teenagers and to African Americans (groups with traditionally high levels of family complexity) account for some, but not all, of the decline in overall complexity. Finally, we show that focal children whose fathers have children with other women are more likely to have child support orders, but these orders are, on average lower. Research implications are presented.

Changes in the Incidence of Complex Families and the Implications for Child Support Orders

In previous reports, we used state administrative records to examine the levels of family complexity for children in Wisconsin whose parents were not married when they were born, considering the first ten years of their lives (Cancian, Meyer, and Cook, 2011), and looking at changes in the levels of family complexity across three cohorts (Cancian, Meyer, and Cook, 2013). In those studies, our measure of family complexity was the extent to which children gained half-siblings on their mother's side, their father's side, or both, (that is, the extent to which either parent had multiple-partner fertility). We documented high levels of this type of family complexity. For example, about 60 percent of first-born (to their mother) nonmarital children born in 1997 had at least one half-sibling by the time they were ten years old. We also found that levels of family complexity appeared to be declining for these nonmarital children, with slightly lower levels in more recent cohorts; 50 percent of those born in 1997 had a parent with multiple-partner fertility by age 5, while that figure had fallen to 48 percent for those born in 2002, and 44 percent for those born in 2007. Our previous work also examined the characteristics of those experiencing these types of complexity; for example, those born to young parents or economically disadvantaged parents were more likely to gain a half-sibling.

Our previous research was limited in three ways that we address in this paper. First, the prior work was based on records as of 2012, and this may be an undercount of the half-siblings of the children, especially for the 2007 birth cohort. The undercount occurs because data for some children are not reflected in the linked administrative records that we use for this research until several years after their birth. Reanalysis using a more recent extract of the state's records not only provides updated numbers for all cohorts, but also helps us ascertain whether the apparent slowing of complexity across cohorts holds under analyses using more recent versions of the data. (In other words, updated analyses allow us to examine whether the finding of a decline in half-siblings in later cohorts was an artifact of our using less complete data for those years.) Second, the previous analyses made only limited attempts at understanding *why* the slowdown in complexity occurred. In this project we update previous analyses and use new analyses to explore the extent to which the slowdown is related to changes in the characteristics of mothers and fathers who had nonmarital

births. Finally, and of particular importance for child support policy, the prior research had a demographic focus, attempting to understand the frequency of family complexity and some of the characteristics associated with complexity. This research expands upon that work to examine the extent to which child support is ordered for children in simple and complex families. We also explore whether there are changes between the cohorts in the likelihood of child support orders and in order amounts.

We begin with a brief review of the data and methods used in this paper before presenting results in each of the three areas presented above: (1) a reanalysis of trends in complexity using more recent data extracts; (2) an examination of factors associated with these trends (which helps us explore the reasons they may have occurred); and (3) an analysis of the likelihood and amounts of child support orders for these complex families. We conclude with a discussion of implications for research.

DATA

We use a unique set of data derived from State of Wisconsin administrative systems, primarily from the child support enforcement data system, KIDS, as contained in the Multi-System Person File (MSPF), an integrated set of Wisconsin administrative data. The MSPF contains information from the administrative records of the child support, welfare benefits, earnings, unemployment insurance, child welfare, and criminal justice systems.

KIDS (and therefore the MSPF) contains records for every child for whom a referral to the child support agency was required (welfare cases) and any child whose parent initiated contact with the child support agency for help with paternity establishment, locating a non-resident parent, establishing or changing a child support order, or collecting a child support order.[1] Nearly all nonmarital children are in KIDS (and therefore in the MSPF); a comparison of nonmarital cases in

[1]Some children have records in KIDS even if their parents were not receiving benefits and did not initiate contact with the child support agency. For example, nonmarital children who do not have paternity acknowledged or established at birth have records in KIDS, as do any children covered by child support orders that are administered through the centralized child support collection system.

KIDS with birth records (Brown and Cook 2008) found that 86 percent of all nonmarital children born in Wisconsin had records in KIDS.

For this analysis, we extract records for all children born in 1997, 2002, and 2007 from child support administrative data, and identify whether they were nonmarital or marital at the time of birth. We then identify the parents of the nonmarital children and merge the records for all siblings and half-siblings of children in the initial 1997, 2002, and 2007 birth cohorts found in the MSPF as of December 2015. Because we cannot identify half-siblings on the fathers' side if the father is not known, we select children of unmarried mothers in KIDS for whom both parents are known by December 2015, totaling 16,499 born in 1997, 18,502 born in 2002, and 23,154 born in 2007. We then exclude a few children who have maternal siblings born in the same year they were born (primarily twins or other multiple-births). Our focus is on nonmarital children who were their mother's first child (our "focal" children); in our final sample there are 8,149 such children born in 1997, 9,055 born in 2002 and 10,921 born in 2007.[2] We document the extent to which the focal children have full siblings, half-siblings on their mother's side (that is, their mother has had children with a new partner), and half-siblings on their father's side (that is, their father has had children with a different partner).[3] We report on these patterns of complexity through the end of 2012; because we have data through 2015, we have a full three years past the final date for any family change to be captured in administrative data.

These data present several advantages and some limitations for these analyses. As mentioned above, nearly all nonmarital children born in Wisconsin have records in KIDS (Brown and Cook 2008), so our coverage of nonmarital births (both in forming the sample and in identifying later nonmarital fertility) is reasonably, though not perfectly, complete. Starting with children born in a

[2]We do not restrict our sample to births that are both parents' first because these births represent a more select sample: every child's mother has had a first birth, but not every child's mother has had a first birth with a father who was also becoming a father for the first time. We account for fathers' prior children, so that some first-born to mother children have half-siblings (from their fathers) at birth.

[3]Our focus is on the half-siblings that result from multiple-partner fertility. We do not have good data for (nor do we incorporate) any stepsiblings that result from a child's parent forming a union with a new partner who has had previous children; however, if the union produces new children, these half-siblings are considered if they appear in the records.

particular year allows us to observe the experience of gaining siblings and half-siblings from the perspective of a particular cohort of focal children. We are able to observe the frequency and timing of a child's parents' multiple-partner fertility over a longer period than most previous research, at least 15 years for children born in 1997, ten years for children born in 2002, and five years for children born in 2007. The construction of our data by birth cohorts gives a straightforward look at whether complexity is increasing or decreasing over time. Finally, because we have records of formal child support orders, we can easily compare the child support order likelihood and level for children born during different years and with different levels of family complexity. Using administrative records from a single state leads us to underestimate multiple-partner fertility, but does not generally mean that the level of the underestimate would change over time. Our previous analyses (Cancian, Meyer and Cook, 2011) discuss in more detail the strengths and limitations of these data and suggest that our key results are robust to alternative assumptions.

ANALYTICAL APPROACH

In all analyses, we examine focal children (nonmarital children who were their mother's firstborn). We follow the mother and father of each focal child in our birth cohorts, counting any full siblings and half-siblings born through 2012. We then create measures reflecting the dynamics of children's siblingship (no sibling, or full or half-sibling[s] from the mother, the father, or both) from birth in each year for which we have data. In our first set of analyses, focusing on trends and replicating our previous work with more recent data, we are especially interested in the extent to which the patterns for the 1997, 2002, and 2007 cohorts differ.

The second set of analyses focus on potential reasons for the observed patterns across cohorts. In this section, we begin with a multivariate event history analysis in which we explore characteristics that are associated with a child gaining a new half-sibling on the mothers' or the fathers' side. When examining these transitions, we consider both characteristics that are fixed over time (age at first birth, race) and those that vary (employment and benefit use). This replicates our previous approach with more recent data. (For more details on our previous approach and the rationale, see Cancian, Meyer, and Cook (2011; 2013)). As will be seen, mothers' age and race are important correlates of these

transitions. We then document how the age and race of both parents differ over the cohorts, and then examine whether the levels of complexity differ within age groups and race groups to begin to understand potential reasons for the trends we observe.

