Teenage Delinquency:
The Role of Child Support Payments and Father's Visitation

Heather Antecol
Department of Economics
Claremont McKenna College
heather.antecol@claremontmckenna.edu

Kelly Bedard
Department of Economics
University of California, Santa Barbara
Kelly@econ.ucsb.edu

October, 2002

Abstract

There is longstanding evidence that children raised by single parents are more likely to become sexually active, commit illegal acts and smoke at young ages. A number of past studies have also shown that youth outcomes are better among children whose mothers receive support payments from the non-custodial father. What has not been determined is whether the better youth outcomes are the result of higher maternal income or more visitation/involvement by the non-custodial father. If non-custodial father's who pay child support are also more likely to be involved in their children's lives, then what may look like an income effect may actually be, at least partially, a 'father effect'. Using the National Longitudinal Survey of Youth (NLSY) and the NLSY Child Supplement, we find that youth with absent fathers are more likely to partake in deviant activities. Somewhat surprisingly, we find very little evidence that child support receipt and father visitation effects youth behavior. The one exception is that youth who receive child support but rarely see their father are more likely than youth from other family structures to have sex and commit crimes at young ages.

1. Introduction

Single parenthood, stepfamilies and combined families have become commonplace in the United States. The number of children who spend all or part of their childhood apart from one or more biological parent increased from approximately 12 percent to 40 percent between 1960 and 1995 (McLanahan 1997). Additionally, the fraction of out-of-wedlock births in 1997 was 26, 69 and 41 percent of fertility among whites, blacks and Hispanics, respectively (Willis 1999). Furthermore, Bumpass, Raley and Sweet (1995) point out that approximately 40 percent of women and 30 percent of all children are likely to spend some time in a stepfamily.[1]

Societal concerns surrounding this dramatic change in family structure is multifaceted. Firstly, single mothers are much more likely to fall below the poverty line implying that increasing numbers of children may be exposed to poverty. While the incidence of this type of poverty can be reduced by support payments from the non-custodial parent (usually the father), many divorced fathers fail to volunteer adequate child support payments and/or comply with child support awards mandated by the courts (Weiss and Willis 1985). The U.S. Bureau of Census estimates that in 1997 6.3 million custodial mothers were due an average child support payment of $4,200 but only an average of $2,500 was received, in aggregate the difference amounts to a $10.6 billion deficit per year.[2] The low level of child support paid by non-custodial fathers is documented in numerous studies (see for example, Powers and Beller 2002; Hanson, Garfinkel, McLanahan and Miller 1996; Garfinkel, McLanahan and Robins 1994;

Graham, Beller and Hernandez 1994; Weiss and Willis 1993; Beller and Graham 1993; Garfinkel 1992; and Garkinkel and McLanahan 1986).

Secondly, the absence of the biological father reduces the time that children spend with their father making bonding and mentoring more difficult. By definition non-custodial fathers have less contact with their children because they reside at a different location. The nonresidential status of non-custodial fathers means that all interactions are in the form of visitation that by its nature is limited in duration and bounded in terms of potential influence. There is growing empirical evidence suggesting a positive correlation between child support payment and visitation by the non-custodial father (examples include, McLanahan, Seltzer, Hanson and Thomson 1994; Seltzer 1991; Furstenberg, Morgan and Allison 1987). In other words, it is generally the case that fathers who pay child support have more contact with their children. Whether this is the result of paying child support, whether fathers who visit are more likely to make payments, or whether there are underlying factors that jointly determine both is unclear. That being said, sound social policy depends on the true factors that determine youth outcomes. From a policy perspective, it is therefore clearly important that we fully understand the intricacies of the relationship between child support, visitation and youth behavior.

Unfortunately, understanding the impact of child support payments on child outcomes is further complicated by its impact on the relationship between the former spouses. McLanahan, Seltzer, Hanson and Thomson (1994) point out that higher child support payments can either increase or decrease tension between the custodial and non-

custodial parents depending on the circumstances. Conflict between the former spouses might be increased if the child support payment process is adversarial. On the other hand, it might reduce tensions and increase the custodial parent's willingness to grant visitation and involvement to the non-custodial parent.

Thirdly, the majority of single mothers remarry changing the income status of the family and potentially introducing a new male role model. Perhaps surprisingly, McLanahan (1997) finds that the performance of children raised in stepfamilies is just as poor as those raised in single-parent families. This suggests that stepfathers are not a replacement for biological fathers and that factors in addition to income influence youth outcomes.

The concern about single parenthood and blended families is supported by a substantial body of recent research showing that children raised in non-traditional households tend to perform more poorly in school, exhibit behavioral problems, and are more likely to become sexually active, commit illegal acts, and use illegal drugs at young ages (examples include, Antecol and Bedard 2002, Painter and Levine 2000, Comanor and Phillips 1998, Wu 1996, Garasky 1995, McLanahan and Sandefur 1994, Amato and Keith 1991, Manski et. al 1992, Astone and McLanahan 1991, Haveman and Wolfe 1994, Flewelling and Bauman 1990, and Matsueda and Heimer 1987). The family structure effect, depending on the outcome measure, ranges from very small (cognitive achievement) to moderate (behavioral problems). For example, Antecol and Bedard (2002) estimate that the probability that a youth smokes regularly, engages in sexual

intercourse, or is convicted before the age of fifteen falls by 3.0, 5.4 and 0.6 percentage points if the biological father remains in the household for an extra five years.

