Child Support Enforcement and Fathers' Contributions to Their Nonmarital Children

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Child Support Enforcement and Fathers' Contributions to Their Nonmarital Children

Research shows that stronger child support enforcement increases the amount of formal support received by children from their nonresident fathers. Yet, little is known about: 1) the informal cash and non-cash contributions that nonresident fathers make—especially to nonmarital children, 2) the effect of child support enforcement on these types of contributions, and 3) most importantly, the effect of child support enforcement on total (formal plus informal) child support contributions. Using data from the Fragile Families and Child Wellbeing Study, we find that strong enforcement reduces the amount of informal support, increases the amount of formal support, and most importantly, has no effect on the total amount of support received by unwed mothers. The effects on total payments are negative for parents who stopped cohabiting recently and positive for parents who never cohabited or stopped cohabiting three or more years ago. Implications for policy hinge upon future research.

INTRODUCTION

Research from the last two decades has shown that stronger child support enforcement increases the amount of formal support received by children from their nonresident fathers[1]. Yet, little is known from quantitative research about: 1) the magnitude of informal cash and non-cash contributions that nonresident fathers make—especially to nonmarital children, 2) the magnitude of the effect of child support enforcement on these types of contributions, and 3) most importantly, the effect of child support enforcement on total (formal plus informal) child support contributions. Some qualitative research suggests that informal child support payments are quite common among unwed and low income nonresident fathers and that strong child support enforcement leads to substitution of formal for informal support.

Today, over 1/3 of all births and nearly 70% of black births are to unmarried mothers (Hamilton et al. 2005), who are more likely to be poor and are less likely to receive formal child support than are previously married mothers (U.S. Census Bureau 2004, 2006). Informal and non-cash contributions from fathers may be an especially important source of support for these families, and may be a much larger proportion of total support received than that for previously married families.

Using data from the Fragile Families and Child Wellbeing Study, we describe the package of support (formal, informal, and noncash) that nonresident fathers provide for their children, and estimate the effect of child support enforcement on each type of support, and most importantly, on the total amount of cash support received. We find that three years after the birth

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[1] Because 86% of single-parent families are made up of a custodial mother and nonresident father, for the remainder of the paper we will refer to them in this way.

of a nonmarital child, informal support is more common and larger in dollar amounts than is formal support. Strong enforcement reduces the amount of informal support, increases the amount of formal support, and most importantly, has almost no effect on the total amount of support received by unwed mothers. However, the results differ substantially by when parents stopped cohabiting, with negative effects on total payments for parents who stopped cohabiting recently and positive effects for parents who never cohabited or stopped cohabiting three or more years ago.

PREVIOUS RESEARCH: THEORY AND EMPIRICAL FINDINGS

Weiss and Willis (1985) present a theory of children as collective goods, arguing that because a father cannot monitor how money is spent in the mother's household, he will voluntarily contribute less than is optimal. Similarly, Graham and Beller (2002), modeling child support payments as a classic 'prisoner's dilemma' outcome, predict non-optimal outcomes. In this game, although a cooperative equilibrium produces the highest utility for both parents and the highest level of spending for the child, a non-cooperative (low-spending) equilibrium is actually achieved because of parents' mistrust. Building on both these perspectives, Argys and Peters (2003) present a model where parents are able to achieve a cooperative equilibrium if the father can observe the children's well-being through regular contact with them.

　　While granting that the amount of support fathers can provide is related to their ability to pay (e.g. earnings), these theories emphasize the importance of taking into account fathers' willingness to pay child support on a voluntary basis, and provide a rationale for government intervention to require child support payments that exceed what some fathers would be willing to pay voluntarily. Though none of the theories systematically addresses the effects of strong child

support enforcement on informal and total child support payments, this is easily done with a few simple extensions.[2] Assume that at a point in time, all noncustodial fathers fall somewhere along a distribution of their willingness (holding constant their ability) to pay. Without child support enforcement (at each given level of ability to pay), some fathers will informally contribute more than they may be required to or at just the amount they would be required to, while others contribute less than what they may be required to or will contribute nothing. The effects of enforcement differ for these two groups of fathers. In the presence of a child support enforcement system, fathers who were paying exactly what they needed to, will switch the required amount from informal to formal support. Amongst the group of fathers who were paying more, some, perhaps most, will continue to make up the difference with informal support. But some fathers who were paying more would interpret the new guidelines as maximums and feel justified in reducing their payments. In short, for fathers who voluntarily pay as much or more than required by law, strong child support enforcement will substantially reduce the amount of informal support, substantially increase the amount of formal support, and reduce by a relatively small amount the total amount contributed.

Amongst fathers who are paying less than they should, child support enforcement should decrease informal payments and increase formal payments by a greater amount than the decrease in informal payments. Fathers with formal child support obligations will shift whatever informal

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[2] Although Argys and Peters (2003) estimate the effect of strict enforcement on voluntary contributions from noncustodial parents, these voluntary contributions are based on cooperative divorce agreements (those that were not court-ordered). This type of contribution is quite different from the informal contributions made by fathers with nonmarital births, the group in which we are interested.

support they were previously providing into formal support, decreasing the amount of informal support and increasing the amount of formal and total support. For fathers not yet subject to a formal child support obligation, however, the mother can use the formal system as a bargaining tool with which to induce the father to cooperate by contributing more informally or in other ways (help with child care or visitation), thereby increasing informal and total support (England and Folbre 2002). In this one case, strong child support enforcement could increase informal support. But, it is safe to assume that the substitution of formal for informal support will dwarf this positive effect. Moreover, even in this case, total support should increase.

Without knowledge of the underlying distribution of fathers' willingness to voluntarily pay child support, it is impossible to predict a priori the effects of enforcement on total child support payments. Though every state in the country has long standing laws requiring child support payments which have been strengthened substantially in the last 30 years, less than half of non-resident fathers paid any formal child support in any year (Roberts 2000; U.S. Census Bureau 2003). Although some proportion of this payment gap is due to low-income fathers' inability to pay support (Garfinkel, McLanahan and Hanson 1998; Mincy and Sorensen 1998; Waller and Plotnick 2001); it seems reasonable to conclude that only a minority of fathers are willing to pay as much or more than the amount they are paying, or would be formally required to pay, and that the majority of fathers are willing to pay less. This suggests that strong enforcement should increase total payments. But, it is possible that inability to pay, not unwillingness to pay, accounts for the formal payment gap; in which case strong enforcement may not increase total payments and, for reasons discussed below, might actually lead to decreases in total payments.

Though the net effect of strong enforcement on total child support is ambiguous, research suggests that non-resident fathers' willingness to pay child support decreases over time, which in turn implies that the effects of strong enforcement on total payments will increase over time (Beller and Graham 1993; Seltzer, Schaeffer and Charng 1989). As recent research from Fragile Families data has shown (Carlson, McLanahan and England 2004), the relationships of new unmarried parents are quite dynamic and heterogeneous. At birth, half of these parents were cohabiting, 30% were still romantically involved though living apart, and 20% were no longer romantically involved (McLanahan et al. 2001). Approximately one year later, 15% of the cohabitors have married and 25% have split up, while 37% of the romantically involved have moved to cohabitation or marriage, and nearly half have split up (Carlson et al. 2004). Once the cohabiting or romantic relationship ends, most fathers and mothers move on to other relationships and many bear new children. The new relationships, and especially the new children, decrease the father's willingness to pay informal child support because he will be more interested in providing for his new children and because he will be less interested in providing support to the mother's household in the presence of her new partner or new children which are not his. As willingness to pay decreases, the effect of strong enforcement on total payments increases. In the extreme case, when willingness to pay and informal payments reach zero, strong enforcement can have only a positive effect on total payments.