In our third set of analyses, we are interested in the relationship between family complexity and child support orders. We examine the initial child support order for focal children in the 1997 and 2002 birth cohorts, comparing whether there is an order and its level. Because we want to give a substantial amount of time for an order to be put into place, we do not consider the 2012 birth cohort in these analyses.

Our primary focus in this section is on comparisons of orders for different complexity groups within a cohort. Our first comparison is between those who had half-siblings at their birth and those who did not. Recall that our analysis sample contains nonmarital children who were their mothers' firstborn; within this sample, there are children whose father had already had other children when they were born, so that they already had half-siblings at birth, and those who did not. Comparing initial orders for these two groups of children provides information on the relationship between complexity and child support expectations. We anticipate that orders will be lower for those who already have half-siblings. One reason for this is that noncustodial parents who have had children with more than one partner have been found to be economically disadvantaged in the previous research, so amounts owed to the focal child may reflect their disadvantage and be lower than amounts owed to focal children who do not have half-siblings at birth.

Because we expect orders to be lower among those whose fathers have had children with more than one mother, in our second comparison, we examine only those focal children who have half-siblings on their father's side. We compare the orders to focal children who already had half-siblings on their father's side at birth with those who gained half-siblings on their fathers' side later in our observation period. This enables us to examine only those with multiple-partner fertility and compare those who were their father's second set of children (who had half-siblings at birth) with those who were their father's first child (who gained a half-sibling later).

In this comparison, we anticipate that a father's first child (but who had a half-sibling later) will have a higher order than a child in the father's second set of children. This hypothesis is based on

the treatment of "serial families" in the Wisconsin child support guidelines. In general, the amount of child support owed to the first family is deducted from the noncustodial parent's income, leaving less income available to be assessed for a second family, and thus, lower orders for a second family.

RESULTS

Updating Trends in Family Complexity

The Evolution of Complexity for the 1997 Cohort

Our earlier work demonstrated that even though the focal children we examined in 1997 were their mother's first birth, more than one in five had half-siblings at birth because their father had already had a child with another woman. We showed that complexity increases steadily as the focal child gets older. Figure 1 shows our updated analysis, with more comprehensive data. It shows similar results. Complexity builds steadily as the focal child ages, until at age 10, only 34 percent had "simple" families—that is, no siblings or only full siblings. Twenty percent had half-siblings only on their mother's side, 22 percent had half-siblings only on their father's side, and 24 percent had half-siblings on both sides. Most of the complexity (in the way we measure it here) had already occurred by age 10. The percentage of children who have no siblings of any type falls from 19 percent to 16 percent between age 10 and age 15, and the proportion with only full siblings also declines from 15 percent to 13 percent. The largest change between age 10 and age 15 is an increase in the proportion of children with the most complicated families (half-siblings on both sides), which increased from 24 percent to 30 percent.

The Evolution of Complexity for the 2002 and 2007 Cohorts

Figures 2 and 3 show the evolution of complexity for the 2002 and 2007 cohorts, showing patterns through 2012—ten, and five years after the mother's first birth. Similar to the earlier cohort, complexity builds steadily in each cohort. For the 2002 cohort, at age five 52 percent have no half-siblings, 13 percent have them only on their mother's side, 24 percent only on their father's side, and 11 percent on both sides. However, by the time they are 10, rates of complexity have increased so that only 37 percent have no half-siblings, 20 percent have half-siblings only on their mother's side, 22 percent only on their father's, and 22 percent on both sides. We can follow the 2007 cohort only for

the first five years, at which time 54 percent have no half-siblings, 12 percent have half-siblings on their mother's side only, and 25 percent have half-siblings on their father's side only. Having half-siblings on both sides by age five is fairly uncommon, experienced by only 9 percent of children in the 2007 cohort.

Comparing the Cohorts

Because the three cohorts are each shown on their own figure, and each has a different length of follow-up, it is not easy to compare across cohorts. In Figure 4, we show the percentage of children in simple families (that is, without any half-siblings) across the three cohorts. The pattern is quite similar across the three cohorts, and the levels are close to each other, but there is a small increase in the likelihood of simple families in the later cohorts: at age five, the proportion in simple families in the 1997 cohort is 49 percent, increasing to 52 percent in the 2002 cohort and 54 percent in the 2007 cohort; at age ten, the proportion in simple families is 34 percent in the 1997 cohort and 37 percent in the 2002 cohort.

Figure 5 examines the proportion of children who have the most complex families, that is, with half-siblings on both sides, across the three cohorts. Again the pattern and levels are strikingly similar, but, consistent with Figure 4, there is evidence of a modest trend toward less complexity in the later cohorts. The proportion in this most complex family at age five is 12 percent in the 1997 cohort, 11 percent in the 2002 cohort, and 9 percent in the 2007 cohort. Similarly, at age ten the proportion in this type of complex family is 24 percent in the 1997 cohort and 22 percent in the 2002 cohort.

In our 2013 report we showed these same calculations, but the declines in family complexity that we observed may have been the result of different observation periods. As we noted above, this is a concern because not all children are immediately entered into KIDS at birth. Some children enter the KIDS data later when a child support order is pursued. Other children first appear in the integrated administrative records not through the child support data (KIDS), but when a parent begins receiving SNAP or has a child welfare report. As a result, some children do not enter our records until they are several years old. In our 2013 report we used data extracted from KIDS at the end of 2012, which meant that we were observing children from the 1997 birth cohort for 15 years of their lives, but

children from the 2007 cohort for only five years. The longer observation window means even if multiple-partner fertility trends were the same across the cohorts there is potentially more opportunity for half-siblings to be recognized in the data among older focal children.

The present analysis uses data extracted from KIDS in 2015 so we can compare the same family complexity trends using 2015 data and 2012 data to see if longer observation periods lead to markedly different calculations of cross-cohort complexity differences.[4] Doing these comparisons, we do find more family complexity when we use later data and a longer observation period, but these increases in observed complexity are not necessarily consistent across the cohorts. When we use data from 2015 instead of 2012, we find that the proportion of focal children with half-siblings at age five increases by 4.5 percent (0.02 percentage points) for the 2007 cohort; 1.8 percent (0.009 percentage points) for the 2002 cohort; but 2.8 percent (0.014 percentage points) for the 1997 cohort.

These findings suggest that some (but not all) of the cross-cohort decline in family complexity that was observed in the previous report is explained by the shorter observation periods. More specifically, we still see declines across cohorts, albeit smaller declines with the newer data. Overall, the decline in the proportion of children with half-siblings at age five between the 1997 cohort and the 2007 cohort is 5.8 percentage points (11.7 percent) when using 2012 data, and 5.2 percentage points (10.1 percent) when using 2015 data. We expect that, even with longer observation periods, modest declines will persist.

Exploring Reasons for Trends in Complexity

Factors Associated with Gaining a New Half-Sibling: An Event History Model

Our second set of analyses explore factors correlated with family complexity. We focus on factors related to gaining a half-sibling on either side by age five, to allow for comparable analysis for each of the three cohorts. The analysis structure follows that of our 2013 report, but uses the 2015 data (allowing for a longer period for half-siblings to appear in the records). Table 1 shows the result of our analysis of gaining a half-sibling on the mother's side. We follow each cohort until they gain a

[4]Improvements to the MSPF over time and other changes mean we cannot examine versions of the MSPF before 2012.

half-sibling or the five-year period of observation ends. Results are generally similar across cohorts and consistent with previous research. For example, in each cohort, when fathers have a child with a new partner, this is associated with an increase in the risk of the mother having a child with a new partner. In contrast, the risk declines with the birth of full siblings. More disadvantaged mothers have a higher risk of having a child with a new partner, although the relationships (and statistical significance) are not always consistent across cohorts. In all cohorts, those who have their first child as a teenager are at higher risk of having a child with a new partner. The risk of a new half-sibling is higher when both a child's parents are African American.