While there is substantial evidence that children perform better, at least in terms of standard measures, when the family remains intact, we have less information regarding the impact of non-custodial behavior on child outcomes once the family has disintegrated. Child support payments by non-custodial parents are an obvious starting point. It is well established that children raised in higher income families out perform poorer youth. As children raised in single-parent homes are substantially poorer on average we would expect them to experience worse outcomes and be more likely to exhibit behavioral problems. Of course, such difficulties might be mitigated by child support payments made by the non-custodial parent. This leads to the obvious question: is a dollar a dollar regardless of where it comes from or are child support dollars differentially valuable?

The importance of distinguishing child support payments from other sources of family income has received increased attention in the child support literature. In general, these studies find that both child support and income from other sources have a positive effect on educational attainment, but that the effect of child support receipt is larger (Knox 1996, Knox and Bane 1994, Graham, Beller and Hernandez 1994, and Beller and Graham 1993).[3]

While researchers have explored the importance and interaction of income, child support, male role models, the presence of the father and youth outcomes, the intricacies of the issues are not yet entirely understood. For example, is it the absence of a parent

that has a negative impact on children or is it the associated poverty? Similarly, non-custodial male parents who pay child support also tend to visit their children more regularly. So, is it low income or the lack of contact that negatively impacts children? Disentangling these factors is complicated by the fact that child support payment and visitation may be correlated, in which case the measured effect of the former is largely describing the effect of the latter.

It is on these questions that we focus. In particular, we examine the impact of family structure, visitation by the non-custodial father and child support receipt on youth participation in smoking, sexual intercourse and crime before the age of fifteen using single-equation probit models. To the best of our knowledge, this is the first study to examine the relationship between non-custodial visitation, child support receipt and youth participation in deviant behavior. Previous studies have largely focused on the relationship between support payment on the part of the non-custodial father and the educational outcomes of children.

It is important that we make several qualifications before proceeding. The relationship between youth outcomes and family structure, visitation by the non-custodial father and father's support payment estimated in this paper are correlational evidence, as opposed to causal. Stated somewhat differently, the same characteristics that cause a non-custodial father not to visit and/or pay child support may also be correlated with poor youth outcomes. In this case, the offspring of these men may have had bad outcomes even if the non-custodial father was more involved. As such, we are exploring the correlation between father's visitation and support payments and the prevalence of

undesirable youth outcomes such as smoking, sexual activity and criminal behavior among youth. Documenting these correlations is an important first step towards understanding the relationship between family structure, non-custodial parental behavior and youth outcomes.

Using the National Longitudinal Survey of Youth (NLSY) and the NLSY Child Supplement, we find that the primary explanation for differences in teenage deviant behavior is the presence of the biological father rather than visitation by the non-custodial father or child support receipt. Single-equation probit estimates suggest that youth whose biological father is not always present are 3.1, 8.3 and 1.9 percentage points more likely to smoke on a regular basis, have sexual intercourse and be convicted of a crime, respectively, before the age of fifteen than youth from traditional families, holding all else constant.

While the absence of the biological father is the most important family structure explanation for poor youth behavior, there are interesting differences in youth behavior within single-parent families across fraternal visitation and child support payment. For example, youth who receive child support but rarely see their fathers are more likely to be sexually active and/or be convicted of a crime than other youth. This may reflect the fact that father's with already deviant youth are more likely to pay but are unwilling to stay physically or emotionally in touch with such offspring. Or it may reflect the fact that youth whose father's are committed enough to pay support but not committed enough to visit their children regularly are more likely to act out. Interestingly, we find no difference in the propensity of youth to engage in deviant behavior between youth from

intact families and youth who receive no child support and rarely see their fathers. As this group is dominated by youth who's fathers were either never present or left at a very young age, this suggests that youth may not be affected by the absence of a father they never really had.

The remainder of the paper is as follows. Section 2 describes the parental and youth data. Section 3 describes the relationships between family structure, visitation by the non-custodial father, child support receipt and youth outcomes. Section 4 concludes and discusses the ramifications of the results.

2. Data

All youth, parental and family data are drawn from the National Longitudinal Survey of Youth (NLSY) and the NLSY Young Adult Supplement (NLSY-YAS). These data suit our purposes for a number of reasons. First, the NLSY-YAS allows us to include a wide range of youth outcomes, that is, participation in smoking, sexual intercourse and crime before the age of fifteen. Secondly, these data allow us to determine, for the sample of youth who did not live with their biological father for their entire life up to the age of fifteen, the amount of child support received and the frequency of their biological father's visitation.

The sample is restricted to children residing with their mother during their entire first fifteen years of life. We restrict our attention to children living with their mother throughout their life because the small number of children raised by single biological fathers and alternate caregivers are too small to reliably analyze.

