Child Support Enforcement and Domestic Violence

Angela R. Fertig
(corresponding author)
University of Georgia
201 N. Milledge Ave.
Athens, GA 30602
afertig@uga.edu

Irwin Garfinkel
Columbia University
808 McVickar Hall
622 West 113th Street
New York, NY 10025
ig3@columbia.edu

Sara S. McLanahan
Princeton University
265 Wallace Hall
Princeton, NJ 08544
mclanaha@princeton.edu

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Abstract

Some advocates worry that stronger child support enforcement may increase domestic violence. Theoretical predictions are ambiguous, however. Whereas stronger enforcement may increase mothers' bargaining power which would reduce violence, it also may increase fathers' motive for violence which would increase violence. This paper examines whether child support enforcement is associated with domestic violence using data from the Fragile Families and Child Wellbeing Study. We find that stricter enforcement decreases the risk of violence for married and cohabiting mothers but increases the risk among non-coresident mothers who receive welfare and have not obtained legal entitlement to child support.

Keywords: child support enforcement; domestic violence; bargaining power

JEL Classification: D1; I1; I3; J1

The number of American children eligible for child support has increased dramatically over the last three decades due to increases in divorce and non-marital childbearing. Nearly half of all children born today will become eligible for child support at some point before reaching age sixteen (Bumpass and Lu 2000), and many of these children will experience poverty and economic insecurity as a result of living apart from a biological parent (usually the father) (Lerman 1996; Garfinkel and McLanahan 1986). Because of their precarious economic status and because child support is a potentially important source of income for these children, stricter child support enforcement has become an important priority for policy makers. Since the mid-1970s, the federal government has been pushing states to strengthen their child support enforcement systems by providing financial incentives and by mandating a variety of administrative practices believed to improve child support collections.[1]

Although these policies enjoy widespread bi-partisan support among legislators at the state and federal levels, a few policy makers, and some advocates for poor mothers, worry that they may increase domestic violence by making poor women more dependent on men and by placing unrealistic burdens on poor fathers. A number of researchers have found that child support enforcement affects family formation behavior (Case 1998; Aizer and McLanahan 2004; Garfinkel et al 1998; Nixon 1997); other researchers have shown that state abortion and divorce laws affect violence (Donohue and Levitt 2001; Stevenson and Wolfers 2003). In this paper, we use state and city variation in child support enforcement laws and practices to examine whether stronger child support enforcement is associated with a greater incidence of domestic violence. Using data from the Fragile Families and Child Wellbeing Study, a birth cohort study of

[1] For more information on the history of child support reform see *Fathers Under Fire* (Garfinkel et al 1998).

approximately 5,000 children, including 3,700 children born to unmarried parents, we find that a married or cohabiting mother's probability of experiencing violence is slightly lower but a non-coresident mother's probability is significantly higher in cities with stricter child support enforcement. The non-coresident effect is especially pronounced among mothers who receive welfare and have not obtained a child support order.

Theory

Theory yields ambiguous predictions about the effects of strong child support enforcement on domestic violence because the two potential mechanisms through which child support enforcement (CSE) may affect violence operate in opposite directions. First, strong enforcement increases a mother's bargaining power which should reduce the probability that she experiences violence. Bargaining theory treats the distribution within a relationship as the solution to a game involving negotiations (Manser and Brown, 1980; McElroy and Horney, 1981; Lundberg and Pollak, 1994). The partner with the better opportunities outside of the relationship has more bargaining power within the relationship because their threat to end the relationship is more credible. Thus, strong CSE allows the mother to bargain for better treatment within a relationship by increasing her resources outside of the relationship. We define relationship very broadly in this paper. It can represent a marriage, a non-marital romantic relationship, or a non-marital co-parenting relationship. Thus, the mother's threat can be divorce or ending the romantic or co-parenting relationship and pursuing child support payments.

Second, strong enforcement increases a father's incentive to use violence to influence the mother's behavior (often called instrumental violence in the violence literature, as opposed to expressive violence, which refers to anger-induced violence). In every case where the mother

has a bargaining advantage as a result of stronger CSE, the father has a motive to intimidate the mother. Thus, stronger CSE increases the father's incentive to stay in the relationship and avoid the child support system either through bribes (increased bargaining power resulting in less violence) or threats (intimidation resulting in more violence).[2] Theory cannot predict which effect dominates.

Though theory is ambiguous in general, the net effects on violence are likely to differ depending upon the relationship of the parents, the mother's welfare receipt, and the status of the child support order. The contrast between mothers who do and do not receive welfare is the clearest. Though fathers must pay the same amount of child support regardless of whether the mother receives welfare or not, mothers who receive welfare gain little to nothing in terms of bargaining power through strong child support enforcement since they are required to sign over

[2] There is a third effect which applies only to non-resident parents. Strong enforcement increases the contact between mothers and fathers by increasing the prevalence of legal orders and the payment rates. Contact can lead to violence by increasing the opportunity for the father to vent his anger (Seltzer et al 1998). Economic theory also predicts that fathers have an incentive to monitor how the mother spends their child support payments (Weiss and Willis, 1985). He would like 100 percent of his contributions to benefit his children and not be spent on goods that solely benefit the mother. The father's attempts to monitor and control how the mother spends the child support may become a source of conflict between the parents. However, contact does not necessarily lead to violence; in many cases, increased contact could result in a stronger parental bond which would suggest less violence.

their rights to child support to the state.[3] Thus, stronger child support enforcement does not increase their bargaining power. In contrast, fathers' incentives to intimidate the mother are not diminished by mothers' receipt of welfare. Thus we expect strong child support enforcement to increase violence more among couples where mothers rely on welfare than among couples where the mothers do not rely on welfare, all else being equal.