Table 2 shows parallel results for gaining a half-sibling on the father's side. Again, results are generally consistent across cohorts and consistent with previous research. In every cohort, fathers who had already had a child with a different partner when the focal child was born are at increased risk of having another child with a new partner (a new half-sibling for the child), with a greater risk when the father already had children with multiple other partners. In every cohort, when mothers have a child with a new partner, this is associated with an increased risk of the father having a child with a new partner. Similar to the results from Table 1, socioeconomic disadvantage is associated with increased risk; across all cohorts, fathers with the highest earnings are at lower risk of having a child with a new partner. Similar to the results in Table 1, teen fathers are at high risk of having a child with a new partner, as are fathers who are African Americans.

Do Age and Race Explain the Complexity Patterns?

In our first analyses above, we found small declines in family complexity across the cohorts. In Tables 1 and 2, we find that parents' age and race are related to family complexity. To what extent might the decline in complexity be explained by differences in characteristics of the mothers and fathers in the three cohorts? The first columns of Table 3 show a straightforward approach to this question, providing basic information on parents' age and race within each cohort. These columns show that a little more than half of the mothers in the 1997 cohort were teenagers at the child's birth, and this declines by 13 percentage points by the 2007 cohort, to 40 percent. Similarly, the proportion of men who were teenagers when they became fathers of the focal children we consider also declines

over time, by 9 percentage points. The trends in race are not as clear but generally show increases in the proportion of parents who are Hispanic and declines in the proportion who are African Americans.

Declines in the proportion of mothers and fathers who are teens are potentially consequential given that Tables 1 and 2 showed that parental age is related to the likelihood of the child having a new half-sibling. In the remaining columns of Table 3 we examine the rate of multiple-partner fertility by parental age. By the time the focal children are five years old, those born to teen mothers are more likely to have the most complex families (half-siblings on both sides) than those whose mothers were older, and this is true across cohorts. Similarly, those born to teen fathers are also more likely to have the most complex families at age five than those whose fathers were older, and this relationship is true of every cohort. Overall, the results suggest that the small decline in family complexity across the cohorts may be partly associated with changes in the composition of those having their first nonmarital birth; complexity declines in part because over time fewer focal children are born to teenagers, who have a higher risk of complexity. But the table also shows small declines over time within age categories. For example, the likelihood of having half-siblings on both sides declines slightly across the cohorts even among those whose mothers were teenagers—from 12 percent to 11 percent to 10 percent. A similar pattern can be seen among teen fathers.

The bottom panels focus on the racial and ethnic composition of nonmarital birth parents. Overall, the composition of parents of nonmarital children is switching toward groups with lower rates of complexity (more Hispanics, fewer African Americans); in addition, rates of complexity within racial groups are also decreasing over time.

As an initial step towards understanding whether characteristics of mothers and fathers were related to the observed declines in the likelihood of gaining a new half-sibling, we estimated linear probability models and used a standard Oaxaca decomposition technique. The results suggest that changes in mother's age across the cohorts may be important in understanding the trends: about a quarter of the decline in the probability that a child will have a half-sibling on their mother's side by age five is explained (in the accounting sense) by changes in mother's age at first birth. In future work we plan to decompose the change in the risk of family complexity across cohorts using nonlinear

models (Powers, Yoshioka, and Yun, 2011), to estimate the contributions of various changes to explaining the overall decline.

To summarize, the level of family complexity has declined modestly over the three cohorts, and this decline is not wholly due to differences in the longer observation periods available for older cohorts. This decline coincides with changes in the characteristics of mothers at the time of first nonmarital birth: these individuals are becoming older on average, and less likely to be African American. But changes in composition are not the whole story, as the rates of complexity within the higher-risk age and race groups are also declining.

Family Complexity and Child Support Orders

One of the primary concerns for the child support enforcement system regarding family complexity and multiple-partner fertility is how the presence or absence of obligations to other children should affect the establishment of orders for new children. In this section we compare the order likelihood and amounts between two groups within a cohort. First, we compare orders for those children who already had half-siblings on their father's side at birth and those who did not. Second, we compare focal children who had half-siblings at birth (and were thus their father's second family) with those who did not have half-siblings at birth but did have half-siblings on their father's side later (and thus the focal child was their father's first family).

In Table 4, we present initial order amounts for the focal children in these groups for the 1997 and 2002 birth cohorts.[5] A comparison of rows A and B shows that those who already had half-siblings at birth are somewhat more likely to have an order by age ten than those who did not (81 percent to 75 percent), but their average monthly order is lower ($189 to $215). The lower order amounts are consistent with the direction expected by the Wisconsin guidelines, since orders for those who are their father's second family will be based on a lower income than orders for his first family, given that the income available for the second family is reduced by any obligations to the first family. Lower orders are also consistent with previous research that shows that those with multiple-partner

[5]We exclude the 2007 cohort in order to have a full ten years to observe initial child support orders.

fertility are more disadvantaged. Comparing rows A and C allows us to examine only those with multiple-partner fertility, with the comparison being those who were their father's first family (C) and those who were not (A). Those focal children who are his first family (C) are more likely to have an order (88 percent to 81 percent), and, as expected, on average the order amount is higher than that owed to his second (or later) family ($218 to $189). The next column shows that these relationships hold when we look at average order amounts only among those with orders.

The same patterns can be seen in the 2002 cohort. Those without half-siblings at birth (F) are less likely to have an order, but it is, on average, higher, than those who do have half-siblings at birth (E). Similarly to the 1997 cohort, when we examine only those focal children whose fathers have multiple-partner fertility, those who are part of the first family (G) are more likely to have orders, and to have higher orders, than those who are part of his second (or later) family (E). Comparing the cohorts, we see that the 2002 cohort is less likely to have an order, but when there is an order, the monthly amount is higher. This pattern holds for each of the family complexity groups we examine.

Table 4 shows that families with multiple-partner fertility on the father's side are more likely to have child support orders established over the first ten years of a child's life than those without. We are interested in whether this difference is a broader phenomenon experienced as greater delays in establishing orders for children without half-siblings over the course of the child's life. Figure 6 shows the percentage of children of each family complexity type for whom a child support order has been established through age ten (120 months). As the figure illustrates, there are substantial differences in the percentage of families who have an order established by each point in time, with orders occurring earlier for those focal children who already a half-sibling on the father's side at birth. In addition we can see that order establishment has become faster for the 2002 cohort compared to 1997, but that the differences between complex and simple families in the speed of initial order establishment have become greater.

The differences in time to order establishment are likely the result of differences in exposure to the system. First, fathers who already have children are more likely to be already known to the child support system, and may even have orders already established for those earlier children. This previous connection with the child support enforcement system may make it easier to connect with

those fathers and to get orders for their new children in place. Second, families with complexity are generally less advantaged, and therefore more likely to participate in public assistance programs for which referrals to the child support enforcement system are required. These requirements may increase the attention the child support system pays to these families, and increase the urgency for the establishment of orders in these cases. In future analysis, we hope to be able to examine more explicitly the extent to which the guidelines are being used to generate these orders.