Since 1986 the children of NLSY women have been surveyed biannually. Child cognitive ability and development are assessed using tests and mothers are extensively surveyed to establish the quality of the home environment. In 1994 the survey was extended to survey 'youth' aged fifteen and over directly. Each youth completes an interview focusing on education, employment, and family-related behavior as well as filling out a confidential questionnaire that focuses on substance use, sexual activity, and other such sensitive issues. In particular, youth are asked how old they were when they first smoked cigarettes and how often they have engaged in this behavior, engaged in sexual intercourse and were convicted of a crime other than a minor traffic offense. This information is used to construct variables indicating whether or not the respondent participated in a specified 'deviant' behavior before the age of fifteen.[4] Behavior is measured at age fourteen to maintain a representative sample. In particular, older youth samples are less representative because they necessarily imply the over-sampling of individuals born to women who were very young at the point of childbirth.

Again to maintain the largest and most representative sample possible, the retrospective 'deviant' youth behavior reports for 1998 are used. A youth is only included if they are fifteen or older at the interview date so that behavior occurring up until the end of age fourteen is included. Table 1 reports the summary statistics for the sample.[5] Approximately 4 percent of the sample are convicted of a crime before the age of fifteen, while 18 and 17 percent become sexually active and smoke regularly, respectively.

The deviant behavior variables are linked to youth and parental control variables measured in the year in which the youth is fifteen years old. The youth's gender and birth-order are obtained from the NLSY-YAS. The sample is evenly split between male and female children, with approximately 65 percent of the sample being first-born children. The number of siblings that the youth has, the mother's years of education, the mother's current marital status, net family income, urban/rural residential location and the youth's region of residence at age fifteen are drawn from the NLSY. Family income is measured by average net family income from the time the youth is twelve until age fifteen.[6] A mother is considered currently married to a stepfather if she reports being married at all times while the youth is between the ages of twelve and fifteen for the sample of youth who did not live with their biological father for their entire life up to the age of fifteen. Of the eligible youth in our sample, those with an absent father, 37 percent have a stepfather present. This three-year window is used to capture the environment experienced by the youth during the formative years with respect to deviant behavior.

Combining the NLSY and the NLSY-YAS also allows us to measure the length of time that each youth lives with his/her biological father (the maximum is 180 months—their entire life up to the age of fifteen). Although these data do not allow one to directly link youth to their biological father, we are able to link them through the mother's marital status. In particular, a man is considered to be the youth's biological father if he was either married to the mother at the point of birth or married her within 36 months of the youth's birth. In both cases, the father is assumed to be present in the household from the point of birth. If the father marries the mother at or before the youth's birth, the number

of months that the father is present is measured by the number of months that the marriage lasts. If, on the other hand, the father marries the mother after the youth's birth, the number of months that the father is present is measured by the number of months that the marriage lasted plus the number of months from the youth's birth until the marriage began. In all other cases, we assume that the youth never lives with his/her biological father. We use the measure of the length of time that each youth lives with his/her biological father to construct an indicator variable for the presence of the biological father which is coded as one if the youth spent less than their entire life up to the age of fifteen with their biological father, and zero otherwise. Approximately 56 (44) percent of the youth sample spent (less than) their entire life up to the age of fifteen with their biological father (see Table 2).

Finally, these data include the amount of child support received and the frequency of the father's visitation for youth with a non-custodial father. As with family income, child support and father's visitation are three-year averages while the youth is between twelve and fifteen years of age. Visitation by the non-custodial father is reported categorically as almost daily, 2-3 times per week, about once per week, 1-2 times per month, once every 2-3 months, once per year and never. We define a non-custodial father as visiting often if he visited at least 1-2 times per month on average while the youth was between the ages of twelve and fifteen, otherwise the non-custodial father is defined as visiting rarely.

Perhaps surprisingly, only 52 percent of the eligible youth in our sample, those with an absent father, actually receive child support. Conditional on receiving child

support, the average level of child support is $2,727 per mother per year.[7] Even more unsettling, only 36 percent of non-custodial fathers visit their children on a regular basis (see Table 2). The next section provides a detailed examination of the distribution of family structures and the effect of child support and the incidence of the biological father's presence/visitation on youth outcomes.

3. Family structure, father's visitation, child support receipt and youth outcomes

3.1 **Family structure**

Before examining the relationship between youth outcomes, child support payments and the visitation of non-custodial fathers, it is helpful to describe the distribution of family structures for our sample of fifteen year-olds. Column 1 of Table 2 reports the frequency of family types for our sample. 56 percent of the youth live with their biological father during the entire first fifteen years of their life. The remaining 44 percent spend at least some fraction of their first fifteen years in an alternate family structure; living with a single mother or with a stepfather present. Of the youth spending part of their life separated from their biological father, 19 percent receive regular visitation and child support payments, 16 percent receive regular visits but no child support, 32 percent receive child support but infrequent visitation and 32 percent are subject to infrequent visitation and no child support payments.[8]

These results are particularly interesting because they differ from previous studies. McLanahan, Seltzer, Hanson and Thomson (1994), Seltzer (1991) and Furstenberg, Morgan and Allison (1987) find that child support payment and visitation

are positively correlated. In contrast, our results, reported in Table 2, show no pattern across child support payment and visitation. For example, conditional on paying child support, 62 percent of fathers visit rarely and conditional on not paying child support 66 percent of non-custodial fathers visit rarely.