In addition, the size of the increase in the non-coresident mother's bargaining power and, in turn, the father's incentive to intimidate depends on whether the mother has a legal child support order in place. Mothers who have already obtained legal child support orders are in a stronger bargaining position than mothers who have not obtained a legal order. Having legal entitlement to child support increases the probability of receiving child support if a mother ends the relationship. Moreover, once a mother secures a child support order, the father's motive to utilize violence to deter her from seeking an order disappears. As a consequence, we expect strong child support enforcement to reduce violence more among mothers with child support orders than among mothers without child support orders.[4]

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[3] Prior to welfare reform, states allowed mothers to keep the first $50 of child support each month. This "pass-through" no longer exists in most states today.

[4] An additional twist is that mothers receiving welfare can apply for a "good cause" exemption from child support enforcement if they can prove that the father is a serious physical threat. This waiver can increase violence by increasing the benefit of violent intimidation, or it can decrease violence for mothers who negotiate a strategic arrangement with fathers (reduced violence in exchange for a waiver application). Thus, the waiver provides another bargaining tool which can benefit or harm potential applicants.

Finally, we expect that strong child support enforcement is more likely to induce fathers to bribe rather than intimidate the mother if the parents are living together as opposed to living apart. Among coresident couples, mothers' bargaining position is stronger because she can threaten to deny the father access to both herself and the child. Non-coresident mothers can only deny access to the child. The motive to intimidate is also likely to be stronger among non-resident fathers since they are already liable for child support and thus child support is more salient.

In sum, strong CSE increases the bargaining power of mothers (vis-à-vis their child's father) which reduces violence; however, it also increases fathers' motives for intimidation, which may increase violence. Thus the overall effect of strong child support enforcement on violence is an empirical question. Theory does predict that violence should be higher among mothers who rely on welfare but lower among mothers who live with the father and among mothers with a formal child support order.

Data and Sample

To estimate the effect of child support enforcement on domestic violence we use individual-level as well as city- and state-level data. Our individual level data come from the Fragile Families and Child Wellbeing Study, a nationally representative survey of births to parents in large cities. The study follows a birth cohort of approximately 5,000 children born in twenty U.S. cities between 1998 and 2000, including an over-sample of births to unwed parents. The first interview with mothers took place in the hospital, within 48 hours of the birth. Follow-up interviews were conducted with both mothers and fathers by telephone 12-18 months after the child's birth. Response rates at the follow-up interview were 91 percent for married mothers, 90

percent for unmarried mothers, 82 percent for married fathers, and 70 percent for unmarried fathers.

We use nearly the full sample of Fragile Families mothers (n=3643).[5] Because the theory predicts differences by relationship status, welfare status, and child support order status, we conduct separate analyses on the following five groups of mothers (based on their situation at the 12 month interview): married and cohabiting mothers, non-coresident mothers not collecting welfare and without a child support order, those with a child support order, non-coresident mothers collecting welfare and without a child support order, and those with a child support order.[6] Table 1 reports summary statistics on the sample broken down by these five mutually exclusive categories. Roughly two thirds of the full sample is married or cohabiting, and one third is not coresiding. Thirty-nine percent of non-coresident mothers in our sample received welfare in the 12 months prior to the follow-up interview and 22 percent had a child support order by the time of the follow-up interview.[7]

[5] We exclude 684 mothers who were never romantic with the fathers of their children because these mothers were never asked some of the violence questions. 555 mothers from the baseline sample were lost to attrition by the follow-up interview.

[6] We considered conducting separate analyses for married and cohabiting mothers but found no substantive differences in the results and so have combined them throughout.

[7] By comparison, data from the March 1999 Current Population Survey indicate that the child support receipt rate for all never married mothers is 31% (Freeman and Waldfogel 2001). Given that the children in our sample are much younger than those in the Freeman and Waldfogel sample (which ranges from 1 to 18 years of age), the rates among the Fragile Families mothers are reasonable.

Measures of Violence

We use two violence indicators to measure domestic violence: one based on questions that ask mothers whether they were *hit, slapped, or kicked* by the father in the past, and another based on a question that asks mothers whether they were *seriously hurt* in a fight with the father. Both of these questions correspond to the definition of 'severe violence' based on the Conflict Tactics Scale. Estimates of the prevalence of these two types of violence at the time of the follow-up interview by relationship status, welfare status, and child support order status are reported in Table 1.[8] Rates of violence are higher for non-coresident couples than for married or

[8] National intimate partner violence statistics based on Department of Justice crime surveys suggest that 3.2% of divorced or separated women, 1.1% of never married women, and 0.3% of married women experienced non-lethal intimate partner violence (Rennison and Welchans 2000). These statistics are lower than the prevalence rates for our Fragile Families sample; however, our sample has a very high proportion of black and Hispanic couples, lower income couples, and young couples, all of whom have higher rates of violence. Statistics from specialized populations are more in line with the Fragile Families prevalence rates. Stets and Straus (1989) examine assault rates among dating couples, and find that the incidence of male-on-female 'severe violence' is about 3%. The statistic on *hit/slap/kick* for the romantic subset of our sample (not shown in Table 1) is 3.3% at the follow-up interview and 2.8% for *seriously hurt*. Using the Women's Employment Study, a study of women on welfare in Michigan, Danziger, Corcoran et al. (2000) find that the incidence of 'severe domestic violence' is 14.9% for their sample. The statistics on *hit/slap/kick* and *seriously hurt* for the subset of mothers who have received welfare (average of the last two columns in Table 1) are 17.9% and 11.5%, respectively.

cohabiting couples. Among non-coresident mothers, mothers receiving welfare and mothers with child support orders are more likely to have experienced violence measured by these questions.

Characteristics of Parents

Table 1 also provides summary statistics on a variety of parental characteristics that we control for in our models. Notice that the Fragile Families sample of parents is different from the general population. In particular, the parents in our sample are largely non-white and the unmarried mothers have a low average level of education (the omitted education category is less than a high school diploma). The sample also contains a high proportion of inter-racial couples. Finally, a large fraction of fathers have spent some time in jail, particularly among the unmarried fathers.