SUMMARY AND IMPLICATIONS

This paper examines trends in family complexity from a child's perspective. We examine nonmarital children who were their mother's first-born, and trace their parents' multiple-partner fertility over time. We are able to observe 15 years for those born in 1997, ten years for those born in 2002 and five years for those born in 2007, updating our previous analysis. We find that levels of this type of family complexity are quite high in every cohort. For example, in the 1997 cohort, by the time children are 15, 70 percent have half-siblings. In the 2002 cohort, more than 60 percent have a half-sibling by the time they are ten years old. And even among children in the 2007 cohort, who are only five years old when we last observe them, 46 percent have a half-sibling. The timing of gaining half-siblings is similar across the cohorts, with much of the complexity occurring relatively early in a child's life. The characteristics associated with gaining a half-siblings are also relatively similar across cohorts—mothers and fathers who were young when they first became parents, who are African American, and who are economically disadvantaged, generally show increased risk of multiple-partner fertility. Finally, there is some evidence that multiple-partner fertility may be mutually reinforcing: a mother's multiple-partner fertility is associated with an increased risk of a father having children with more than one partner, and vice versa.

While the patterns of multiple-partner fertility are similar across these three cohorts, there is a modest trend toward less complexity across the cohorts. For example, when children are age five, the proportion in simple families (without half-siblings) is 49 percent in the 1997 cohort, 52 percent in the 2002 cohort, and 54 percent in the 2007 cohort. This is partly explained by the composition of cases in our sample: for example, mothers with first-born nonmarital children are less likely to be teenagers

and less likely to be African Americans in the later cohorts, two groups that have higher rates of multiple-partner fertility. But this is not the only explanation, as we have shown that rates within these groups have also declined over time.

We also examined the existence of child support orders and their levels for children who did and did not have half-siblings. In both cohorts we examine, those focal children whose father had multiple-partner fertility are more likely to have orders, perhaps because they are already known to the child support system. Moreover, as would be expected from the child support guidelines, those who are their father's first family have higher orders than those who are in his second (or later). This paper shows an initial examination of the relationship between complexity and child support. We compared child support orders between groups of focal children, but we were not able to compare the order levels to the child support guidelines. Moreover, all child support orders are not paid; the relationship between family complexity and child support payments was not examined here.

Additional research is needed, both to better understand the patterns highlighted here for Wisconsin, and to test if and how these patterns are found elsewhere. In the current context, the relationship between age of first birth and subsequent multiple-partner fertility is particularly striking. Declines in teen pregnancy may mean declines in multiple-partner fertility; further research is needed.

Regardless of the underlying reasons for any trends, changes in the incidence of multiple-partner fertility will have continuing implications for the child support system. Any declines we observe are slow and small, and multiple-partner fertility remains an extremely common phenomenon, especially among non-marital families that are most likely to be involved with the child support enforcement system. Understanding the way the child support system is currently working for these families (for example, comparing orders to the guidelines, and examining payments as well as orders) could be promising areas for future research.

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Figure 1: Family Complexity, 1997 Cohort