3.2 **Youth smoking, sexual activity and criminal conviction**

The obvious question is: do father's presence, father's visitation and child support receipt affect youth outcomes? The last three columns of Table 2 reveal several interesting patterns. First, children who spend their entire childhood with both biological parents are less likely to smoke cigarettes, be sexually active and engage in criminal activity. While differences in the incidence of smoking are relatively small, the impact on sexual promiscuity and crime are substantial. More specifically, 25.5 percent of youth who spend at least part of their life without their biological father are sexually active before the age of fifteen compared to only 12.0 percent of youth who's fathers are always present in the household. Similarly, 4.5 percent of youth who spend at least part of their life without their biological father are convicted of a crime before the age of fifteen compared to only 2.6 percent of youth who's fathers are always present in the household.

The pattern of deviant behavior across non-custodial father's visitation and child support payment generally reflects the fact that it is the absence of the biological father that is most detrimental and not the decision of the father to withhold child support or visit his child infrequently. This is particularly true for teenage sexual behavior. Regardless of father's child support payment or visitation, youth whose biological father

is absent for part of their life are substantially more likely to have sex before the age of fifteen. While only 20.5 percent youth whose non-custodial father both visit regularly and pay child support have sex before age fifteen, approximately 30 percent of youth whose non-custodial fathers either visit regularly but do not pay child support or pay child support but visit infrequently. At the same time, 23.3 percent of youth whose non-custodial fathers neither pay child support or visit become sexually active before age fifteen. Comparing these outcomes to the 12 percent of youth in intact families, it is clear that youth with non-custodial fathers of all types are more likely to become sexually active at a young age. The pattern of the results also tentatively suggests that a 'little' involvement (paying but not visiting or visiting but not paying) may actually lead to worse outcomes for youth than either active involvement or no involvement at all on the part of non-custodial fathers.

The patterns across father's visitation and child support payment are less clear for smoking and conviction. While it is generally true that youth with absent fathers are more likely to smoke and be convicted of a crime, there are exceptions. For example, youth with non-custodial fathers who both pay child support and visit on a regular basis are less likely to smoke and be convicted than youth from intact families. At the other extreme, youth whose non-custodial fathers pay child support but visit rarely are much more likely to smoke and be convicted of a crime than any other group. More specifically, these youth are 10 percentage points more likely to smoke and 5.5 percentage points more likely to be convicted than youth whose non-custodial fathers both pay child support and visit on a regular basis.

One might wonder if the differences in deviant behavior across family structures differ across gender. Appendix Table 1 replicates Table 2 for boys and girls separately. Breaking youth into gender groups reveals that, at least for youth under the age of fifteen, there are no discernable differences between boys and girls. Therefore, the remainder of the analysis looks at the sample as a whole, but does include a gender indicator variable.

These results tentatively suggest that father's visitation and child support receipt play a limited role in explaining deviant youth behavior. However, our inability to detect a child support effect may lie in the fact that child support payments comprise only a small fraction of net family income. More specifically, the average payment is only $2,727 per mother per year and the average number of children per mother is 2.6 (see Table 1). This implies an average of about $90 per child per month,[9] which is the approximately the price of a pair of Nike sneakers.

3.3 **Child support receipt and family income**

The economically insignificant impact of child support on family income can be seen in Table 3. All statistics reported in Table 3 refer only to youth with a non-custodial father; Panel A (B) includes the sample of youth who did not live with their biological father for their entire life up to the age of twelve (fifteen). The results in Panels A and B are similar; therefore for the remainder of the discussion we focus on Panel A which matches more closely with our definitions of average net family income and average child support payments (averages from the time the youth is twelve until the age fifteen).

Column 1 of Table 3 reports family income and child support receipt for the eligible youth sample, that is youth from non-traditional families. The average youth living in a non-traditional family receives child support in the amount of $1,310 per year from the non-custodial father. Given an average family income of $31,500, child support amounts to approximately 4 percent of total income. If we restrict attention to youth with non-custodial fathers who actually pay child support this percentage rises to 8 percent. While it may seem important to distinguish between non-custodial fathers who pay child support and those who do not, no matter how we breakup the sample child support accounts for only a small percentage of family income.

The relative unimportance of child support payments can more easily be seen by breaking the sample into households with and without a stepfather present (columns 2 and 3 in Table 3). As one might expect, child support is a more important income source for single mothers. The average youth living in a household where there is no stepfather present has a family income of $22,700 with child support contributing approximately 7 percent while the average youth living in a household with a stepfather present has a family income of $45,000 with child support contributing approximately 2 percent. Once again, a similar pattern emerges if we restrict attention to youth with non-custodial fathers who actually pay child support. In this case, the average youth living in a household where there is no stepfather present has a family income of approximately $24,000 with child support contributing approximately 12 percent while the average youth living in a household with a stepfather present has a family income of $49,000 with child support contributing approximately 4 percent.