One other reason to expect that the net effect of child support enforcement will increase over time comes from the Weiss and Willis argument that fathers may increase payments if they can monitor how they are spent. If fathers are required to pay more child support than they would voluntarily, they are likely to exert more effort to monitor the payments. As fathers increase visitation, they may increase payments, which may further increase visitation, and so on. A

number of studies have examined the relationship between payments and contact and have found a positive association between these behaviors (though see Del Boca and Ribero 2001 for an opposing view; McLanahan et al. 1994; Nepomnyaschy 2007; Peters et al. 2004; Seltzer, McLanahan and Hanson 1998; Seltzer et al. 1989; Sorensen and Pomper 2003; Veum 1993).

But, strong child support enforcement could actually lower child support payments in the short run by encouraging mothers to pursue formal rather than informal support. Once a mother pursues a father for child support through the formal system, fathers may continue to pay informally if their relationship with the mother remains amicable. For those with non-amicable relations, informal support will end or already have ended, and formal support will not yet have started, leading to a temporary decline in total support. The lag between application for formal support and receipt of it can be quite lengthy, entailing establishing paternity-if not previously established, obtaining an order, and securing a payment on the order.

In sum, although theory provides no clear prediction about the effects of strong child support enforcement on total child support payments, based on the above discussion, we expect that the longer the time period since parents have stopped cohabiting, the greater will be the shift from informal to formal support and the stronger will be the positive effect of enforcement on total child support received.

The literature describes several other factors that can affect fathers' willingness to pay child support. First, fathers will be less willing to pay child support if their children are receiving public assistance. In most states (30), child support paid on behalf of mothers on welfare is kept by the state in order to recoup public costs; in the rest of the states some portion (the first $50 or more) of the payment is passed through to the mother (Roberts and Vinson 2004). Therefore, in general, fathers have less incentive to pay child support through the formal

system if mothers are on welfare because it is unlikely that their children will benefit from these payments. Second, fathers who have lived with the mother and child are likely to have a stronger attachment to the child and therefore a greater willingness to pay. Finally, it is important to note that fathers with ties to the regular labor market have much less discretion in whether or how much child support to pay, because their support obligation is automatically withheld from wages (Bartfeld and Meyer 2003). These fathers may only reveal their willingness or unwillingness to pay support by reducing or terminating their participation in regular employment.

Several studies have described the prevalence of informal and in-kind support from fathers (Greene and Moore 2000; Meyer and Cancian 2001; Miller and Knox 2001; Nord and Zill 1996; Roberts 2000; Seltzer and Schaeffer 2001; Teachman 1991), but only a few have examined the relationship between formal and informal support. Data from the Parents' Fair Share demonstration, focusing on low-income fathers, provide evidence of a substitution effect between formal and informal support, with fathers who are forced to pay formally decreasing their informal contributions (Miller and Knox 2001). Other evidence suggests that fathers who are paying formally or who have a child support order contribute more informal or in-kind support than those who do not (Meyer and Cancian 2001; Roberts 2000; Seltzer and Schaeffer 2001; Teachman 1991). Two of these studies (Meyer & Cancian and Seltzer & Schaeffer) were based on samples of mothers on public assistance and the fathers associated with them, who are presumably also low-income. However, it is still possible that those fathers who were contributing both formally and informally were those with more stable and better paying jobs or higher willingness to pay child support.

Findings from a number of other qualitative studies of low-income fathers reveal that these men have many barriers to contributing child support through the formal system, but contribute informally to their children whenever they can (Edin 1995; Furstenberg Jr., Sherwood and Sullivan 1992; Magnuson 2006; Pate 2002; Pate 2006; Waller and Plotnick 2001). These studies suggest that low-income fathers (and mothers) prefer informal contributions to those made through the formal system because the former go directly to their children. This appears to be true even when fathers are aware of the penalties associated with non-payment of their formal obligations (Pate 2006).

Though there is ample empirical evidence that strong child support enforcement is associated with increases in formal child support payments (Beller and Graham 1993; Freeman and Waldfogel 2001; Garfinkel and Klawitter 1990; Garfinkel and Robins 1994; Meyer et al. 1996; Miller and Garfinkel 1999; Sorensen and Hill 2004), none of these studies examined the effect of enforcement on informal or non-cash payments. Furthermore, because much of the above research was done on samples dominated by previously-married parents or those whose cohabiting or romantic relationships ended some time ago, even less is known about the effects of enforcement for unmarried parents with young children.

We contribute to prior literature in this area in several ways. First, we use a new data source, the Fragile Families and Child Wellbeing Survey to examine the total child support package (formal and informal cash, and in-kind support) of parents with recent nonmarital births. Unwed parenthood has not been the focus of most prior research, but is now the predominant form of single-parent family (U.S. Census Bureau 2004). Second, the timing of the Fragile Families study allows for the assessment of (though not changes in) behavioral effects after the passage of the 1996 welfare reform bill, which specifically focused on increasing formal

financial contributions to nonmarital children. Third, and most important, we estimate, for the first time, the effects of child support enforcement on all forms of child support.

DATA

This research uses the Fragile Families and Child Wellbeing Study which examines the conditions and capabilities of new unwed mothers and fathers and the wellbeing of their children. The baseline data, collected between 1998 and 2000, consist of 4898 births (3711 unwed and 1187 marital) in 75 hospitals in 20 U.S. cities[3] (15 states) with populations of 200,000 or more. The data are representative of unwed births in each of the cities sampled. Mothers and fathers were interviewed in the hospital shortly after their child's birth, with follow-up interviews when the child was one, three and five years old. For a detailed discussion of the Fragile Families study design, see Reichman et al (2001). In this paper, we use the first three waves of data, which are hereafter referred to as the baseline, one-year and three-year follow-up surveys, respectively.