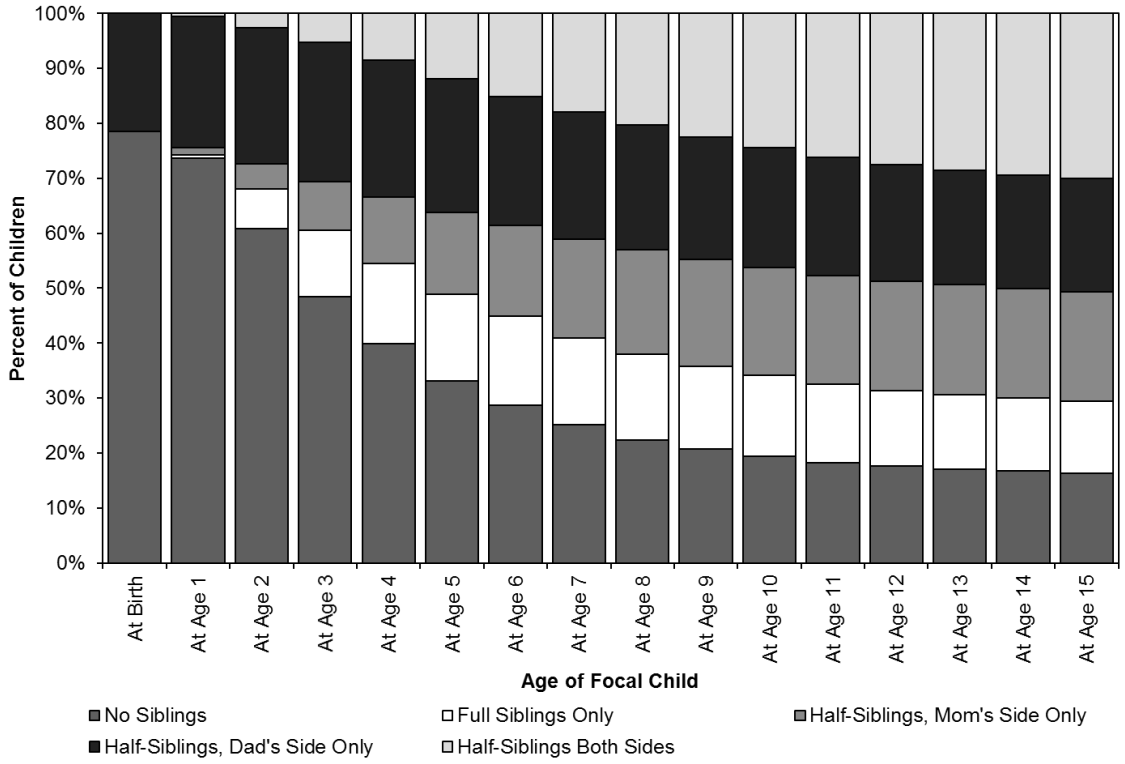

Figure 2: Family Complexity, 2002 Cohort

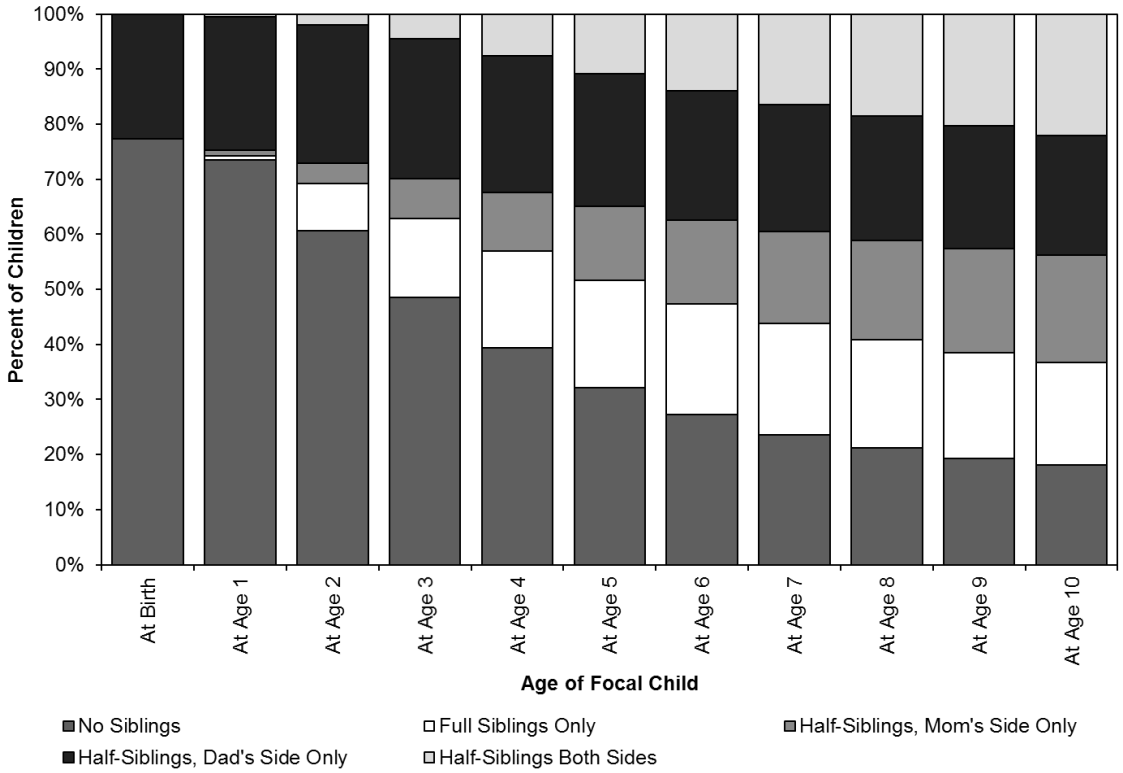

Figure 3: Family Complexity, 2007 Cohort

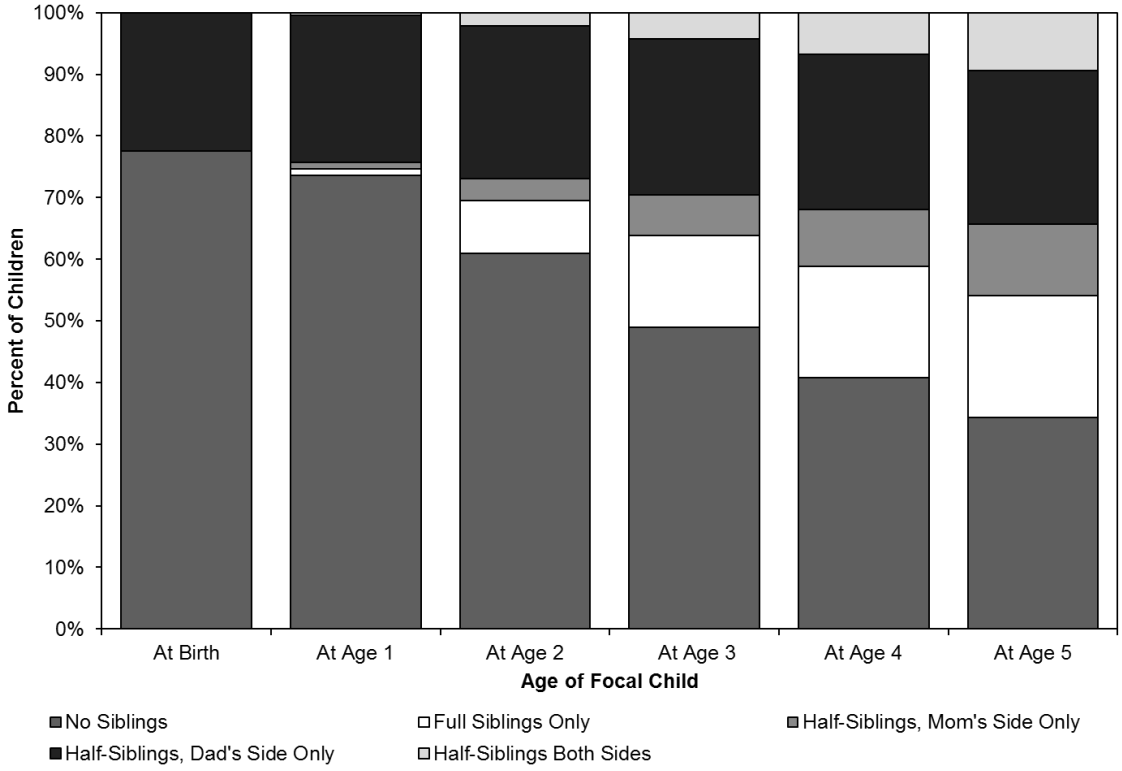

Figure 4: Percentage of Children without Half-Siblings

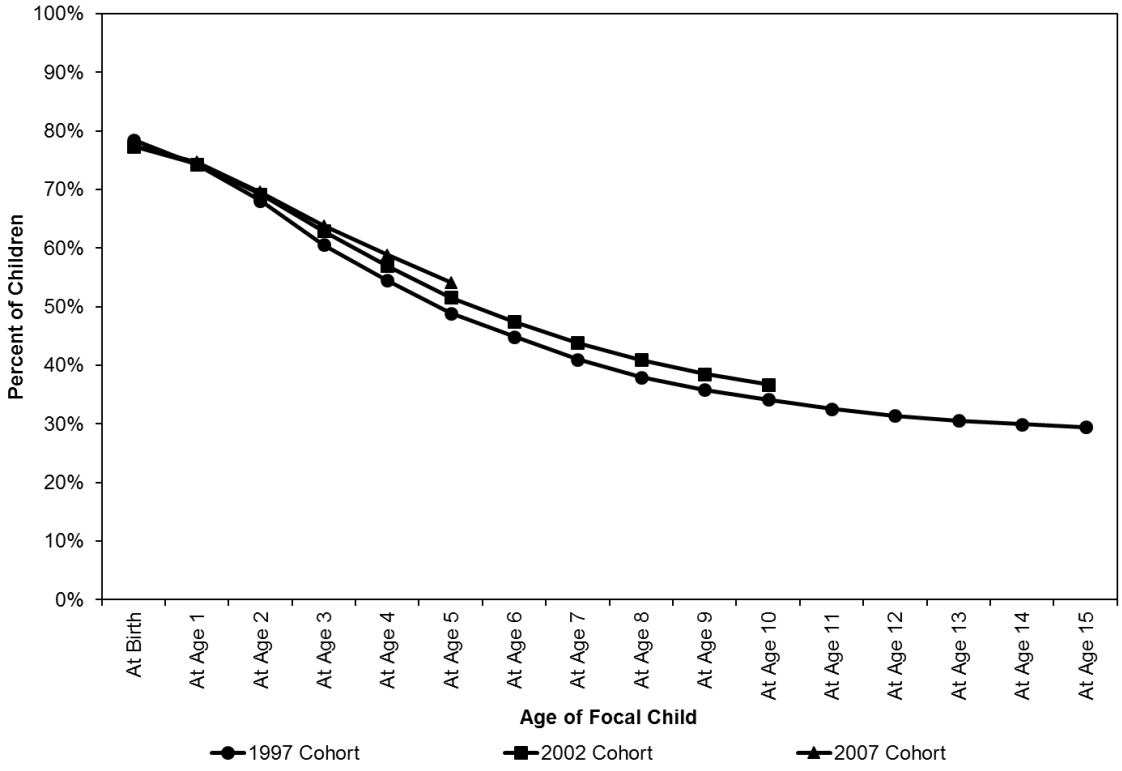

Figure 5: Percentage of Children with Half-Siblings on Both Sides

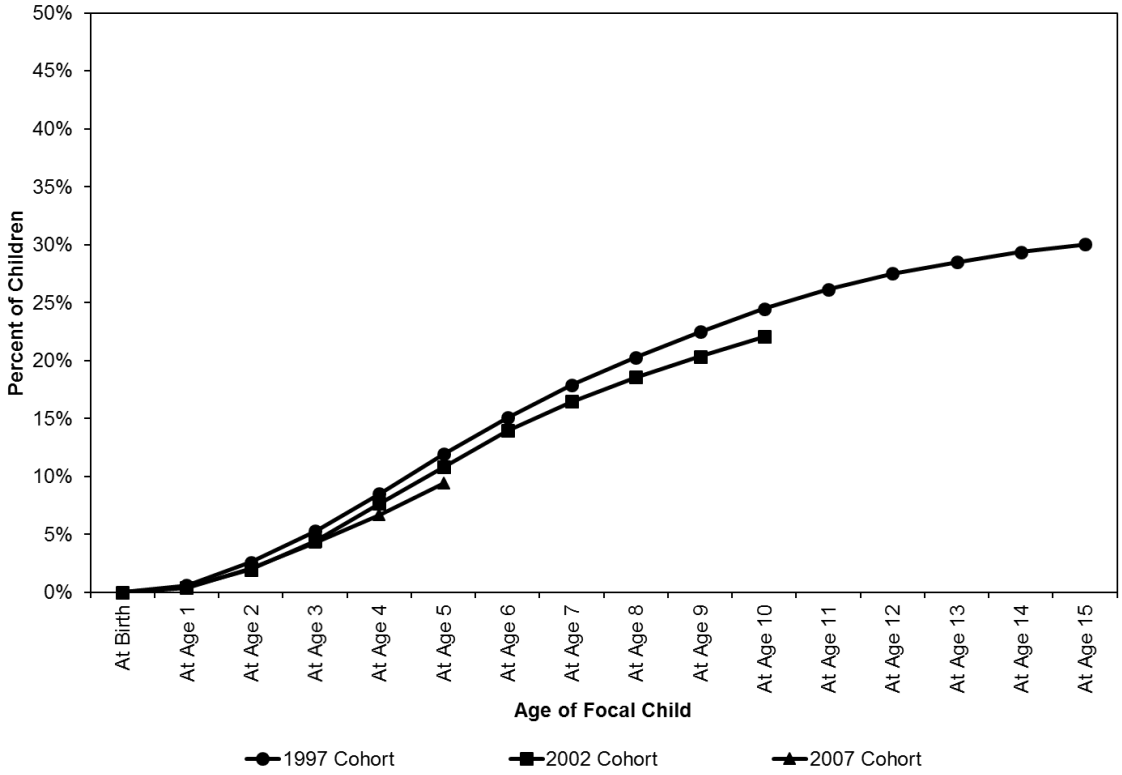

Figure 6: Percentage of Children with a Child Support Order Through Age 10 by Family Complexity at Birth

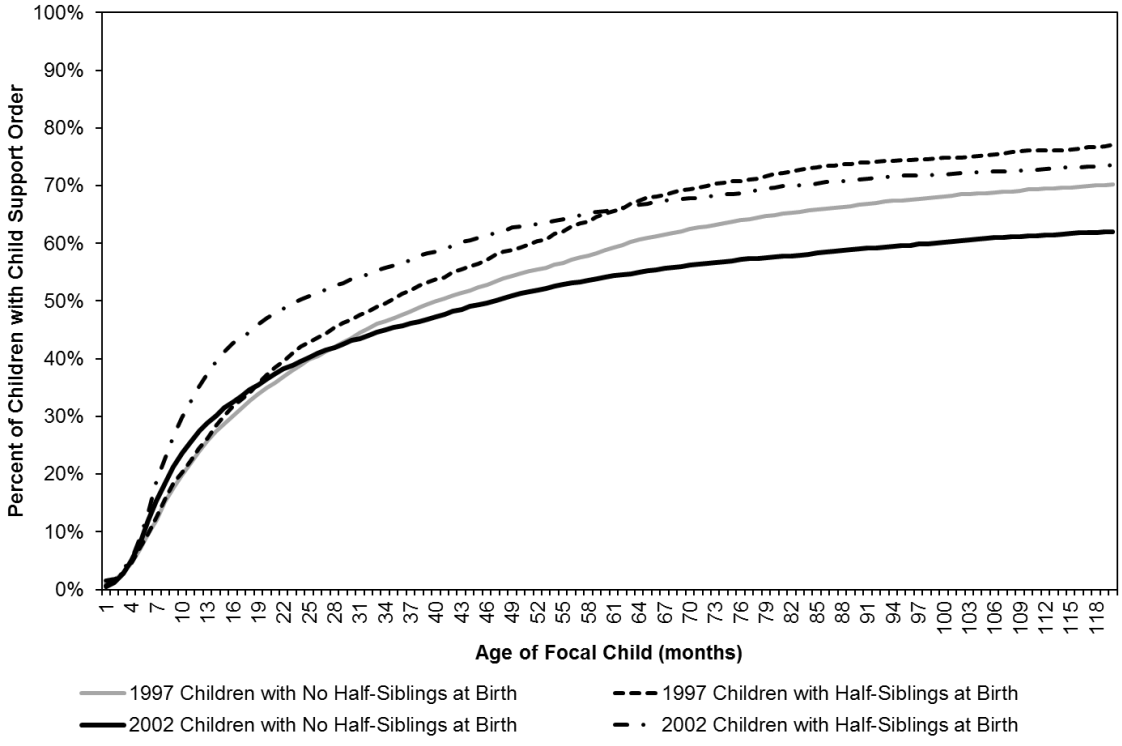

Table 1: Piecewise Exponential Hazard Model Predicting Mother's Child with a New Partner

	1997 Cohort Followed for 5 Years			2002 Cohort Followed for 5 Years			2007 Cohort Followed for 5 Years		
Parameter	Estimate		SE	Estimate		SE	Estimate		SE
Half-Siblings on Father's Side After Focal Child's Birth 10 Months Prior (ref. = none)									
From one mother	0.358	**	0.062	0.562	**	0.062	0.326	**	0.047
From two or more mothers	0.448	**	0.143	0.502	**	0.164	0.325	**	0.102
Half-Siblings on Father's Side at Focal Child's Birth (ref. = none)									
From one mother	0.088		0.064	0.082		0.062	0.063		0.049