The last three columns of Table 3 report family income and child support receipt by mother's educational attainment. Not surprisingly, family income is highest among mothers with more than a high school education ($35,400), followed by high school graduates ($32,800), and high school dropouts ($22,500). Interestingly, child support payments contribute roughly the same amount to family income for all maternal educational groups: 4 percent for both paying and non-paying fathers and 8 percent for paying fathers only. This result may seem counterintuitive given assortative mating: child support payments should make up a larger share of family income for the highly educated because their ex-partners would be more able to pay. However, as Weiss and Willis (1985) point out, low levels of child support payments and non-compliance are not restricted to nontraditional families below the poverty line.

3.4 **The impact of father's visitation and child support receipt on youth outcomes**

This section more formally estimates the relationship between family structure, father's visitation, child support receipt and youth outcomes in a discrete choice single-equation probit framework. Let the indicator variable $Y_i = 1$ if the youth participates in a specified deviant behavior before age fifteen and let $Y_i = 0$ otherwise. The choice problem is then described by the following latent variable model:

$$Y_i^* = X_i\beta_1 + F_i\delta + \varepsilon_{1i} \qquad (1)$$

where Y_i^* is the propensity to participate in a deviant behavior, X_i is a vector of individual characteristics (family size, birth order, and gender), family characteristics (family income, mother's education, and mother's race) and regional characteristics

(metropolitan status and the youth's region of residence at age fifteen), F_i is a vector of family structure indicator variables and ε_{1i} is a normally distributed disturbance term with mean zero and unit variance. The probability that the youth is observed engaging in the specified deviant behavior is given by:

$$\text{prob}(Y_i = 1) = \text{prob}(X_i\beta_1 + F_i\delta + \varepsilon_{1i} > 0) = \Phi(X_i\beta_1 + F_i\delta) \quad (2)$$

where Φ is the standard normal cumulative density function.

Equation (2) is estimated using a Probit model. Tables 4 through 6 report the estimated determinants of smoking, sexual activity and criminal conviction, respectively. In order to more easily describe the quantitative importance of the explanatory variables, all tables report the marginal effects ($\partial \text{prob}(Y_i=1)/\partial X_i$) for continuous variables and average treatment effects for the discrete variables, in both cases evaluated at means, as well as standard errors calculated using the "delta" method.

Tables 4 through 6 all have the same format. The first four columns include the indicator variable for youth whose biological father was not present for their entire first fifteen years of life with columns 2 through 4 progressively adding the control variables described above. The second four columns have the same format as the first four columns except that we replace the biological father not always present indicator variable with four mutually exclusive family type indicators for families where the biological father is not always present: the father visits often and pays child support, the father visits often but does not pay child support, the father visits rarely but does pay child support and the father visits rarely and does not pay child support. In all cases, the excluded category is the biological father present throughout the youth's entire fifteen years of life.

Columns 2-4 and 6-8 add the control variables, other than family structure, progressively to assess the robustness of main result to model specification. More specifically, columns 2 and 6 add all control variables except family income and the presence of stepfathers in nontraditional households. Family income is added in columns 3 and 7 and the presence of a stepfather is added in columns 4 and 8. These last two variables are added in succession to help disentangle the relationship between family structure and family income, which is clearly affected by the presence of a stepfather in the case of nontraditional families (see Table 3).

3.4.1 **Smoking**

Family structure has a negligible impact on the smoking behavior of youth. To begin, compare youth whose biological father is always in the household to youth whose biological father is absent for at least part of their life (Table 4, columns 1-4). When a dummy variable indicating that the father is absent for at least some period is the only right-hand side variable it is positive, but statistically insignificant at conventional levels. Once the standard control variables, except family income and the presence of a stepfather are included, the indicator for father not always present becomes both larger in magnitude and is statistically significant. According to column 2, youth whose biological father is not always present are 5.9 percentage points more likely to smoke on a regular basis than youth from traditional families.

Holding father's presence constant, youth whose mothers are more educated are slightly less likely to smoke. For example, a youth whose mother holds an undergraduate

degree is approximately 8 percentage points less likely to smoke on a regular basis than a youth whose mother only holds a high school graduation diploma. As is often found, first-born youth are less likely to engage in deviant behavior. In this case, first-born youth are 9.9 percentage points less likely to smoke. Perhaps surprisingly, black youth are much less likely to smoke cigarettes than white youth. All of these results are similar to Antecol and Bedard (2002).

Column 3 adds family income to the list of regressors. The addition of family income reduces the point estimate of the father not always present indicator variable by 1.7 percentage points and renders it statistically insignificant. The father not always present indicator variable point estimate and statistical precision are reduced still further when a dummy variable indicating the presence of a stepfather is added. The insignificant impact of the biological father's presence once family income is controlled for suggests that in the absence of a family income measure the father not always present variable is trying to absorb both family structure and income effects.[10]

While the inclusion of family income and stepfather presence wash out the effect of father's presence they have little or no impact on the other coefficients in the regression. In fact, these coefficients are essentially the same regardless of the inclusion of family income and stepfather presence. In addition, once the indicator for stepfather is included, the coefficient on family income is negative and statistically significant. A $10,000 increase in family income reduces the probability of smoking by 1 percentage point.

Columns 5 through 8 break family structure into five categories: biological father always present and biological father not always present but visits often and pays child support, visits often but does not pay child support, pays child support but visits rarely, and does not visit often or pay child support. Father is always present is the excluded category in all specifications. With the exception of the family structure variables, the coefficient estimates are almost identical under all specifications.