Approximately 3,200 mothers with nonmarital births were re-interviewed at the three-year follow-up. 42% or 1,331 of these mothers were cohabiting with the father of the focal child at the time of the three-year survey and were excluded. Although some cohabiting fathers have child support orders (if the mother received public assistance or if they were separated previously), we choose to exclude this group from our analyses because cohabiting mothers are

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[3] The following 20 cities in 15 states are included in the survey: Oakland, San Jose (CA); Austin, Corpus Christi, San Antonio (TX): Richmond, Norfolk (VA); Philadelphia, Pittsburgh (PA); Newark (NJ); New York (NY); Nashville (TN); Toledo (OH); Milwaukee (WI); Chicago (IL); Indianapolis (IN); Jacksonville (FL); Baltimore (MD); and Detroit (MI).

not asked about informal contributions from fathers.[4] Due to this lack of information, we cannot

observe the effect of enforcement on the total amount of support that cohabiting fathers provide

to their children. We also limit our analyses to 18 (out of 20) cities due to data limitations. In the

first two cities, Oakland, CA and Austin, TX, mothers who reported having a child support order

were mistakenly skipped out of all questions regarding informal contributions. This omission

was fixed in interviews in the subsequent 18 cities. Because our primary goal in this paper is to

understand the effect of enforcement on the total package of support that mothers receive, we

exclude 241 observations from these two cities. We also excluded 30 mothers who reported that

the father was deceased or unknown. From this sample of 1577 mothers, 228 observations were

dropped due to missing data on the dependent variables and 26 observations were dropped due to

missing data on covariates (only for variables that were missing fewer than 10 cases). In order to

minimize further data loss, for variables that had more than 10 missing cases, we created missing

variable indicators and these dummy flags were included in the regressions. The main analyses

in this paper are based on data from 1,326 mothers with a nonmarital birth who were not

cohabiting with the father (of the focal child) at the time of the 3-year survey.

We rely solely on mothers' reports about fathers' characteristics and contributions. This

choice presents a trade-off between two types of biases, non-response bias due to missing fathers

and measurement error due to mothers' potential underreporting of fathers' contributions.

Although the Fragile Families study identified and interviewed a very large proportion of unwed

fathers as compared with other national surveys, still about 25% of these fathers were not

interviewed at the baseline survey. These missing fathers are more likely to be disadvantaged

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[4] Only 10% of fathers who were cohabiting with the mother at the 3-year survey have a child

support order and 7% of cohabiting fathers have made a formal payment in the past year.

and in less committed relationships with the mothers at birth (Teitler, Reichman and Sprachman 2003). Therefore focusing only on fathers who were interviewed would introduce substantial non-response bias. On the other hand, mothers may underestimate the level of child support received from the father, especially if they are on public assistance. Because of the high response rates for mothers, the lower likelihood of systematic differences between interviewed and non-interviewed mothers and because mothers are asked detailed questions about fathers, we choose to focus on mothers' reports in these analyses.

Outcome Measures

We measure several types of contributions that fathers make to their 3-year old children: formal child support, which is received through an established child support order; informal cash support, which includes any other financial contributions made outside the formal system; total cash support, which is the sum of the two above; and non-cash contributions, referred to as in-kind support. Mothers are asked how much formal and informal cash support the father has paid in the past twelve months. Mothers, who were not able to provide the exact amount of child support in the first question, were then asked a follow up question consisting of seven ranges of payments. We assigned the midpoint of the following ranges for these mothers and included these amounts in the continuous measures of support received: <$500; $500-$1000; $1001-$2000; $2001-$3000; $3001-$4000; $4001-$5000; $5001-$10,000; and >$10,000. This was done for 4% (51) of mothers for formal support and 9% (115) of mothers for informal support. We created dichotomous measures for any informal and any formal support from these continuous variables if they were greater than zero. For the total amount of cash support received by mothers, we add the formal and informal amounts for the continuous measure and create a dichotomous variable if this amount is greater than zero.

Mothers are asked how often in the past year father has purchased clothes, toys, medicine, food or anything else for the child, with possible responses of: 'often, sometimes, rarely or never'. Food was the most commonly reported item purchased 'often' by fathers (18%), as opposed to medicine (12%), clothes (15%), toys (13%), and other items (8%). We create a dichotomous measure for whether the mother received in-kind contributions from the father if she responded 'often' or 'sometimes' to any of the above items. We based this cutoff on the distribution of responses in our data: approximately one-third of mothers reported that the father provided each of these things often or sometimes, as opposed to only 15% reporting fathers buying these things often. All of these outcome variables are measured at one point in time, at the three-year survey.

Child Support Enforcement

In this paper, the strength of child support enforcement is based on city-level child support outcomes from the 2000 Census. Our measure is a ratio of the likelihood of receiving child support to the predicted likelihood of receiving child support in a given city adjusted for a number of individual and city-level characteristics. More specifically, using a 5% sample from the Public Use Microdata Samples (PUMS) from the 2000 Census, we made an extract of never-married mothers in the 20 cities that are represented in the Fragile Families data. From this dataset, a variable for whether the mother received any child support was created.[5] This measure

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[5] The Census does not specifically ask about child support income. We proxy child support income with the "other income" category in the Census. Creating a similar category in the SIPP data, we calculated that over 90 percent of "other income" for unmarried mothers consists of child support payments. Therefore, we feel confident that the "other income" category is an acceptable child support proxy for this group of mothers.

represents the likelihood that an average unmarried mother in that city receives child support; however, it may not be a good indicator of the strength of enforcement in that city, since it may be strongly associated with the demographic composition of the city. For example, cities with higher proportions of low-income families will have worse child support outcomes than cities with more advantaged populations, and these differences may be unrelated to the vigor of the child support enforcement system. Similarly, the likelihood of receiving child support in a given city may be associated with the strength of the labor market in that city. Therefore, we adjust the raw child support payment rate with a number of individual and city-level characteristics.

We regress the dichotomous variable for whether a mother had a child support payment on the mother's race/ethnicity, age, education, nativity, number of children, presence of child under age 6, state-level median male wage and maximum combined TANF/Food Stamp benefit. From this equation, we predict an aggregate city-level probability of receiving support, and divide the raw aggregate probability of receiving support by this adjusted measure. We standardize this ratio (convert to a z-score) so that a unit change represents a change of one standard deviation. Finally, this city-level aggregate measure is appended to the individual-level data by city of mothers' residence.

We believe this measure of actual to expected child support outcomes is the best single measure of the strength of child support enforcement because it encompasses not only the interaction of the strength of child support laws and fiscal effort to enforce the laws, but also the efficacy of city practices and the competence of the city bureaucracy in implementing the laws. States may be leaders in passing child support legislation, but it is possible that these laws are not actually enforced. Expenditures may be a good measure of a state's commitment to enforcement,

but states with the worst collection rates may need to spend the most to improve their outcomes. Most prior studies have used state-level measures of enforcement. While legislation and expenditures are state-level indicators, implementation of laws happens at the local level. Therefore, using city-level indicators of the strength of enforcement captures this local variation in implementation and creates a more valid measure. Although our measure of child support enforcement has been purged of observed variables that could influence child support payments, it is possible that unobserved differences across cities lead to higher child support payments rather than the strength of enforcement. For this reason, as a robustness check, we also use a more exogenous measure of the strength of child support enforcement which is based on state child support policies and state expenditures for child support enforcement. Following Freeman and Waldfogel (2001), we use a multiplicative measure of policies and expenditures. The overall substantive findings of no effect on total payments are similar, but the findings for time since parents stopped cohabiting are not as well ordered.

Parents' Relationship

As discussed previously, we expect that the package of support that mothers receive from fathers as well as the effect of enforcement on this support will vary by the length of time since parents stopped cohabiting. We divide the full sample of mothers who are not cohabiting with the father at the three-year survey into three groups based on the length of time since they stopped cohabiting with the father of the focal child: (1) those who were not cohabiting at any of the three waves of the survey (baseline, 1-yr or 3-yr); (2) those who were cohabiting at baseline, but not at 1-yr or 3-yr; and (3) those who were cohabiting at baseline and 1-yr, but were not cohabiting by the 3-yr survey. There are two other groups of mothers whom we include in our full sample, but do not examine results for separately: (1) those who were not cohabiting at

baseline, cohabiting at 1-yr, and then not cohabiting by 3-year; and (2) those who were not interviewed at the 1-yr survey, but were at the other two waves, making it impossible to determine when they stopped cohabiting.