From two or more mothers	0.170	†	0.097	0.446	**	0.086	0.184	**	0.071
Mother Worked (ref = mother not fully employed)									
All Four Quarters of Last Year	-0.094		0.062	-0.073		0.063	-0.112	*	0.051
No UI Match	-0.616		0.420	-0.807	**	0.213	-0.449	**	0.142
Mother Annual UI Earnings, Lagged (ref = $1–$10,000)									
Not reported earnings	-0.136	*	0.063	-0.096	†	0.058	-0.105	*	0.046
$10,001–$25,000	-0.118	†	0.067	-0.153	*	0.069	-0.135	*	0.055
$25,001–$50,000	-0.239	*	0.085	-0.265	**	0.087	-0.159	*	0.065
$50,001+	-0.274	*	0.095	-0.402	**	0.103	-0.263	**	0.073
Mother Used Food Stamps 10 Months Prior	0.207	**	0.061	0.273	**	0.051	0.328	**	0.041
Mother Used Medicaid or State Children's Health Insurance 10 Months Prior	-0.019		0.052	-0.052		0.054	-0.048		0.045
Child Support Paid Father to Mother, Annual Lagged (ref. = none)									
$1–$1,000	-0.069		0.066	0.032		0.058	0.065		0.044
$1,000+	0.033		0.059	0.223	**	0.056	0.268	**	0.041
Mother's Age at First Birth (ref. = <20)									
20–25	-0.641	**	0.052	-0.587	**	0.048	-0.492	**	0.036
26–30	-1.284	**	0.140	-1.227	**	0.134	-0.989	**	0.085
31–35	-1.708	**	0.268	-1.875	**	0.297	-1.174	**	0.179
36+	-1.594	**	0.346	-3.517	**	1.009	-3.461	**	0.710

(table continues)