As in column 1, when the family structure variables are the only regressors they are neither individually nor jointly significant (column 5). The addition of the remaining explanatory variables, column 6, does not change the joint statistical insignificance of the family structure variables. Interestingly, however, the coefficient on youth with absent father's who pay child support but visit rarely is statistically significant and positive. In other words, it is youth with non-custodial fathers who pays child support but does not visit on a regular basis that are the most likely to smoke. As in columns 2-4, the addition of family income and the presence of a stepfather to the list of regressors reduce the family structure point estimates and the statistical precision of the coefficients.

3.4.2 **Sexual activity**

The probit estimates for the sexual activity model are reported in Table 5. Before turning to the impact of family structure on teenage promiscuity, it is interesting to examine the correlation between the standard socioeconomic characteristics and youth sexual activity. In contrast to smoking, there is little evidence that mother's education effects teenage sexual behavior. Once family income is included, mother's education is never

statistically significant. However, this may be because family income and maternal education have very similar impacts on the sexual behavior of their offspring. Just as with smoking, family income has a small negative impact on the probability that a youth becomes sexually active before the age of fifteen.

At the same time, the youth of mother's who began having children at younger ages are more likely to become sexually active before the age of fifteen. More specifically, the youth of mothers who had their first child before they were nineteen years old are approximately 8.7 percentage points more likely to become sexually active before the age of fifteen. As with smoking, first-born children are less likely to be sexually promiscuous at young ages. Interestingly, youth raised with more siblings are less likely to be sexually active before the age of fifteen. Casual empiricism suggests that youths with fewer siblings have fewer positive family influences and have more free time available and are therefore more likely to use that free time in ways that involve deviant behaviors.

In contrast to the limited impact of father's presence, visitation, or child support payment on their children's probability of smoking, these factors do deter early sexual activity in youth. Regardless of the control variables included, youth residing in households without a biological father are more likely to be sexually active before the age of fifteen (columns 1-4). While the point estimate for the impact of an absent father is 13.5 percentage points when no other control variables are included, this point estimate falls to youth with an absent father being 8 percentage points more likely to be sexually active when the full set of controls are included.

Not surprisingly given the results in columns 1-4, the family structure variables in columns 5-8 are jointly significant at the 10 percent level or better. Breaking fraternal absence into four categories does however reveal the following noteworthy results. First, the propensity to engage in sexual intercourse before the age of fifteen is 14.4 percentage points higher for youth whose fathers visit rarely but pay child support relative to youth from intact families (column 8). Secondly, there is little evidence that youth in non-intact families where the father visits often and pays child support, the father visits often but does not pay child support, and the father visits rarely and does not pay child support differ in terms of their propensity to engage in sexual activity from youth in traditional families. Interesting, until the stepfather present indicator variable is included, the estimates show that both youth whose absent fathers pay child support but don't visit and youth whose fathers visit but do not pay child support are more likely to become sexually active before the age of fifteen. The fact that children who never lived with their father dominate the group for which the father neither pays support nor visits, suggests that the absence of either factor may only contribute to early sexual activity for youth who at some point resided with their biological father. On the other hand, the absence and lack of contact/financial support from a father that never really lived in the child's home has little impact on sexual behavior of youth.

3.4.3 **Criminal conviction**

The probit estimates for the conviction model are reported in Table 6. Similar to the pattern found for smoking, youth with more educated mothers are less likely to be

convicted of a crime before the age of fifteen. However, the impact is fairly small. Holding all else constant, a youth with a college graduate mother is 2.4 percentage points less likely to be convicted of a crime compared to a youth whose mother is a only a high school graduate. The only other socioeconomic variable that shows a statistically significant correlation with conviction is birth order. First born children are approximately 4 percentage points less likely to be convicted of a crime before the age of fifteen compared to later birth order children. Interestingly, there are no apparent differences across gender in the probability of conviction, nor smoking or sexually activity for that matter.

In contrast to the relationship between family structure and youth smoking, the presence of a biological father does reduce the probability that a youth is convicted of a crime. However, this relationship is not apparent until other socioeconomic factors are controlled for (column 2). Once this is done, youth with an absent father are approximately 2 percentage points less likely to be convicted of a crime. In contrast to smoking and sexual activity, the magnitude of the coefficient on father not always present does not fall as family income and the presence of a stepfather are included, however the point estimate does become statistically insignificant. The imprecision of the results is not surprising given the small number of youth committing crimes before the age of fifteen, only 3.5 percent of the sample.

Breaking the father not always present category into four subcategories again reveals several interesting patterns. First, youth with an absent father who both pays child support and visits often are very similar to children with a resident father in terms of

criminal conviction. In fact, it is only youth who's absent father pays child support but visits rarely that have a significantly higher probability of being convicted of a crime before the age of fifteen. This group of youth is approximately 6 percentage points more likely to be convicted of a crime than youth whose biological father is always present. This is a huge difference and suggests that youth with non-custodial fathers who are involved enough to pay child support but uninvolved to the extent that they visit infrequently are more likely to act out compared to youth whose absent father either remain more involved through visitation or are completely uninvolved in the sense that they neither financially support their children nor bother to visit with any regularity.