Covariates

We include a number of father, mother and child characteristics that may be related to fathers' ability and willingness to pay support. These variables are all taken from mothers' reports from the baseline interview, at the time of the child's birth.[6] First, is a group of basic demographics: father's age, race/ethnicity, education, and mother's nativity-as a proxy for father's nativity. Based on prior research, we expect that older, more educated, native-born, and white fathers will be more able to pay child support (Beller and Graham 1993).

Next, we include a number of other family characteristics which are important predictors of fathers' willingness and ability to pay support, some of which have not been available in other datasets: whether the father contributed cash or in-kind during the pregnancy, whether he visited in the hospital, whether the mother wanted him involved, whether he intended to contribute in the future, the father's employment status, whether the father had a work-limiting disability, whether he had a problem with drugs or alcohol, whether he was ever in jail or prison, whether the parents have other children together, and both parents' multiple partner fertility. We expect that fathers who have other children with this mother, who have not been incarcerated, who are employed, who are not disabled, and who exhibited signs of commitment to the child during the pregnancy will be more willing and able to contribute financially to their children (Beller and

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[6] There are three exceptions. Questions about father's multiple partner fertility and history of incarceration are only asked at the 1-year follow-up survey and the child's age (in months) is taken from the 3-year survey.

Graham 1993; Lewis, Garfinkel and Gao In press). The expectation for fathers' multiple partner fertility is not clear. On the one hand, fathers who have children with other mothers may have a larger child support burden and therefore be less likely to pay. On the other hand, they may be more exposed to the child support enforcement system and therefore may be more likely to have an order and to be paying (Cancian and Meyer 2005).

We also include the child's gender and age at the time of the 3-year interview and three measures of parents' homogamy (the difference in parents' ages and education levels, and whether they are of the same race/ethnicity). We expect that fathers who are more similar to mothers on these attributes are more likely to be in more cooperative relationships with the mothers and be more willing to contribute to their children (Becker 1981). Because we are not interested in the effect of individual variables, but in controlling for a host of characteristics which are related to fathers' contributions to their children, we are not especially concerned with the potential collinearity of some of these variables.

We also include the unemployment rate in the metropolitan area and the combined maximum TANF/Food Stamp benefit in the state, both of which may be related to fathers' ability to pay support and mothers' need for child support. The metropolitan unemployment rate for 1999 ranges from 2.2 in Austin to 6.5 in Corpus Christi (U.S. Department of Labor 2002), while the 1999 maximum combined TANF and Food Stamp benefit for a family of three ranges from $526 in Texas to $907 in Wisconsin (SPDP 2001). We use aggregate city and state measures from 1999 because this is the year of the baseline interview for most of the parents in the Fragile Families survey.

METHODS

We first describe the prevalence and amount of fathers' contributions to their 3-year old children in the Fragile Families data for the entire sample. As discussed previously, the length of time since parents stopped cohabiting should be strongly related to the package of support that mothers receive, therefore, we stratify the sample into three groups of mothers based on how long they have not been cohabiting. Then, in multivariate analyses, we estimate the effect of child support enforcement on the prevalence and amount of all types of fathers' contributions to their children for the full sample, controlling for all the previously described covariates. Models for dichotomous outcomes (whether fathers contribute any informal support, any formal support, either type of support, or any non-cash support) are estimated with probit regressions. For these analyses, marginal effects, evaluated at the means of the independent variables, and z-statistics are presented (dprobit command in Stata 9 SE). Models for continuous outcomes (amount of informal support, formal support and total support), which are all censored at zero, are estimated with tobit regressions and are presented as marginal effects conditional on being uncensored and z-statistics (dtobit command in Stata 8 SE). Finally, we interact the child support enforcement measure with the 3-level categorical variable representing the length of time since parents stopped cohabiting to understand whether the effect of enforcement differs across these groups.

FINDINGS

Fathers' Contributions to Children

Table 1 presents the means of the variables used in our analyses, beginning with the dependent variables which describe the prevalence and amount of nonresident fathers' contributions to their children approximately three years after a nonmarital birth. The most important finding is that three years after the birth of a nonmarital child, informal support (whether cash or in-kind) is

more common and larger in dollar amounts than is formal support. Thus ignoring the effects of child support enforcement on informal support is a serious omission. Only 24% of non-resident fathers paid formal support, compared to 35% who paid informally, and 44% who provided in-kind support. However, the average amount of informal support received by all mothers is only slightly larger than the amount of formal support ($508 vs. $421), suggesting that those who do receive formal support receive a higher amount (on average) than those who are receiving informal support only. Over half (53%) of mothers receive any cash support (formal or informal), indicating that only 6% of mothers receive both types of contributions from fathers (35% informal + 24% formal = 59% – 53% who receive either = 6%). The figures for formal support are quite similar to figures reported by Sorensen and Hill (2004) from the March Current Population Survey (CPS) for never-married mothers, while the informal and non-cash figures are on par with those reported by Seltzer and Schaeffer (2001) based on data from the Wisconsin Child Support Demonstration Evaluation (CSDE).

Sample Description

The majority of mothers (56%) who are not cohabiting with the father of the focal child at the 3-year survey have never cohabited with him (at none of the waves). A small proportion (16%) were cohabiting at the time of the child's birth, but then broke up before the 1-year survey; and a smaller proportion (13%) were cohabiting at baseline and the 1-year survey, but then broke up by the 3-year survey. The mothers in our sample have had children with fathers who are mostly like themselves--non-white (68% non-Hispanic black, and 20% Hispanic), young (78% under 30) and relatively poorly educated (38% have not completed high school) fathers. Over half (51%) of these fathers and 40% of the mothers have prior children with other people. Only 71% of the fathers were working at the time of the child's birth and 45% have spent some time in jail or

prison. However, an overwhelming majority of the fathers contributed cash during the pregnancy (73%), visited in the hospital (66%) and intended to contribute to the child in the future (86%). Most notably, 92% of the mothers wanted the father involved with the child at the time of the birth. These parents faced a relatively low average metropolitan unemployment rate of 3.8% and the average maximum combined TANF/Food Stamp benefit was $716.

Informal and Formal Child Support Receipt

Table 2 presents figures for the proportion of mothers with in-kind and informal support and the amount of informal support received across various groups: column 1 is for all mothers, column 2 is for those with orders (58% of full sample), column 3 is for those with no orders (42%), column 4 is for those with a formal payment (58% of those with orders), and column 5 is for those with orders but no formal payments (42% of those with orders). The top panel is for all mothers, while the subsequent panels disaggregate these mothers into three groups by the length of time since they stopped cohabiting with the father. Tests of significance indicate whether differences in informal and non-cash receipt are statistically significant between those with and without orders and formal payments; and between the second two groups of mothers (those who stopped cohabiting between baseline and 1-yr and those who stopped cohabiting between 1-year and 3-year) and the first group (who never cohabited).