Table 1, continued

Parameter	1997 Cohort Followed for 5 Years			2002 Cohort Followed for 5 Years			2007 Cohort Followed for 5 Years		
	Estimate		SE	Estimate		SE	Estimate		SE
Mother's Age Relative to Father's at Focal Child's Birth (ref. = within 1 years of same age)									
10 or more years younger	0.131		0.094	0.006		0.092	0.079		0.071
5–9 years younger	0.001		0.065	-0.001		0.063	0.025		0.051
2–5 years younger	-0.008		0.052	-0.081		0.052	0.081	*	0.039
2–5 years older	0.095		0.100	0.137		0.105	0.152	*	0.076
5+ years older	0.439	†	0.243	0.446	†	0.248	-0.042		0.210
Mother's Age Relative to Father's at Focal Child's Birth (ref. = within 1 years of same age)									
Both black	0.402	**	0.071	0.295	**	0.074	0.259	**	0.057
Both Hispanic	0.174		0.113	0.065		0.103	0.060		0.079
Mom white/father black	0.000		0.105	0.120		0.103	0.175	*	0.079
Mother white/father Hispanic	-0.027		0.118	0.264	**	0.099	-0.022		0.084
All other combinations	0.281	**	0.062	0.347	**	0.060	0.164	**	0.043
Child's Gender Male	-0.011		0.043	-0.057		0.042	-0.072	*	0.033
County (ref. = Milwaukee County)									
Other urban	0.115	†	0.061	0.115	†	0.061	-0.051		0.047
Rural	0.100		0.077	0.153	*	0.075	0.094	†	0.057
Out of State	-0.008		0.112	-0.007		0.114	-0.420	**	0.100
Full Siblings, 10 Months Prior (ref. = none)									
One	-0.769	**	0.089	-1.024	**	0.388	-0.480	**	0.050
Two	-1.220	**	0.319	-0.777	*	0.331	-0.566	**	0.126
Three or more	-18.552		6460.073	-1.043	**	0.304	-0.074		0.279
Years Since Focal Child Birth (ref. = 1)									
2	2.149	**	0.140	1.825	**	0.132	1.865	**	0.126
3	2.511	**	0.140	2.154	**	0.132	2.061	**	0.126
4	2.616	**	0.142	2.286	**	0.132	2.107	**	0.127
5	2.683	**	0.144	2.316	**	0.133	2.425	**	0.126
Intercept	-7.313	**	0.156	-6.189	**	0.333	-7.174	**	0.123
-2 Log Likelihood	26191.8			27183.6			41847.1		

Note: The models also include indicator variables denoting missing child gender and missing county.
*† p <.1 * p< .05 ** p< .01*

Table 2: Piecewise Exponential Hazard Model Predicting Father's Child with a New Partner After Focal Child Birth

	1997 Cohort Followed for 5 Years		2002 Cohort Followed for 5 Years		2007 Cohort Followed for 5 Years	
Parameter	Estimate	SE	Estimate	SE	Estimate	SE
Half-Siblings on Father's Side at Focal Child's Birth (ref. = none)						
From one mother	0.497 **	0.073	0.529 **	0.075	0.388 **	0.062
From two or more mothers	1.014 **	0.098	0.858 **	0.100	0.974 **	0.082
Half-Siblings on Mother's Side 10 Months Prior (ref. = none)						
From one father	0.310 **	0.102	0.349 **	0.101	0.265 **	0.069
From two or more fathers	0.745	0.504	0.633	0.412	0.587 *	0.239
Child Support Paid Father to Mother, Annual Lagged (ref. = none)						
$1–$999	0.058	0.084	0.145 *	0.073	0.174 **	0.055
$1000+	0.374 **	0.076	0.458 **	0.073	0.517 **	0.053
Father Worked (ref = father not fully employed)						
All Four Quarters of Last Year	-0.122 †	0.071	-0.084	0.074	-0.134 *	0.060
No UI Match	-1.291 **	0.455	-1.208 **	0.273	-1.218 **	0.172
Father Annual UI Earnings, Lagged (ref = $1–$10,000)						
Not reported earnings	-0.409 **	0.066	-0.336 **	0.065	-0.261 **	0.051
$10,001–$25,000	-0.034	0.079	-0.134	0.084	-0.090	0.067
$25,001–$50,000	-0.060	0.095	-0.162	0.099	-0.147 †	0.079
$50,001+	-0.212 *	0.100	-0.193 †	0.102	-0.358 **	0.083
Child Support Paid Father to Others, Annual Lagged (ref. = none)						
$1–$999	-0.038	0.109	0.001	0.106	-0.005	0.084
$1000+	-0.245 *	0.099	0.132	0.092	0.033	0.076
Mother's Age Relative to Father's at Focal Child's Birth (ref. = within 1 years of same age)						
10 or more years younger	0.287 †	0.158	0.465 **	0.157	0.177	0.125
5–9 years younger	0.054	0.085	0.131	0.084	0.080	0.070
2–5 years younger	-0.044	0.059	0.112 †	0.060	0.165 **	0.048
2–5 years older	-0.073	0.101	0.065	0.104	-0.006	0.080
5+ years older	0.025	0.198	0.047	0.223	-0.310	0.193

(table continues)

Table 2, continued

	1997 Cohort Followed for 5 Years			2002 Cohort Followed for 5 Years			2007 Cohort Followed for 5 Years		
Parameter	Estimate		SE	Estimate		SE	Estimate		SE
Father's Age at Focal Child's Birth (ref.= <20)	-0.370	**	0.059	-0.429	**	0.062	-0.434	**	0.049
20–25	-0.647	**	0.097	-0.767	**	0.098	-0.719	**	0.077
26–30	-1.490	**	0.177	-1.511	**	0.166	-1.152	**	0.119
31–35	-1.790	**	0.236	-2.500	**	0.275	-1.766	**	0.177
36-higher	0.287	†	0.158	0.465	**	0.157	0.177		0.125
Parents' Race (ref. = both white)									
Both black	0.938	**	0.077	0.904	**	0.079	0.552	**	0.063
Both Hispanic	0.239	†	0.136	0.039		0.128	0.141		0.090
Mom white/father black	0.722	**	0.100	0.861	**	0.098	0.496	**	0.083
Mother white/father Hispanic	0.405	**	0.123	0.036		0.134	0.119		0.096
All other combinations	0.261	**	0.076	0.181	*	0.075	-0.225	**	0.056
Child's Gender Male	-0.051		0.048	-0.083	†	0.048	-0.001		0.038
County (ref. = Milwaukee County)									
Other urban	0.028		0.067	-0.038		0.068	-0.026		0.054
Rural	0.049		0.087	0.090		0.087	-0.039		0.069
Out of State	0.066		0.115	0.328	**	0.111	0.113		0.093
Full Siblings, 10 Months Prior (ref. = none)									
One	-0.333	**	0.109	0.819		0.756	-0.349	**	0.066
Two	-1.055	*	0.450	0.939		0.722	-0.230		0.162
Three or more	1.467	*	0.582	0.869		0.708	-0.225		0.502
Years Since Focal Child Birth (ref. = 1)									
2	-0.043		0.071	0.088		0.077	0.147	*	0.068
3	-0.086		0.077	0.022		0.083	0.000		0.073
4	-0.129		0.083	0.061		0.085	-0.150	†	0.078
5	-0.139		0.089	0.030		0.088	0.117		0.076
Intercept	-5.382	**	0.100	-6.515	**	0.714	-5.361	**	0.088
-2 Log Likelihood	22350.2			22357.0			34120.9		

Note: The models also include indicator variables denoting missing child gender and missing county.
*† p <.1 * p< .05 ** p< .01*

Table 3: Characteristics of Cohorts and Family Complexity at Age 5 by Socioeconomic Characteristics