State and City Level Child Support Enforcement Measures

The appropriate measurement of child support enforcement in a particular state or city is debatable. The three types of measures used in the literature are indicators of state child support legislation (Case 1998), state per capita administrative expenditures of child support enforcement agencies (Nixon 1997), and child support outcome measures, like the percent of eligible mothers receiving child support payments (Nixon 1997). Each of these measures captures a different aspect of CSE with separate benefits and downsides. Proponents of the law measure argue that laws are less likely to be affected by unobserved characteristics of parents than measures which may capture voluntary payments. They are also less subject to measurement error and differences in economic conditions than measures that involve dollars or percentages. However, the states with the most rapid growth in the number of non-marital births may be the first to pass a law. If this is the case, then estimates of the effect of enforcement using laws would be biased.

Proponents for the other two measures – often referred to as 'practice' measures – argue that expenditures and percent with payments capture the *degree* of enforcement and have more variation across states than a law indicator. On the other hand, states with higher percentages of mothers with child support payments may have a greater proportion of voluntary payers.[9] Likewise, high expenditures by a child support enforcement agency may indicate a low tendency toward voluntary payments. This is analogous to measuring law enforcement with police expenditures which may also reflect high crime rates. Thus, these measures would create a bias in the effect of enforcement.

To address these endogeneity problems, we use all three types of state-level child support enforcement measures in this analysis. Given that each measure has a different problem, if a combination of these measures tells the same story, then the results are persuasive. Specifically, we use one measure which combines the strictness of a state's child support laws with the state's expenditures per capita to capture the state's commitment to enforcement, following Freeman and Waldfogel (2001), who make the case for considering policies and expenditures together. This specific measure was first used in Nepomnyaschy and Garfinkel (2007).[10]

This measure is based on seven laws: universal wage withholding, three laws pertaining to paternity establishment (allowing paternity to be established until the child is age 18, mandating genetic testing, and making voluntary paternity conclusive), and the three most recent

[9] An additional complaint of the average payment rate measure is that it suffers from the 'reflection problem' (Manski 1993); i.e. it is problematic to infer whether the average behavior of a group influences the behavior of individuals that comprise that group.

[10] We thank Nepomnyaschy and Garfinkel for sharing this measure with us.

federally mandated laws (the New Hires Directory, license revocation for nonpayment, and automation). To construct the laws part of this measure, the year that the law became effective in the state is standardized to have a mean of 0 and a standard deviation of 1, inverted, and averaged. It is assumed that the longer these laws have been in place, the stronger is the child support enforcement system.

For the administrative expenditures part of the measure, 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), are divided by the number of single mothers in the state from the 2000 Census.[11] The index used in the analysis is a three-level categorical variable, where 3 represents a state in the top two quintiles on both laws and expenditures, 1 represents a state in the bottom two quintiles on both measures, and 2 represents all other states. For each of the 15 Fragile Families states (three states have two Fragile Families cities and one has three cities), we report in Table 2 the year each law became effective, per capita expenditures, and the index used in this analysis.

In addition to this measure, we use two measures based on city-level child support payment rates constructed from the 5 percent sample of the Public Use Microdata Samples (PUMS) from the 2000 Census.[12] The first uses the payment rate among never-married mothers and the second uses the rate among ever-married mothers. The measure based on never-married

[11] We are especially grateful to James M. Scully of Princeton University and Chien-Chung Huang of Rutgers University for compiling information on state child support laws and administrative expenditures.

[12] We thank Lenna Nepomnyaschy of Columbia University for providing these measures for our analysis.

mothers may be more relevant for the unmarried sample and the ever-married measure may be more relevant for the married sample; however, one could also argue that an advantage of using the ever-married measure, say, with the unmarried sample is that the characteristics of the population is less correlated with the measure. Finally, it may also be the case that states devote more effort to enforcing among welfare and non-marital cases than among marital cases so the never-married measure is a better measure overall. In any case, we use both measures for all of the groups of mothers because it is not clear which is most appropriate.

In both cases, the index used in the analysis is a ratio of the percent of those mothers in a city with child support to the predicted likelihood that a mother should have received child support based on her and her city's characteristics.[13,14] We use this ratio instead of the actual payment rate because the latter confounds enforcement with the population's tendency to pay child support. That is, poorer fathers are less likely to pay child support so cities with larger low-income populations or cities experiencing an economic downturn will appear to have weak

[13] Because child support income is not asked in the Census, it is assumed that an unmarried mother received a payment if she reported a non-zero value for "other income." Nepomnyaschy and Garfinkel (2007) report that using SIPP data, over 90 percent of "other income" for unmarried mothers consists of child support payments.

[14] The predicted likelihood of receiving support is estimated from a regression of an indicator variable for whether the mother had any child support income on the mother's race/ethnicity, age, education, nativity, number of children, presence of a child under age 6, state-level median male wage, and the maximum combined TANF/food stamp benefit. Appendix Table 1 reports the coefficients from the regressions from which the predicted probability is estimated for both groups.

enforcement. However, the ratio purges the payment rate of its association with observable characteristics which might bias the effectiveness of the city's enforcement efforts. In other words, a higher value of the ratio index indicates that the city is more effective at getting child support payments for mothers than one would expect given the mothers' characteristics. Table 3 reports the numerator and the denominator of the ratio as well as the index for each group of mothers by city.[15]

The effect of enforcement

We use the state and city level proxies of the strictness of child support enforcement policies (CSE_s) to estimate the effect of living in a strict city/state on domestic violence after the birth of the child (V_{1i}). Our simplest specification includes controls for violence before the birth (V_{0i}), baseline demographic and other characteristics (X_i), and controls for each state's economic conditions (Y_s). Note that by including pre-birth violence as a control, the coefficients on enforcement should be viewed as conservative estimates of the effect of child support enforcement on domestic violence since this specification essentially captures the *change* in violence caused by the child support enforcement regime in place at the time of the birth.