The second panel, column 1, indicates that, for the most part, mothers who have not been cohabiting with the father for the longest time (at none of the waves), are less likely to receive in-kind (36% vs. 63%) and informal support (31% vs. 50%) and receive less informal support ($396 vs. $725) than mothers who have stopped cohabiting more recently (bottom panel). This pattern holds true especially for mothers without a child support order (2nd column).

Comparing mothers with and without child support orders (top panel: 2nd and 3rd

columns), mothers without child support orders are more likely to get in-kind (48% vs. 39%) and

informal (43% vs. 24%) support and a much higher amount of informal support ($754 vs. $162)

than mothers with child support orders. This pattern holds across the three groups of mothers,

though not all the differences are statistically significant. This finding is expected, since we

believe that mothers will pursue fathers through the formal system when fathers stop or decrease

their informal contributions. Following this argument, we would also expect that mothers who

have been nonresident the shortest time would be less likely to have a child support order.

Italicized figures from the 3rd column (bottom panel) show that only 34% of mothers who

stopped cohabiting between the 1 and 3-yr surveys have an order as compared to 52% of mothers

who stopped cohabiting between baseline and 1-yr (3rd panel). However, this pattern does not

hold for those who have never cohabited, with only 45% of these mothers having a child support

order (2nd panel). The difference between those who ever and never cohabited probably reflects a

greater commitment to the mother and/or child amongst fathers who ever cohabited.

Next we examine formal payments amongst those with a child support order and compare

informal contributions from fathers by whether they have made a formal payment (4th and 5th

columns). First, over half the mothers with an order (58% – top row) have received a formal

payment in the past year. Contrary to expectations, the proportion of mothers who receive formal

payments (given an order) increases as the time from break-up decreases (italicized figures in

column 4). 65% of those who stopped cohabiting between 1-year and 3-year received a formal

payment as compared with 56% of those who never cohabited with the father, though these

differences are not statistically significant at conventional levels. As mentioned previously, these

mothers are also the most likely to be receiving informal contributions from the father (either in

cash or in-kind). Perhaps these fathers, who have been cohabiting with mothers the longest time (at least 1 year since the child's birth), are a more select group of fathers, who are more willing and able to contribute to their children in a number of ways.

Mothers who receive formal payments (across all groups) are more likely to also receive in-kind and informal cash support and receive a larger amount of informal support than mothers who do not receive a formal payment from fathers. On the one hand, we would expect fathers who pay formally to have fewer resources left over to contribute informally. On the other hand, once there is a child support order, perhaps fathers who comply with that order are more committed fathers and have better relationships with the mothers of their children and therefore are more willing to contribute in both ways; or perhaps these fathers are in more stable, better paying jobs and are more able to contribute in both ways. However, it is important to note again that the group of mothers who receive both formal and informal contributions is actually quite small. From Table 1, only 24% of mothers in the full sample receive formal support, and from Table 2, of those receiving formal support, 26% are also receiving informal. This amounts to only 6% (24 * .26) of the full sample receiving both formal and informal support. Finally, mothers who have a child support order but have no formal support receive the least support for their children, both in informal cash and non-cash support, from fathers. These fathers, within each group, may be the most financially disadvantaged and may be the least connected to their children.

Multivariate Analyses

In this section, we estimate the effect of child support enforcement on informal, formal and total cash contributions and non-cash contributions received by mothers. Our a priori expectations are that strong enforcement should increase formal support, decrease informal and non-cash support,

but have an ambiguous effect on total support received from fathers. The effect of enforcement on total support, however, should become increasingly positive as the length of the post cohabitation period increases.

In Table 3, we examine the effect of child support enforcement on child support outcomes for the full sample of mothers not cohabiting with the father at the 3-year survey. We present full models for the association of our child support enforcement measure (city-level adjusted payment ratio) and four child support outcomes. Because the child support enforcement measure is converted to a z-score, the interpretation of the coefficient is the change in the dependent variable associated with a 1 standard deviation increase on the payment ratio. Mothers who live in a city that is one standard deviation above the mean on the payment ratio receive approximately $40 less in informal support, and approximately $80 more in formal support than those who live in a city at the mean. These offsetting effects lead to no increase (or decrease) in the total amount of support that mothers receive (coefficient is positive, but not at all significant). However, these mothers are also 3 percentage points less likely to receive any non-cash support from fathers. Thus strong enforcement leads to a smaller total package of support received by mothers.

As expected, the length of time since parents stopped cohabiting is an important predictor of the types of support that mothers receive from fathers. Compared with the group of mothers who stopped cohabiting with the father most recently (between 1-year and 3-year), those who have not been cohabiting longer (never cohabited and broke up between baseline and 1-year) receive much less informal support ($191 and $206, respectively) and are both 13 percentage points less likely to receive non-cash support from fathers, controlling for all covariates. But

these two groups also receive much more formal support ($231 and $314) than those who stopped cohabiting more recently.

Although the focus of our paper is the relationship between enforcement and fathers' contributions, we also discuss some of the other characteristics that are significantly associated with fathers' contributions. Fathers who are black (not quite significant), contributed cash during the pregnancy, have not spent time in jail and who do not have children with other women contribute more informal cash support when their children are three years old than fathers who are white, did not contribute during the pregnancy, have been in jail, and have children with other mothers. The predictors of formal support payment are quite different. White (vs. black or Hispanic), older, and more educated fathers are more likely to contribute formally. Fathers who visited in the hospital, those who worked at baseline, those who had no incarceration history, and those whom the mother wanted involved in the child's life were also more likely to contribute formally.

Fathers who contributed during the pregnancy, visited in the hospital, did not have children with other mothers, and did not have a history of incarceration were more likely to contribute non-cash support when the child was three years old. The only characteristic of fathers that was predictive of formal, informal, and non-cash support was fathers' incarceration history. These fathers contributed much less cash ($199 informal, $209 formal, and $321 total) and were much less likely to contribute in-kind (14 percentage points) than were fathers who had no history of incarceration. The maximum TANF/Food Stamp benefit in the state was positively associated with non-cash support, but negatively associated with formal cash support from fathers. One possible explanation is that mothers in more generous states might be less inclined to pursue fathers for formal support; therefore fathers are more likely to contribute informally.

Another possible explanation may be that more generous states are also less stringent in child support enforcement, though because we control for strength of enforcement, that explanation seems less likely. Finally, if more generous states are also those with higher costs of living, then perhaps fathers in these states have a harder time paying formally, but are able to contribute informally.

Table 4 examines the association between enforcement and the contributions that fathers make to their children over time. Each cell represents a separate regression controlling for all the previously discussed covariates, but only the figures for the noted variables are shown. The first panel presents results for the full sample, repeating the coefficients for amount of informal, formal and total support, and probability of in-kind support from Table 4. Three additional binary outcomes for any informal, any formal, and any cash support are also presented in Table 4; and these results are quite similar to the corresponding continuous outcomes. To summarize these findings for the full sample of mothers, we find a weak negative effect of enforcement on informal support, a strong positive effect on formal support, and no effect on total support received (very weak positive effect on any cash support).