				1997 Cohort - Family Complexity at Age 5					2002 Cohort - Family Complexity at Age 5					2007 Cohort - Family Complexity at Age 5				
	1997	2002	2007	No New Half Siblings		New Half Siblings			No New Half Siblings		New Half Siblings			No New Half Siblings		New Half Siblings		
	Percent of Sample	Percent of Sample	Percent of Sample	No Half Siblings at Birth	Half Siblings at Birth	Moms Only	Dad Only	Both	No Half Siblings at Birth	Half Siblings at Birth	Moms Only	Dad Only	Both	No Half Siblings at Birth	Half Siblings at Birth	Moms Only	Dad Only	Both
Mothers Age At Birth																		
1) Under20	53.4	45.9	40.2	44.1	6.5	23.3	14.2	11.9	47.3	6.9	22.3	12.5	11.0	49.6	6.5	20.3	13.4	10.2
2) 20–25	35.7	43.3	47.1	54.5	14.8	14.6	11.5	4.6	54.7	16.0	13.7	10.8	4.9	57.0	16.3	12.2	10.4	4.1
3) 26–30	6.8	7.1	8.9	52.9	25.0	9.0	11.3	1.8	56.2	24.3	8.8	8.8	1.9	57.9	24.1	7.3	8.9	1.9
4) 31–35	2.6	2.5	2.4	54.1	28.2	7.2	9.1	1.4	58.7	29.8	5.3	5.8	0.4	58.8	26.0	9.2	5.7	0.4
5) 36+	1.3	1.1	1.3	60.0	26.7	8.6	3.8	1.0	59.4	31.3	3.1	6.3	0.0	59.6	33.6	2.1	4.8	0.0
Fathers Age At Birth																		
1) Under20	30.3	22.5	21.3	46.5	2.6	22.9	15.3	12.7	50.2	2.7	20.8	14.2	12.2	54.1	2.5	18.8	14.1	10.5
2) 0–25	43.3	49.7	48.1	51.8	9.6	18.0	12.8	7.8	55.3	9.5	16.9	11.7	6.6	58.5	9.4	14.4	11.3	6.4
3) 26–30	15.0	16.0	17.8	46.8	21.4	13.7	13.1	4.9	46.7	22.3	14.5	10.2	6.4	50.2	23.1	12.0	10.9	4.0
4) 31–35	6.4	6.5	7.1	46.1	29.6	15.0	6.1	3.3	43.9	33.2	11.9	7.5	3.6	42.2	34.0	12.8	8.9	2.1
5) 36+	4.3	4.6	4.9	43.8	34.7	14.2	6.5	0.9	45.5	39.1	10.7	3.1	1.7	41.9	40.0	11.1	5.7	1.3
Mother's Race																		
White	61.9	59.4	57.5	54.0	11.9	17.3	10.7	6.1	54.7	13.5	16.2	9.7	6.0	56.7	14.5	14.2	9.6	5.1
Black	21.9	19.6	19.8	29.8	12.2	23.2	19.7	15.1	34.4	13.1	20.2	18.8	13.4	36.5	14.8	18.9	17.8	12.1
Hispanic	7.9	12.4	13.5	57.7	6.9	19.7	9.1	6.7	62.3	9.4	16.0	7.2	5.1	64.9	9.2	13.0	8.2	4.8
Other	3.4	4.0	5.1	52.2	9.1	19.0	9.1	10.6	54.5	11.8	18.9	7.7	7.1	60.9	11.1	15.6	8.4	4.0
Unknown/Missing	5.0	4.6	4.1	53.2	13.6	11.3	17.2	4.7	53.4	14.3	14.3	13.4	4.6	60.1	12.2	8.6	16.9	2.3
Father's Race																		
White	50.7	48.7	43.3	55.9	11.5	17.1	9.8	5.7	57.2	12.7	15.1	9.3	5.6	57.1	15.0	12.7	9.8	5.4
Black	27.1	23.9	23.2	30.5	14.8	19.5	20.8	14.5	31.3	16.8	17.5	20.8	13.6	32.8	17.4	17.2	20.7	11.9
Hispanic	10.1	14.5	14.9	52.0	8.9	18.4	13.4	7.2	57.8	12.0	16.8	7.7	5.8	62.6	11.6	11.4	9.5	4.9
Other	3.6	3.5	4.7	51.4	9.5	15.7	12.9	10.5	53.9	14.7	16.6	8.8	6.0	60.5	11.8	14.5	8.8	4.3
Unknown/Missing	8.6	9.3	14.0	61.0	5.2	25.8	4.7	3.3	63.6	4.6	25.4	3.4	3.0	69.2	5.3	21.0	3.1	1.4

(table continues)

Table 3, continued

				1997 Cohort - Family Complexity at Age 5					2002 Cohort - Family Complexity at Age 5					2007 Cohort - Family Complexity at Age 5				
	1997	2002	2007	No New Half Siblings		New Half Siblings			No New Half Siblings		New Half Siblings			No New Half Siblings		New Half Siblings		
	Percent of Sample	Percent of Sample	Percent of Sample	No Half Siblings at Birth	Half Siblings at Birth	Moms Only	Dad Only	Both	No Half Siblings at Birth	Half Siblings at Birth	Moms Only	Dad Only	Both	No Half Siblings at Birth	Half Siblings at Birth	Moms Only	Dad Only	Both
Couple's Race																		
Both White	46.7	44.4	38.9	56.1	11.5	17.0	9.5	5.9	57.5	12.7	15.0	9.3	5.5	56.9	15.2	12.9	9.5	5.5
Both Black	19.4	16.7	16.2	28.6	13.0	20.9	20.9	16.5	31.4	14.4	18.6	20.7	14.9	32.2	16.4	17.8	20.3	13.4
Both Hispanic	5.0	8.8	9.5	59.1	6.6	18.0	9.3	7.1	65.9	9.6	14.1	6.3	4.2	68.9	8.5	10.8	7.6	4.2
Mom White Dad Black	5.2	4.8	4.4	35.6	21.8	14.8	19.9	8.0	30.1	24.8	13.0	19.9	12.3	34.8	21.8	15.9	19.3	8.2
Mom White Dad Hispanic	4.0	4.3	4.2	48.2	11.4	17.6	15.4	7.4	46.0	15.8	22.0	8.0	8.3	51.5	17.5	12.8	12.6	5.6
Other	19.4	21.1	26.9	52.8	8.7	21.4	11.1	6.1	55.1	10.2	20.9	8.5	5.3	61.8	9.3	17.3	8.2	3.5

Sample size: 8149 for 1997 cohort; 9055 for 2002 cohort; 10921 for 2007 cohort.
Missing data not shown on first two panels: for mother's age missing totals 27 in the 1997 panel, 19 in the 2002 panel and 12 in the 2007 panel. For father's age, missing totals 81 in the 1997 panel, 89 in the 2002 panel, and 91 in the 2007 panel.

Table 4: Initial Child Support Order Amounts by Family Complexity At Birth

	Proportion with Orders	Average Monthly Order	Average Monthly Order if Positive	N
1997 Birth Cohort				
A: Half-Siblings on Father's Side at Birth	81%	$189	$233	1,755
B: No Half-Siblings on Father's Side at Birth	75%	$215	$288	6,394
C: No Half Siblings on Father's Side at Birth, but Later	88%	$218	$247	2,018
D: All in 1997 Cohort	76%	$209	$276	8,149
2002 Birth Cohort				
E: Half-Siblings on Father's Side at Birth	74%	$200	$270	2,049
F: No Half-Siblings on Father's Side at Birth	62%	$205	$328	7,006
G: No Half Siblings on Father's Side at Birth, but Later	84%	$235	$299	1,917
H: All in 2992 Cohort	65%	$204	$313	9,055