4. Discussion

This paper contributes to the literature on the impact of child support receipt on child outcomes in two important ways. First, our sample includes youth from all family structures. This allows us to compare the deviant behavior of youth in intact families from youth in non-traditional families with fathers who choose to be involved to various degrees, in terms of child support payment and visitation. Secondly, we examine the impact of family structure, the payment of child support by the non-custodial father, and visitation by the non-custodial father on the probability that youth engage in undesirable behaviors such as smoking, having sex and being convicted.

We see the difference in teenage participation in deviant behavior by youth with an absent father compared to youth with a present father as the primary finding of this paper. In other words, fraternal presence is the primary explanation for differences in

teenage behavior rather than the withholding of child support or visitation on the part of absent fathers. Once a father leaves the household his ability to deter deviant behavior appears to be minimal.

While the absence of the biological father is the most important family structure explanation for poor youth behavior, there are interesting differences in youth behavior within single-parent families across fraternal visitation and child support payment. For example, relative to other youth, youth receiving child support but who rarely see their fathers are more likely to smoke, engage in sexual intercourse and criminal activity than other youth. As discussed in Section 1, the relatively poor performance of these youth may stem either from the fact that fathers with already deviant youth may be more likely to pay but be unwilling to visit such offspring or it may reflect the fact that youth whose fathers are committed enough to pay support but not committed enough to visit their children regularly are more likely to act out.

We view the results, and in some cases non-results, reported in this paper as leading to important questions for future research. First, why do non-custodial fathers choose to pay low levels of child support or none at all? Secondly, and probably more importantly, why do so many non-custodial fathers visit so rarely? The heterogeneity of fathers and the heterogeneity in the answers to these questions is likely part of the reason that it is difficult to obtain causal estimates of the impact of divorce and, child support payment, and child visitation on child/youth outcomes. Despite the difficulties associated with obtaining such estimates a sound understanding of the impact of family structure on children is clearly important.

References

Amato, P.R. and B. Keith (1991), 'Separation from a Parent during Childhood and Adult Socioeconomic Attainment', Social Forces, 70 (1), 187-206.

Antecol, H. and K. Bedard (2002), 'Does Single Parenthood Increase the Probability of Teenage Promiscuity, Drug Use, and Crime?' Claremont Colleges Working Paper.

Astone, N.M., and S.S. McLanahan (1991), 'Family Structure, Parental Practices and High School Completion', American Sociological Review, 56 (3), 309-320.

Beller, A.H. and J.W. Graham (1993), Small Change: The Economics of Child Support, New Haven and London: Yale University Press.

Bumpass, L.L., R.K. Raley, and J.A. Sweet (1995), 'The Changing Character of Stepfamilies: Implications of Cohabitation and Nonmarital Childbearing', Demography, 32 (3), 425-436.

Comanor, W.S., and L. Phillips (2002), 'The Impact of Income and Family Structure on Delinquency', Journal of Applied Economics, 5 (2), 209-232.

Flewelling, R.L. and K.E. Bauman (1990), 'Family Structure as Predictor of Initial Substance Use and Sexual Intercourse in Early Adolescence', Journal of Marriage and the Family, 52 (1), 171-181.

Furstenberg, F.F. and S.P. Morgan, and P.D. Allison (1987), 'Paternal Participation and Children's Well-Being', American Sociological Review 48 (5), 695-701.

Garasky, S. (1995), 'The Effects of Family Structure on Educational Attainment: Do the Effects Vary by the Age of the Child?' American Journal of Economics and Sociology, 54 (1), 89-105.

Garfinkel, I. (1992), Assuring Child Support, New York: Russell Sage Foundation.

Garfinkel, I. and S.S. McLanahan (1986), Single Mothers and Their Children: A New American Dilemma, Washington, D.C.: The Urban Institute Press.

Garfinkel, I., S.S. McLanahan and P.K. Robins (1994), Child Support and Child Well-Being, Washington, D.C.: The Urban Institute Press.

Graham, J.W., A.H. Beller, and Pedro M. Hernandez (1994), 'The Effects of Child Support on Educational Attainment', in I. Garfinkel, S.S. McLanahan and P.K. Robins (eds.), Child Support and Child Well-Being, Washington, D.C.: The Urban Institute Press.

Hanson, T.L., I. Garfinkel, S.S. McLanahan, and C.K. Miller (1996), 'Trends in Child Support Outcomes', Demography, 33 (4), 483-496.

Haveman, R.H. and B. Wolfe (1994), Succeeding Generations: On the Effect of Investments in Children, New York: Russell Sage Foundation.

Hill, Martha S. and Greg J. Duncan (1987), 'Parental Family Income and the Socioeconomic Attainment of Children', Social Science Research, 16: 39-73.

Knox, V.W. (1996), 'The Effects of Child Support Payments on Developmental Outcomes for Elementary School-Age Children', Journal of Human Resources, 31 (4), 816-840.

Knox, V.W. and M.J. Bane (1994), 'Child Support and Schooling', in I. Garfinkel, S.S. McLanahan and P.K. Robins (eds.), Child Support and Child Well-Being, Washington, D.C.: The Urban Institute Press.