The second panel presents results from the interaction of enforcement and a measure of how long the parents have not been cohabiting. The figures presented are the interaction coefficients and z-statistics in parentheses for the first two groups of mothers (never cohabiting and stopped cohabiting between baseline and 1-year) and the main effect for the payment rate ratio, which is actually the effect of enforcement for the omitted category of mothers (those who stopped cohabiting between 1-year and 3-year). The interaction coefficients for the other two groups of mothers indicate the magnitude of the difference in the effect of enforcement between these two groups and the comparison group. To determine the actual effect of enforcement for

these groups, the interaction coefficient must be added to the main effect of enforcement. Z-statistics of the interaction terms indicate whether the coefficients are significantly different from the main effects of enforcement, while z-statistics for the main effects indicate whether the coefficients are significantly different from zero. The main effects of time since stopped cohabiting and all other covariates are included in the models, but are not presented in this table.

The effect of enforcement on the likelihood and amount of informal support for the group of mothers who have never cohabited (2nd row) and for those who stopped cohabiting between baseline and 1-year (3rd row) is essentially zero, and these effects are significantly different (just short of significance for the 2nd group) from the effect of enforcement for the group of mothers who stopped cohabiting most recently (4th row). But, for this group that stopped cohabiting most recently, there is a strong negative effect of enforcement on informal support.

As expected, there is a reverse ordering for the effect of enforcement on the likelihood and amount of formal support receipt, with an increasingly positive effect of enforcement on formal support as the time from break up increases, though these effects are not significantly different from each other. Finally and most importantly, looking at the results for any cash and the total amount of cash support received, as expected, we find the strongest positive effect of enforcement for mothers who have not been cohabiting the longest time and a negative effect for those who have stopped cohabiting most recently. And, these differences are, for the most part, statistically significant. We also estimated fully interacted models of the effects of enforcement by the time since parents stopped cohabiting and got very similar results (results are not shown, but are available from authors).

Robustness Checks

Table 5 presents the results of two alternative specifications to test the robustness of our results.

First, because mothers on welfare must give up rights to child support paid on their behalf, it is

possible that this group of mothers may be unintentionally misreporting how much formal

support is received from fathers. If this is true, our results for formal support and therefore total

support received would be biased. In addition, fathers with children receiving TANF have less

incentive to pay formal support because the state rather than their child receives the bulk of what

they pay. Therefore, we estimated models for a subsample of mothers who have never reported

TANF receipt (at any of the three waves, N = 476), and these results are presented in the second

row of Table 5 (the first row shows results for all mothers-repeated from Table 4, for

comparison). The results are basically identical to those of the whole group.

Second, as discussed in the data section, because our measure of the strength of child

support enforcement may be subject to omitted variables bias, we used an alternate measure of

child support enforcement which is more exogenous. Based on the findings of Freeman and

Waldfogel (2001), indicating that policies and expenditures on child support must be considered

together, we create a measure of the interaction of legislation and expenditures. We include the

following laws in the legislative measure: three laws pertaining to paternity establishment

(allowing paternity to be established until the child is 18, mandating genetic testing and making

voluntary paternity conclusive); universal wage withholding; and the three most recent federally

mandated laws (the New Hires directory, license revocation for nonpayment, and automation).

For each law, we enter the year that the law became effective in the state, standardize it to have a

mean of 0 and a standard deviation of 1, and then invert it, so that the longer the laws have been

on the books, the greater the value. We use total expenditures on child support in the state for

1999, as reported by the Office of Child Support Enforcement (U.S. Department of Health and

Human Services 2001), divided by the number of single mothers in the state from the 2000

Census. We then break down each measure into quintiles and create a three-level categorical

variable, where 3 represents a state that is in the top 2 quintiles on both laws and expenditures, 1

represents a state that is in the bottom 2 quintiles on both measures, and 2 represents all other

states. Child support outcomes are regressed on this categorical variable, with the worst-

performing states (coded to 1) as the comparison group. These results are presented in the second

panel of Table 5. The results for this enforcement measure are quite similar to those based on the

PUMS payment ratio. Mothers in states with stronger child support enforcement receive less

informal support, but more formal support than mothers in worse-performing states. Mothers in

better performing states are no better off in terms of total support received than mothers in the

worst-performing states, while those in the middle states are slightly worse off than those in the

worst-performing states (though these results are not quite significant).

Finally, we collapse this three-level variable into whether states are in the top group or

not and interact this dummy variable with our measure of the time since parents stopped

cohabiting (bottom panel of Table 5). These results are similar to our original findings, although

none of the coefficients are significant and the expected ordering is not quite as clear. We

attribute this to the fact that these are state measures and are therefore less robust in measuring

differences in child support enforcement at the city level.

SUMMARY AND CONCLUSION

In this paper, we describe the total package of support (formal, informal, total cash support, and

non-cash contributions) that mothers with nonmarital births receive from the nonresident fathers

of their children, and estimate the effect of child support enforcement on these contributions. We

find that nearly half of these fathers are providing some form of non-cash assistance on a somewhat regular basis (sometimes or often) and over half are providing some form of cash support (either informally or through the formal child support system), but only a quarter provide any formal support as reported by the mother. That is, informal support is more common and more important in dollar terms than formal support.

We also find that the time since parents' break up from cohabitation into less intimate relationships is a strong predictor of the type of support that mothers receive. Mothers who have not been cohabiting with the father since before the child's birth are the least likely to have informal and non-cash support, while those who have stopped cohabiting most recently (since the last survey) are the most likely. Conversely, those who stopped cohabiting most recently are much less likely to have a formal child support order.

Our findings confirm that informal support from fathers (whether in cash or in-kind) is much more prevalent than formal support and is an important resource for mothers with nonmarital births who are not residing with the father of their child. This is true, even among mothers who have not been cohabiting with the father for more than three years--since before the birth of the child. As discussed previously, the fathers in our data have many barriers to paying formal support, such as: low levels of education and high rates of unemployment and prior incarceration. In addition, because many of these mothers have received public assistance, there is an added disincentive to pay formally, since the child may not directly benefit from these payments.

Srong child support enforcement leads to less informal and non-cash support, but more formal support for all unmarried non-cohabiting mothers. These effects on formal and informal cash support offset each other, leading to the result that strong enforcement has no effect on the

dollar amount of total support received and reduces the total package of support that mothers

receive. In other words, mothers living in cities with a strong child support enforcement system

are worse off (in terms of contributions from fathers) than are mothers in less stringent cities.

However, when we interact the strength of enforcement with a measure of how long the parents

have been nonresident, the results are quite different. For parents who have not been cohabiting

for a longer time, strict enforcement is positively associated with total support received. For

parents who have stopped cohabiting more recently, strict enforcement has a negative association

with total support. The offsetting effects for these groups are responsible for the lack of effect

across all nonresident mothers.

That strong child support enforcement contributes to more total support for mothers who

have been nonresident for a longer period is in line with our a priori expectations. After a

cohabiting union dissolves, in the short run, strong enforcement will reduce the amount of

support that mothers may receive from fathers. However, in the longer run, as the time from

break up increases, strong child support will increase the financial resources of mothers and their

children. As mentioned previously, evidence suggests that as time from parents' break up

increases, fathers are less likely to be involved in their children's lives (Mott 1990; Seltzer et al.