The baseline characteristics that we control for are those that we expect to affect the probability of violence and are listed at the bottom of Table 1. We control for the child's age at the follow-up interview because the possibility of a violent episode since the baseline interview is greater if the time between the baseline and the follow-up interview is longer. Other predictors of violence are the mother's age, race, education, and poverty status. We argue that the parents might be more likely to have conflicts if they come from dissimilar backgrounds,

[15] The ratio is standardized such that a unit change represents a change of one standard deviation.

which we represent with race. The probability of violence will also be higher if the father has ever spent time in jail. Finally, we control for whether the couple has any other children together since enforcement should have the biggest effect after the birth of the Fragile Families sample child if this is their first child together. We also control for the state's economic condition with two measures: the median male wage in the state and the state's unemployment rate (not shown).

Thus, we examine the effect of living in a state with stricter CSE policies on post-birth violence by applying the probit model to the following equation.

$$V_{1i}^{*} = \beta_0 + \beta_1 CSE_s + \beta_2 X_i + \beta_3 Y_s + \varepsilon_{si}, \qquad (3)$$

where V_{1i}^{*} is an underlying latent continuous variable and

$$V_{1i} = \begin{cases} 0 & if \quad V_{1i}^{*} < 0, \\ 1 & if \quad V_{1i}^{*} \geq 0. \end{cases}$$

We adjust the standard errors for intra-cluster correlations within states for all of the analyses.

Table 4 presents the results of regressing our two measures of violence – seriously hurt and hit/slap/kick – on our three measures of child support enforcement – the laws/expenditures index, and never-married payment rate index and the ever-married payment rate index, for six groups of mothers. The estimates indicate that stricter enforcement significantly reduces the probability that a married or cohabiting mother is seriously hurt in a fight with the father or hit/slapped/kicked by the father. In separate analyses not reported here, we found no significant differences in the effect of child support enforcement on married and cohabiting mothers.

The effects of enforcement on non-coresident mothers is mixed, or not significantly different from zero, except in the case of non-coresident mothers who receive welfare and do not have a child support order.

Because one might expect stronger enforcement to have a greater impact on couples with a history of violence, we also estimate regressions which include an interaction between the enforcement measure and previous violence. We show these results in Table 5. For married and cohabiting mothers, a history of violence is associated with a decrease in the risk of being seriously hurt for one of the indicators of child support enforcement and of being hit/slap/kicked for two of the three indicators. Indeed for hit/slap/kick, all three indicators of child support enforcement are now significant whereas only one was significant in Table 4. Similarly, for non-coresident mothers receiving welfare without an order, a history of violence is associated with an increase in the risk of being seriously hurt but not of being hit/slap/kicked for all three indicators of child support enforcement. The results are too mixed to see a pattern for the other non-coresident mothers.

To give some sense of effect size, we predict the prevalence of violence in different enforcement environments using the coefficients found in Table 4. If all cities were to become as strict as the strictest city in our sample, then the prevalence of violence measured by the seriously hurt question for coresident mothers would fall from 2.0% to 1.4% and the prevalence of hitting/slapping/kicking would fall from 2.0% to 1.7%. In contrast, for non-coresident mothers collecting welfare without an order, if all cities were to become as strict as the strictest city, then the prevalence of being seriously hurt would increase from 11.3% to 15.2% and the prevalence of hitting/slapping/kicking would increase from 16.0% to 23.2%.

These findings are consistent with bargaining theory. Mothers with the greatest increase in bargaining power from strict enforcement – married and cohabiting mothers who can threaten to end their relationship with the father and to keep him from seeing the child – are less likely to experience violence in strict states. Similarly, mothers with the least increase in bargaining

power from strong child support enforcement – those collecting welfare – are the most likely to be abused in a strict state. Finally, the findings are also consistent with the prediction that intimidation effects of child support are greatest for mothers who do not have a child support order.

Selection

There is a potential problem with inferring causality from these results. That is, our estimates could reflect differential selection into the groups of mothers rather than the effects of policies on violent behavior. There is evidence that stricter enforcement reduces non-marital fertility (Case 1998; Aizer and McLanahan 2003), especially among less educated women (Aizer and Mclanahan 2006); there also is evidence that enforcement reduces marriage (Carlson et al 2004, Knab et al. 2007) and welfare use (Huang, Garfinkel et al. 2004). Finally, there is evidence that enforcement increases the likelihood that a mother has a child support order (Miller and Garfinkel 1999; Case, Lin et al. 2003). All of these effects may cause our samples of parents in each category to vary systematically across cities.

In particular, the effect of CSE on non-marital fertility is expected to make our samples of unmarried mothers smaller and more educated in strict CSE states. All else being equal, this should reduce violence among all groups of mothers. In addition, the effect of CSE on selection into marriage or cohabitation is expected to reduce violence among coresident moms since these moms are more selective of committed/relationships in strict CSE states. Further, in strict states, welfare samples should be smaller and composed of mothers who are least able to be self-reliant, making this population more vulnerable to violence on average. And finally, welfare mothers without child support awards should be a smaller group of the most vulnerable mothers in states

with strong enforcement. In sum, the selection factors are expected to go in the same direction as the policy effects, weakening the reliability of our results.

To determine whether selection is likely to be a major problem for our analysis, we estimate the effect of the enforcement variables on the probability that parents are in one of our relationship/welfare/order status groups. In particular, we estimate the probability that a mother is coresiding or in one of the four non-coresident groups at the follow-up interview. We use multinomial logit estimation and present the results in Table 6. These results indicate that CSE does appear to increase the proportion of non-welfare mothers with orders and to reduce the proportion of welfare mothers without orders. In analyses not shown, we find no effect of CSE on coresidency. Thus, selection on welfare status and order status appear to be a concern for this analysis.

We attempt to minimize the impact of selection by including additional controls variables which are expected to influence the probability of marriage or cohabitation, the probability of receiving welfare, and the probability of having an order. To control for a mother's propensity to live with a man, we include variable that measure whether the mother lived with both of her parents at age 15 and how long she has known the father of her child. To control for a mother's welfare propensity, we include a variable for number of children. Finally to control for father's commitment to his children, we include two measures: whether the father suggested an abortion when he found out the mother was pregnant, and whether the father participated in the Fragile Families baseline interview. Table 7 lists these variables along with summary statistics.

Table 8 presents the effects of the child support enforcement indicators after adding the selection controls to the original model. The coefficients are similar in size and significance to the coefficients in Table 4. This is even true for the welfare-no order sample for which we were

most concerned about the effects of selection bias. These results provide some reassurance that selection has little impact on the estimated effect of enforcement on violence. However, it is possible that selection into these various groups is due to systematic differences in unobservable characteristics that we do not pick up with our additional controls.

Conclusion

This paper examines the relationship between child support enforcement and violence, using data from the Fragile Families and Child Wellbeing Survey. We find that living in a city or state with stricter child support enforcement decreases the risk of domestic violence among married and cohabiting mothers but increases the risk among non-coresident mothers without child support orders. These findings are consistent with the argument that enforcement increases the bargaining power of mothers and the incentives for fathers to intimidate mothers; the bargaining power increases are relatively large for married and cohabiting mothers and negligible for mothers who receive welfare, while the effects on intimidation are relatively large for non-coresident mothers, especially mothers who receive welfare and do not have a child support award. We find no support for the argument that enforcement increases violence through increased contact with fathers as mothers collecting welfare with orders do not appear to be affected by enforcement. Unfortunately, our results are also consistent with arguments about the factors that select people into different relationship, welfare and child support order categories. Thus, although we have included a rich set of control variables in our models, we cannot be certain that we have captured all of the unobserved differences between parents that might be correlated with relationship/welfare/order status and violence. Thus we cannot conclude that the effects we observe are caused by child support policies and practices.

An additional limitation of this analysis is that our child support enforcement variables may be picking up between-state differences that are unrelated to the strictness of enforcement and not held constant by our set of controls. For instance, if domestic violence is not treated as a serious crime by law enforcement in certain states, and child support enforcement happens to be weaker in those states as well, then we may see a negative correlation between child support enforcement and domestic violence. Mothers is those states may suffer from high rates of violence but it is either unrelated to CSE or the direction of causality runs in the opposite direction; mothers do not pursue orders (and thus have low payment rates) because the police do not protect them from violence. We hope that future research using later waves of the Fragile Families data will allow us to try other approaches to overcome this limitation.

Finally, the results provide some guidance for policymakers. Assuming that the effects are causal, the increased risk of violence due to stricter child support enforcement appears to only occur during the pre-order period when a mother on welfare has the least bargaining power and the father has the strongest incentive to try to intimidate her. This suggests that if the enforcement agency can find a way to accelerate the time needed to arrange an order, or if mothers are given less discretion about setting up an order (and this fact is transparent to fathers), the pre-order period and the incentive to intimidate the mother will decrease, thereby reducing the risk of violence. Similarly, assuming that the effects are due to selection, child support agencies, especially those with strong enforcement should be aware that they are dealing with an especially vulnerable population during the period prior to getting an award.

Individual level variable definitions

Seriously Hurt after birth	Mother reports at follow-up that she was cut, bruised, or seriously hurt in a fight with Father after the child's birth
Hit/slap/kick at follow-up	Mother reports at follow-up that Father slaps, kicks, or hits her with fist or object often/sometimes
Child Support Order	Mother reports at follow-up that she has a legal child support order requiring financial support from Father at follow-up
Received Welfare after birth	Mother reported receiving TANF, AFDC or cash welfare in the last 12 months at the follow-up interview
Child's Age at follow-up	Computed age in months (divided by 12) from Mother's reported age of child
Mother's Age	Mother's reported age at baseline
Black	Mother's reported race is Black or African-American at baseline
Hispanic	Mother reports at baseline that she is of Hispanic or Latino origin or descent
HS Diploma	Mother reports at baseline that she has a high school diploma or GED
Some College+	Mother reports at baseline that she has some college, 2 year degree, went to a technical or trade school, has a bachelor's degree, or went to graduate or professional school
Household Income/Poverty Threshold	Constructed variable – household income divided by federal poverty threshold given number of children and adults
Mother & Father different race	Mother's self-reported race is different from Father's self-reported race
Any violence before birth	Mother reports at follow-up that she was cut, bruised, or seriously hurt in a fight with Father before or during her pregnancy, or she reports at baseline that Father hits or slaps when angry often/sometimes
Father has been in jail	Mother reports at follow-up that Father has spent some time in jail in the past
Other Kids with Father	Mother reports at follow-up that she has other kids with Father
Mother lived with both parents at age 15	Mother reports at baseline that she lived with both of her biological parents at age 15
Years known before pregnant	Years Mother reports at baseline that they knew each other before she got pregnant
Number of kids before birth	Mother reports number of children living in household at baseline, not including the Fragile Families sample child
Father suggested abortion	Mother reports at baseline that Father suggested she have an abortion
Father interview	Father completed baseline interview

References

Aizer, A. and S. McLanahan (2006). The Impact of Child Support Enforcement on Fertility, Parental Investments and Child Health and Wellbeing. JHR 41 (1): 28-45

Bumpass, L. and H.-H. Lu (2000). 'Trends in cohabitation and implications for children's family contexts in the United States.' Population Studies **54**(1): 29-41.

Carlson, M., I. Garfinkel, et al. (2004). 'The Effects of Welfare and Child Support Policies on Union Formation.' Population Research and Policy Review **23**(5/6): 513-542.

Case, A. (1998). The Effects of Stronger Child Support Enforcement on Nonmarital Fertility. Fathers Under Fire: The Revolution in Child Support Enforcement. I. Garfinkel, S. S. McLanahan, D. R. Meyer and J. A. Seltzer. New York, Russell Sage Foundation**:** 191-215.

Case, A., I.-F. Lin, et al. (2003). 'Explaining trends in child support: Economic, demographic, and policy effects.' Demography **40**(1): 171-189.