1989). According to theory, this will decrease fathers' willingness to pay informally, pushing

more fathers into the formal child support system, which should increase the effect of

enforcement on formal support and lead to a stronger positive relationship between enforcement

and total support received by mothers. If our hypothesis is true and our findings hold up,

eventually, most mothers eligible for child support (those not cohabiting with the father) should

move into the group which gains the most from a strong enforcement regime.

Follow-up research is necessary to explore this hypothesis further. First, the over time results are less robust than the average effect. Second, we only have three years of data for these families. As more parents become nonresident and the time increases from when they stopped cohabiting, we can test whether the effect of enforcement on total support increases. Third, we are not able to actually measure outcomes for parents who have had a change in residency status. We are only comparing mothers in different groups. Therefore, the mothers in each group may be different in other ways which may be affecting their child support outcomes. If our results do hold up in subsequent research, then it seems that the child support enforcement system, in the longer run, will improve the lives of fragile families, and the policy recommendations would be to stay the course.

However, if the over time findings do not hold up and the effect of strong enforcement does not increase the package of support that mothers receive, then the implications for policy would be quite different. This finding would suggest that the child support enforcement system does not work well for children of unmarried parents (a large proportion of all single-parent families), and that substantial adjustments need to be made. Further research is necessary before the policy implications become clear.

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Table 1: Sample Characteristics (unweighted), N = 1326

Variable	Percent or Mean +/- SD
Dependent Variables	
In-kind support (provides often or sometimes)	44
Any informal support	35
Amount of informal support for all	508 +/- 1636
Any formal support	24
Amount of formal support for all	421 +/- 1242
Any cash support	53
Amount of total cash support for all	929 +/- 1997
Parents' Relationship	
Were not cohabiting at any wave (baseline, 1-yr or 3-yr)	56
Stopped cohabiting b/w baseline and 1-yr	16
Stopped cohabiting b/w 1yr and 3-yr	13
Not cohabiting at baseline, cohabited at 1-yr, stopped at 3-yr [b]	10
Not interviewed at 1-yr [b]	6
Demographics	
Father is less than 21	20
Father is 21-30	58
Father is 30+	22
Father is non-Hispanic white	10
Father is non-Hispanic black	68
Father is Hispanic	20
Father is non-Hispanic other race	2
Father has less than high school [a]	38
Father is high school graduate	42
Father has more than high school	20
Mother is native-born	94
Other Family Characteristics	
Mother was receiving TANF or Food Stamps at baseline	47
Age of child at 3-year interview (months)	36.7 +/- 2.4
Male child	53
Parents are of same race	86
Difference in parents' education (F minus M)	.08 +/- 1.0
Difference in parents' ages (F minus M)	2.7 +/- 5.0

Table 1: Continued

Variable	Percent or Mean +/- SD
Father contributed cash during pregnancy	73
Father contributed other during pregnancy	70
Father visited in the hospital	66
Mother wanted father involved at birth [a]	92
Father intended to contribute at birth [a]	86
Father worked at baseline [a]	71
Father has work-limiting disability [a]	7
Father has alcohol/drug problem [a]	9
Father has been in jail/prison [a]	45
Father has children with other mothers [a]	51
Parents have other children together [a]	24
Mother has children with other fathers [a]	40
Macroeconomic Variables	
MSA unemployment rate, 1999	3.8 +/- 1.2
Combined maximum TANF/FS benefit, 1999	716 +/- 114

[a] These variables were missing more than 10 observations (% missing): father's education (6%), father's employment (9%), father's incarceration (9%), father's multiple partner fertility (8%), father's disability (5%), father's alcohol/drug problem (3%), mother had other kids w/this father (4%), mother had kids with other fathers (5%), whether father intended to contribute in the future (1.5%), and whether mother wanted father involved in raising the child (3%). Missing flags were created for these observations and included in multivariate regressions. The means presented above are based on non-missing cases.
[b] Results for these groups of mothers are not considered separately though they are included in all multivariate regressions

Table 2: Informal and In-kind Support by Order, Formal Payment and Parents' Cohabitation Status at the 3-Year Survey (% or mean $s)

Informal and in-kind support	All	No Formal Order	With Formal Order	w/ Formal Payment	No Formal Payment
			All		
All Mothers (N = 1326)	100%	58%	42%	58%	42%
In-kind contributions	44	48 [b]	39	48 [b]	26
Informal cash support	35	43 [b]	24	26	22
$'s of informal support for all	508	754 [b]	162	209 [b]	97
Never Resided with Father (N = 736)	100%	55%	45%	56%	44%
In-kind contributions	36	37	34	43 [b]	23
Informal cash support	31	35 [b]	25	26	23
$'s of informal support for all	396	619 [b]	125	156	86
Stopped Cohabiting b/w baseline & 1-yr (N = 215)	100%	48%	52%	63%	37%
In-kind contributions	44 [a]	50 [a]	38	47 [b]	24
Informal cash support	29	44 [b]	16	20	10
$'s of informal support for all	583	1096 [b a]	122	143	85
Stopped Cohabiting b/w 1-yr & 3-yr (N = 169)	100%	66%	34% [a]	65%	35%
In-kind contributions	63 [a]	67 [a]	54 [a]	62 [a]	40
Informal cash support	50 [a]	59 [b a]	30	30	30
$'s of informal support for all	725 [a]	962 [b]	250	330	101

[a] Means for mothers who stopped cohabiting b/w baseline & 1-yr and b/w 1-yr and 3-yr are significantly different from those of mothers who never cohabited at p < .05.
[b] Means for mothers with orders and with formal payments are significantly different from those of mothers without orders and without formal payments (within rows) at p < .05.

Table 3: Full Models of the Amount of Formal, Informal, and Total Cash and Non-Cash Support

Variable	Amount of Informal [a]	Amount of Formal [a]	Total Support [a]	In-Kind Support [b]
Adjusted Child Support Payment Ratio	-41	82***	8	-0.03*
	(1.58)	(3.63)	(0.28)	(2.12)
Parents' Relationship Status (Stopped cohabiting b/w 1-yr and 3-yr = Reference group)				
Not cohabiting at any wave	-191*	231*	-4	-0.13**
	(2.15)	(2.72)	(0.04)	(2.72)
Stopped cohabiting between baseline and 1-yr	-206*	314**	78	-0.13**
	(2.05)	(3.46)	(0.70)	(2.60)
Demographics				
Father is 21-30	-41	67	79	-0.03
	(0.49)	(0.92)	(0.87)	(0.79)
Father is 30+	65	183†	276*	-0.03
	(0.55)	(1.77)	(2.14)	(0.49)
Father is non-Hispanic black	168	-366***	-228*	0.06
	(1.62)	(4.61)	(2.14)	(1.11)
Father is Hispanic	70	-177†	-143	0.03
	(0.57)	(1.81)	(1.11)	(0.49)
Father is non-Hispanic other race	188	-117	27	0.06
	(0.82)	(0.61)	(0.11)	(0.47)
Father is high school graduate	58	61	99	-0.02
	(0.79)	(0.92)	(1.22)	(0.53)
Father has more than high school	120	209*	370**	-0.05
	(1.23)	(2.44)	(3.45)	(0.92)
Mother is native-born	-85	177	40	0.08
	(0.67)	(1.40)	(0.29)	(1.28)
Other Family Characteristics				
Mother received TANF since baseline	-70	-2	-107	0.03
	(1.17)	(0.04)	(1.60)	(0.85)
Age of child at 3-yr interview	-2	-23†	-15	0.00
	(0.16)	(1.94)	(1.11)	(0.49)
Male child	-69	36	-29	0.00
	(1.23)	(0.73)	(0.47)	(0.02)
Parents are of same race	97	-114	1	0.07
	(1.10)	(1.58)	(0.01)	(1.47)
Difference in parents' education (F minus M)	23	-69†	-52	0.04†
	(0.57)	(1.94)	(1.16)	(1.85)