Danziger, S., M. Corcoran, et al. (2000). Barriers to the Employment of Welfare Recipients. Prosperity for all? The economic boom and African Americans. R. Cherry and W. M. R. III. New York, Russell Sage.

Donohue, J. J. and S. D. Levitt (2001). 'The Impact of Legalized Abortion on Crime.' The Quarterly Journal of Economics **116**(2): 379-420.

Farmer, A. and J. Tiefenthaler (1997). 'An Economic Analysis of Domestic Violence.' Review of Social Economy **55**(3): 337-58.

Freeman, R. B. and J. Waldfogel (2001). 'Dunning Delinquent Dads: The Effect of Child Support Enforcement Policy on Child Support Receipt by Never Married Women.' Journal of Human Resources **36**(2): 207-225.

Garfinkel, I. and S. McLanahan (1986). Single mothers and their children: A new American dilemma? Washington D.C.: Urban Institute Press.

Garfinkel, I., D. R. Meyer, et al. (1998). A Brief History of Child Support Policies in the United States. Fathers Under Fire: The Revolution in Child Support Enforcement. I. Garfinkel, D. R. Meyer and S. McLanahan. New York, Russell Sage Foundation.

Huang, C.-C., I. Garfinkel, et al. (2004). 'Child Support Enforcement and Welfare Caseloads.' Journal of Human Resources **39**(1): 108-134.

Knab, J, I. Garfinkel, S. McLanahan, E. Moiduddin, and C. Osborne. (2007) "The Effects of Welfare and Child Support Policies on the Timing and Incidence of Marriage following a Nonmarital Birth" Center for Research on Child Wellbeing Working Paper #2007-10-FF. Princeton University. http://crcw.princeton.edu/workingpapers/WP07-10-FF.pdf

Lerman, R. I. (1996). 'The Impact of the Changing US Family Structure on Child Poverty and Income Inequality.' Economica **63**(250): S119-39.

Miller, C. and I. Garfinkel (1999). 'The Determinants of Paternity Establishment and Child Support Award Rates among Unmarried Women.' Population Research and Policy Review **18**(3): 237-60.

Nepomnyaschy, L.and I. Garfinkel. (2007). "Child Support and Fathers' Contributions to Their Nonmarital Children." Center for Research on Child Wellbeing Working Paper #2006-09-FF. Princeton University. http://crcw.princeton.edu/workingpapers/WP06-09-FF.pdf

Nixon, L. A. (1997). 'The Effect of Child Support Enforcement on Marital Dissolution.' Journal of Human Resources **32**(1): 159-181.

Pearson, J., N. Thoennes, and E. A. Griswold (1999). 'Child Support and Domestic Violence: The Victims Speak Out.' Violence Against Women 5(4): 427-448.

Rennison, C. M. and S. Welchans (2000). Bureau of Justice Statistics Special Report: Intimate Partner Violence. Washington D.C., U.S. Department of Justice Office of Justice Programs.

Seltzer, J. A., S. S. McLanahan, et al. (1998). Will Child Support Enforcement Increase Father-Child Contact and Parental Conflict After Separation? Fathers Under Fire: The Revolution in Child Support Enforcement. I. Garfinkel, S. S. McLanahan, D. R. Meyer and J. A. Seltzer. New York, Russell Sage Foundation**:** 157-190.

Stets, J. E. and M. A. Straus (1989). 'The Marriage License as a Hitting License: A Comparison of Assaults in Dating, Cohabiting, and Married Couples.' Journal of Family Violence **41**(2).

Stevenson, B. and J. Wolfers (2003). Bargaining in the Shadow of the Law: Divorce Laws and Family Distress. National Bureau of Economic Research Working Paper 10175.

Tauchen, H. V., A. D. Witte, et al. (1991). 'Domestic Violence: A Nonrandom Affair.' International Economic Review **32**(2): 491-511.

U.S. Department of Health and Human Services. 2001. "Annual Statistical Report for Fiscal Years 1999 and 2000." Washington, DC: Administration for Children and Families, Office of Child Support Enforcement.

Weiss, Y. and R. J. Willis (1985). 'Children as Collective Goods and Divorce Settlements.' Journal of Labor Economics **3**(3): 1985.

Table 1: Summary Statistics

		Not Coresident			
	Married or Cohabiting	No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Seriously Hurt after birth (%)	2%	7%	9%	11%	13%
Hit/Slap/Kick at follow-up (%)	2%	11%	13%	16%	23%
Any violence before birth (%)	4%	9%	11%	12%	19%
Child's age at follow-up interview (months)	14.6	15.2	15.9	15.4	16.0
Mother's Age (years)	26.3	24.0	23.9	23.2	22.9
Black (%)	36%	61%	66%	72%	67%
Hispanic (%)	31%	24%	15%	18%	18%
HS diploma (%)	28%	34%	34%	31%	33%
Some College+ (%)	43%	31%	31%	15%	14%
Household Income/Poverty Threshold	2.3	1.4	1.4	0.7	0.7
Mother and Father different race (%)	22%	37%	32%	36%	31%
Father has been in jail (%)	19%	37%	42%	58%	55%
Has other kids with this father (%)	46%	36%	35%	26%	26%
Observations	2526	528	128	306	109
Fraction of Sample	69%	14%	4%	8%	3%