Variable	Amount of Informal [a]	Amount of Formal [a]	Total Support [a]	In-Kind Support [b]
Difference in parents' ages (F minus M)	5	-10	-3	0.00
	(0.82)	(1.63)	(0.39)	(0.20)
Father contributed cash during pregnancy	207*	-87	65	0.15**
	(2.20)	(1.10)	(0.65)	(3.26)
Father contributed other during pregnancy	88	0	41	0.10*
	(0.97)	(0.00)	(0.42)	(2.17)
Father visited in the hospital	24	171*	156†	0.06
	(0.32)	(2.49)	(1.89)	(1.59)
Mother wanted father involved at birth	102	314*	386*	0.12
	(0.69)	(2.28)	(2.41)	(1.63)
Father intended to contribute at birth	73	-101	-74	-0.07
	(0.64)	(1.05)	(0.62)	(1.13)
Father worked at baseline	-84	139*	20	0.02
	(1.23)	(2.15)	(0.26)	(0.48)
Father has work-limiting disability	-63	-39	-107	0.06
	(0.52)	(0.36)	(0.80)	(0.89)
Father has alcohol/drug problem	-6	-25	-41	-0.03
	(0.05)	(0.25)	(0.33)	(0.56)
Father has been in jail/prison	-199**	-209***	-321***	-0.14***
	(3.04)	(3.66)	(4.52)	(4.23)
Father has children with other mothers	-140*	13	-129†	-0.12***
	(2.14)	(0.23)	(1.79)	(3.66)
Parents have other children together	34	-64	-39	-0.01
	(0.49)	(1.01)	(0.49)	(0.35)
Mother has children with other fathers	-3	-79	-79	0.02
	(0.04)	(1.34)	(1.10)	(0.70)
Macroeconomic Variables				
MSA unemployment rate, 1999	9	17	19	-0.02
	(0.34)	(0.73)	(0.65)	(1.17)
Combined max TANF/FS benefit, 1999 ($100's)	32	-44†	0	0.03*
	(1.15)	(1.81)	(0.01)	(2.23)

[a] Figures are marginal effects conditional on being uncensored computed from Tobit coefficients and (z-statistics).
[b] Figures are marginal effects calculated at the mean of the independent variables from probit coefficients and (z-statistics).
†p < .10; *p < .05; **p < .01; ***p < .001.

Table 4: Child Support Enforcement (Adjusted PUMS Payment Ratio) and Fathers' Contributions, N = 1326

Variable	Any Informal	Amount of Informal	Any Formal	Amount of Formal	Any Cash Support	Amount of Cash Support	Any In-Kind Support
Non-Interacted Models							
Child Support Enforcement (Adjusted Payment Ratio)	-0.01	-41	0.05***	82***	0.03*	8	-0.03*
	(0.80)	(1.58)	(4.63)	(3.63)	(1.97)	(0.28)	(2.12)
Interaction of Enforcement and Time Since Stopped Cohabiting							
Not cohabiting at all 3 waves	0.07*	110†	0.01	2.7	0.10**	122†	0.05†
	(2.35)	(1.84)	(0.25)	(0.05)	(2.93)	(1.82)	(1.66)
Stopped cohabiting b/w baseline & 1-yr	0.06	59	0.02	23	0.08*	83	0.02
	(1.58)	(0.82)	(0.72)	(0.37)	(2.01)	(1.05)	(0.48)
Main effect of enforcement = effect of enforcement for reference group (stopped cohabiting b/w 1-yr & 3-yr)	-0.06*	-117*	0.03	58	-0.05†	-94	-0.07*
	(2.16)	(2.09)	(1.37)	(1.13)	(1.76)	(1.48)	(2.13)

Figures for dichotomous outcomes are marginal effects from probit regressions. Figures for continuous outcomes are marginal effects from Tobit regressions conditional on being uncensored. Z-statistics are in parentheses. Each cell represents a separate regression which controls for all previously discussed covariates.

†p < .10; *p < .05; **p < .01; ***p < .001.

Table 5: Alternate Specifications

	Any Informal	Amount of Informal	Any Formal	Amount of Formal	Any Cash Support	Amount of Cash Support	Any In-Kind Support
Non-Interacted Models							
Adjusted PUMS ratio for all, N = 1326	0.00	-48	0.05**	97*	0.04†	23	-0.03
	(0.14)	(0.84)	(2.48)	(2.39)	(1.67)	(0.39)	(1.32)
Adjusted PUMS ratio for mothers never on TANF, N = 476	-0.01	-41	0.05***	82***	0.03*	8	-0.03*
	(0.80)	(1.58)	(4.63)	(3.63)	(1.97)	(0.28)	(2.12)
Enforcement Measure Incorporating Laws and Expenditures (states in bottom 40% on both are reference group)							
States are in top 40%ile on expenditures and laws	-0.07	-205*	0.10*	159†	0.02	-86	-0.05
	(1.58)	(2.07)	(2.20)	(1.77)	(0.29)	(0.79)	(1.01)
States are in the middle on either expenditures and laws	-0.09*	-169*	0.03	70	-0.06	-130	-0.03
	(2.48)	(2.23)	(0.77)	(0.28)	(1.43)	(1.55)	(0.63)
Interaction of Laws/Expenditures Enforcement Measure with Time since Parents Stopped Cohabiting							
Not cohabiting at all 3 waves	0.06	-68	-0.03	-97	0.06	-132	0.00
	(1.54)	(0.32)	(0.31)	(0.50)	(0.53)	(0.56)	(0.03)
Stopped cohabiting b/w baseline & 1-yr	0.19	77	0.09	110	0.17	76	-0.13
	(1.39)	(0.30)	(0.74)	(0.49)	(1.24)	(0.27)	(0.96)
Main effect of enforcement = effect of enforcement for reference group (stopped cohabiting b/w 1-yr & 3-yr)	-0.09	-78	0.08	173	-0.02	59	-0.01
	(0.92)	(0.40)	(0.88)	(0.96)	(0.23)	(0.27)	(0.06)

Figures for dichotomous outcomes are marginal effects from probit regressions. Figures for continuous outcomes are marginal effects from Tobit regressions conditional on being uncensored. Z-statistics are in parentheses. Each cell represents a separate regression which controls for all previously discussed covariates.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.