Table 2: Child Support Enforcement Measure based on Laws and Expenditures

	Universal Wage Withholding	Paternity until 18	Genetic Testing	Voluntary Paternity	New Hires Directory	License Revocation for Nonpayment	Automation	State Expenditures on Child Support per Single Mother	Index
Wisconsin	1989	1979	1979	1998	1998	1997	2004	$ 0.62	3
California	1990	1975	1986	1997	1998	1992		$ 0.48	3
Texas	1985	1983	1989	1999	1999	1995	2002	$ 0.25	2
Maryland	1994	1985	1984	1997	1997	1997	2001	$ 0.36	2
Massachusetts	1998	1986	1986	1994	1993	1994	2004	$ 0.34	2
Illinois	1989	1984	1984	1997	1997	1996	2003	$ 0.30	2
Michigan	1991	1986	1982	1997	1997	1997	2003	$ 0.42	2
Florida	1985	1986	1986	1997	1998	1993	2003	$ 0.30	2
New Jersey	1990	1983	1983	1993	1998	1998		$ 0.47	2
Virginia	1995	1988	1985	1990	1993	1997	2001	$ 0.29	2
Pennsylvania	1990	1985	1989	1998	1998	1993	2001	$ 0.43	2
Ohio	1994	1982	1982	1998	1997	1996	2004	$ 0.63	2
Indiana	1994	1979	1980	1996	1997	1995	2002	$ 0.17	1
Tennessee	1994	1984	1983	1994	1997	1996	2004	$ 0.22	1
New York	1994	1985	1976	1998	1996	1998		$ 0.25	1

Table 3: Child Support Enforcement Measure based on Payment Rates

	Never-married mothers			Ever-married mothers		
	Percent w/ support	Predicted Probability	Index	Percent w/ support	Predicted Probability	Index
Milwaukee, WI	22%	14%	2.80	29%	21%	2.67
Toledo, OH	29%	19%	3.07	43%	33%	2.37
Detroit, MI	16%	14%	0.50	25%	20%	1.95
Norfolk, VA	27%	20%	1.78	43%	35%	1.58
Pittsburgh, PA	22%	16%	1.94	33%	29%	1.03
Boston, MA	17%	15%	0.79	24%	22%	0.95
Corpus Christi, TX	15%	22%	-1.72	44%	41%	0.56
San Antonio, TX	15%	20%	-1.12	37%	35%	0.48
Jacksonville, FL	19%	20%	-0.03	35%	34%	0.19
Indianapolis, IN	21%	21%	0.10	38%	38%	0.08
Oakland, CA	14%	15%	-0.43	25%	24%	0.08
Austin, TX	16%	20%	-0.98	36%	37%	-0.14
New York, NY	12%	13%	-0.50	18%	19%	-0.17
Richmond, VA	27%	18%	2.36	27%	28%	-0.26
San Jose, CA	18%	19%	-0.33	31%	33%	-0.33
Philadelphia, PA	15%	16%	-0.30	24%	25%	-0.47
Nashville, TN	21%	21%	0.09	33%	39%	-1.05
Newark, NJ	19%	14%	1.80	16%	19%	-1.10
Baltimore, MD	15%	16%	-0.32	20%	25%	-1.39
Chicago, IL	14%	17%	-0.90	21%	26%	-1.65

Table 4: The Effect of Child Support Enforcement on Violence

Dependent Variable: *Seriously Hurt after the birth*

Sample:	Married or Cohabiting	Not Coresident			
		No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Laws/Expenditures Index	-0.002	-0.003	0.006	0.035*	-0.011
	(0.002)	(0.010)	(0.006)	(0.015)	(0.017)
Never-married Payment Rate Index	-0.004*	-0.022*	0.007	0.028	0.031
	(0.002)	(0.009)	(0.004)	(0.021)	(0.023)
Ever-married Payment Rate Index	-0.003*	0.011+	-0.002	0.019	0.005
	(0.001)	(0.006)	(0.004)	(0.015)	(0.013)
Sample Size	2519	540	128	317	110

Dependent Variable: *Hit/Slap/Kick after the birth*

Sample:	Married or Cohabiting	Not Coresident			
		No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Laws/Expenditures Index	-0.002	0.033**	0.041	0.077**	-0.082
	(0.003)	(0.010)	(0.033)	(0.018)	(0.060)
Never-married Payment Rate Index	-0.005*	0.015	0.031	0.056**	0.012
	(0.002)	(0.017)	(0.030)	(0.015)	(0.036)
Ever-married Payment Rate Index	0.001	-0.001	-0.016	0.025*	-0.019
	(0.002)	(0.012)	(0.017)	(0.010)	(0.033)
Sample Size	2511	526	128	304	109

Notes: Probits. This table reports the marginal effects of enforcement on the probability of abuse at follow-up. The numbers in parentheses are robust standard errors adjusted for intra-cluster correlations at the state-level. All specifications include the controls listed at the bottom of Table 2. + significant at 10%; * significant at 5%; ** significant at 1%

Table 5: The Effect of Child Support Enforcement on Violence for Mothers with Violent Histories

Dependent Variable: *Seriously Hurt after the birth*

Sample:	Married or Cohabiting	Not Coresident			
		No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Laws/Expenditures Index	0.000	-0.009	0.014+	0.015	0.014
	(0.002)	(0.011)	(0.008)	(0.013)	(0.024)
CSE * Hurt or Hit/Slap/Kick at birth	-0.007+	0.052**	-0.029	0.081**	-0.067*
	(0.004)	(0.013)	(0.018)	(0.028)	(0.032)
Never-married Payment Rate Index	-0.005*	-0.024*	0.006+	0.014	0.003
	(0.002)	(0.010)	(0.003)	(0.023)	(0.008)
CSE * Hurt or Hit/Slap/Kick at birth	0.003	0.015	0.000	0.090**	0.014
	(0.004)	(0.016)	(0.004)	(0.017)	(0.031)
Ever-married Payment Rate Index	-0.002+	0.011*	-0.001	0.008	-0.004
	(0.001)	(0.005)	(0.006)	(0.018)	(0.008)
CSE * Hurt or Hit/Slap/Kick at birth	-0.002	-0.002	-0.006	0.063**	0.035
	(0.002)	(0.017)	(0.011)	(0.024)	(0.030)
Sample Size	2519	540	128	317	110

Dependent Variable: *Hit/Slap/Kick after the birth*

Sample:	Married or Cohabiting	Not Coresident			
		No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Laws/Expenditures Index	-0.000	0.033**	0.009	0.068**	-0.016
	(0.003)	(0.011)	(0.032)	(0.019)	(0.088)
CSE * Hurt or Hit/Slap/Kick at birth	-0.011*	0.000	0.138*	0.034	-0.225
	(0.005)	(0.045)	(0.062)	(0.054)	(0.138)
Never-married Payment Rate Index	-0.006*	0.008	0.031	0.056**	-0.018
	(0.003)	(0.018)	(0.026)	(0.014)	(0.037)
CSE * Hurt or Hit/Slap/Kick at birth	0.006	0.068	-0.001	0.000	0.127
	(0.008)	(0.050)	(0.063)	(0.058)	(0.107)
Ever-married Payment Rate Index	0.002	0.004	-0.013	0.019	-0.020
	(0.002)	(0.010)	(0.016)	(0.015)	(0.035)
CSE * Hurt or Hit/Slap/Kick at birth	-0.010*	-0.039	-0.018	0.036	0.007
	(0.005)	(0.027)	(0.028)	(0.060)	(0.068)
Sample Size	2511	526	128	304	109

Notes: Probits. This table reports the marginal effects of enforcement on the probability of abuse at follow-up. The numbers in parentheses are robust standard errors adjusted for intra-cluster correlations at the state-level. All specifications include the controls listed at the bottom of Table 2 and the controls listed in Table 7. + significant at 10%; * significant at 5%; ** significant at 1%

Table 6: Is there selection?

	Not Coresident			
Relationship/Welfare/Order Status:	No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Laws/Expenditures Index	-0.053	0.504**	-0.233*	0.050
	(0.094)	(0.173)	(0.099)	(0.157)
Never-married Payment Rate Index	-0.068	0.376+	-0.206+	0.147
	(0.076)	(0.213)	(0.114)	(0.128)
Ever-married Payment Rate Index	-0.047	0.247**	-0.014	0.136*
	(0.041)	(0.091)	(0.076)	(0.069)

Notes: Multinomial logits. N=3639. This table reports the effects of enforcement on the probability of being in the relationship/welfare/order group list at the top of the column, compared to being married or cohabiting. The numbers in parentheses are robust standard errors adjusted for intra-cluster correlations at the state-level. All specifications include the controls listed at the bottom of Table 2. + significant at 10%; * significant at 5%; ** significant at 1%

Table 7: Summary Statistics on Selection Controls

		Not Coresident			
	Married or Cohabiting	No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Mother lived with both parents at 15 (%)	51%	36%	35%	26%	26%
Years known before pregnant	5.5	3.7	3.9	3.9	3.8
Number of kids before birth	1.2	1.2	1.4	1.5	1.5
Father suggested abortion (%)	6%	13%	13%	13%	12%
Father interview (%)	91%	78%	75%	73%	81%

Table 8: The Effect of Child Support Enforcement on Violence with Selection Controls

Dependent Variable *Seriously Hurt after the birth*

		Not Coresident			
Sample:	Married or Cohabiting	No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Laws/Expenditures Index	-0.001	-0.005	0.000	0.032**	-0.000
	(0.002)	(0.006)	(0.000)	(0.012)	(0.000)
Never-married Payment Rate Index	-0.004+	-0.015**	0.000	0.021	0.000
	(0.002)	(0.006)	(0.000)	(0.017)	(0.000)
Ever-married Payment Rate Index	-0.002+	0.007+	-0.000	0.018	0.000
	(0.001)	(0.004)	(0.000)	(0.011)	(0.000)
Sample Size	2519	540	128	317	110

Dependent Variable *Hit/Slap/Kick after the birth*

		Not Coresident			
Sample:	Married or Cohabiting	No Welfare No Order	No Welfare Order	Welfare No Order	Welfare Order
Laws/Expenditures Index	-0.002	0.031**	0.038+	0.057**	-0.093
	(0.003)	(0.009)	(0.022)	(0.015)	(0.057)
Never-married Payment Rate Index	-0.005**	0.019	0.025	0.043**	-0.004
	(0.002)	(0.017)	(0.018)	(0.017)	(0.033)
Ever-married Payment Rate Index	0.001	0.001	-0.003	0.025**	-0.013
	(0.002)	(0.012)	(0.012)	(0.009)	(0.028)
Sample Size	2511	526	128	304	109

Notes: Probits. This table reports the marginal effects of enforcement on the probability of abuse at follow-up. The numbers in parentheses are robust standard errors adjusted for intra-cluster correlations at the state level. All specifications include the controls listed at the bottom of Table 2 and the controls listed in Table
+ significant at 10%; * significant at 5%; ** significant at 1%

Appendix Table 1: Construction of the CSE Practice Measures

Dependent Variable:	Percent w/ support	
Sample:	Never-married mothers	Previously-married mothers
Black	-0.008	-0.134**
	(0.008)	(0.008)
Hispanic	-0.001	-0.073**
	(0.010)	(0.010)
Other	-0.020	-0.107**
	(0.018)	(0.017)
Mother's age 26-30	-0.006	0.045**
	(0.007)	(0.018)
Mother's age 31-40	-0.028**	0.036*
	(0.007)	(0.016)
Mother's age 40+	-0.042**	0.033**
	(0.009)	(0.017)
Immigrant	-0.042**	-0.081**
	(0.008)	(0.009)
HS diploma	-0.001	0.025**
	(0.007)	(0.010)
More than high school	0.019**	0.076**
	(0.007)	(0.009)
One child	-0.038**	-0.029**
	(0.007)	(0.008)
Two children	-0.008	0.003
	(0.007)	(0.008)
Children under age 6	-0.015**	-0.029**
	(0.006)	(0.009)
Median male earnings	0.000**	0.000**
	(0.000)	(0.000)
Maximum TANF/food stamp benefi	-0.000**	-0.000**
	(0.000)	(0.000)
Constant	0.249**	0.421**
	(0.028)	(0.032)
Sample Size	21920	18765
R-squared	0.0092	0.0549

Notes: Ordinary least squares. This table reports the marginal effects of the listed independent variables on the percent of mothers in the city who received child support. The numbers in parentheses are standard errors. + significant at 10%; * significant at 5%; ** significant at 1%