Manski, C.G., G.D. Sandefur, S. McLanahan and D. Powers (1992), 'Alternative Estimates of the Effect of Family Structure During Adolescence on High School Graduation', Journal of the American Statistical Association, 87 (417), 25-37.

Matsueda, R.L. and K. Heimer (1987), 'Race, Family Structure and Delinquency: A Test of Differential Association and Social Control Theories', American Sociological Review, 52 (6), 130-152.

McLanahan, S. (1985), 'Family Structure and the Reproduction of Poverty', American Journal of Sociology, 90, 873-901.

McLanahan, S. (1997), 'Parent Absence or Poverty: Which Matters More?' G.J. Duncan and J. Brooks-Gunn (eds.), Consequences of Growing Up Poor, New York: Russell Sage Foundation, 35-48.

McLanahan, S.S., J.A. Seltzer, T.L. Hanson, and E. Thomson (1994), 'Child Support Enforcement and Child Well-Being: Greater Security or Greater Conflict?' I. Garfinkel, S.S. McLanahan and P.K. Robins (eds.), Child Support and Child Well-Being, Washington, D.C.: The Urban Institute Press.

McLanahan, S. and G. Sandefur (1994), Growing Up with a Single Parent: What Hurts, What Helps, Cambridge: Harvard University Press.

Painter, G. and D.I. Levine (2000), 'Family Structure and Youths' Outcomes: Which Correlations are Causal?' Journal of Human Resources, 35 (3), 524-549.

Powers, E.T. and A.H. Beller (2002), 'The Problem of Multiple Fathers: Family Structure and the Payment of Child Support', mimeo, University of Illinois at Urbana-Champaign.

Seltzer, J.A. (1991), 'Relationships between Fathers and Children Who Live Apart: The Father's Role after Separation', Journal of Marriage and the Family, 53 (1), 79-101.

Shaw, L.B. (1982), 'High School Completion for Young Women: Effects of Low Income and Living with a Single-Parent', Journal of Family Issues, 3 (2), 147-163.

Weiss, Y. and R.J. Willis (1985), 'Children as Collective Goods and Divorce Settlements', Journal of Labor Economics, 3 (3), 268-292.

Weiss, Y. and R.J. Willis (1993), 'Transfers among Divorced Couples: Evidence and Interpretation', Journal of Labor Economics, 11 (4), 629-679.

Willis, R.J. (1999), 'A Theory of Out-of-Wedlock Childbearing', Journal of Political Economy, 107 (6), S33-S64.

Wu, L.L. (1996), 'Effects of Family Instability, Income and Income Instability on the Risk of Premarital Birth', American Sociological Review, 61 (3), 386-406.

End Notes

[1] Bumpass, Raley, and Sweet (1995) include cohabitation in their definition of stepfamilies.

[2] See http://www.census.gov/hhes/www/childsupport/97tables/tab1.html.

[3] A number of related studies look at the effect of family income on youth outcomes in single-parent families without attempting to isolate the child support component (see for example, Hill and Duncan 1987, McLanahan 1985, and Shaw 1982).

[4] A respondent is coded as participating in smoking before the age of fifteen if they report participating for the first time before the age of fifteen and have smoked cigarettes on more than one hundred occasions.

[5] 1998 youth sampling weights are used in all tables.

[6] Respondents reporting family income of less than $1200 or more than $200,000 per year in 1998 dollars are excluded from the sample.

[7] Although the amount paid in child support seems low, it is consistent with the results reported in the child support literature. Examples include, Powers and Beller (2002), Hanson, Garfinkel, McLanahan, and Miller (1996), Garfinkel, McLanahan, and Robins (1994), Graham, Beller, and Hernandez (1994), Weiss and Willis (1993), Beller and Graham (1993); Garfinkel (1992), and Garkinkel and McLanahan (1986).

[8]As described in the previous section, these percentages reflect the average experience of the youth between the ages of twelve and fifteen.

[9] This is only an approximation as some households are blended families and the reported child support is technically only for the support of a fraction of the children.

[10] This is consistent with a number of studies, which find that the inclusion of family income reduces the magnitude of the presence of the father and in some cases renders it insignificant (See McLanahan 1997 for a review of the literature).

Table 1. Summary statistics

	Sample size	Mean	Standard deviation
Smoking	1101	0.170	0.376
Sex	1101	0.180	0.384
Conviction	1101	0.035	0.183
Proportion of youth in households that receive child support	599	0.515	0.500
Average annual child support (in $000's) including non-paying fathers	599	1.404	2.178
Average annual child support (in $000's) excluding non-paying fathers	262	2.727	2.369
Number of children in household	1101	2.596	1.079
First born child	1101	0.649	0.478
Male	1101	0.504	0.500
Black	1101	0.195	0.396
Race other than white or black	1101	0.023	0.149
Mother's years of education	1101	12.295	1.700
Mother's average weekly hours of work	1101	25.891	17.134
Mother's age at first birth less than 19	1101	0.225	0.418
Average annual net family income (in $000's)	1101	41.918	26.351
Stepfather present	599	0.365	0.482

All youth outcomes measure participation before age fifteen. Means and standard deviations calculated using 1998 youth sampling weights.

Table 2. Youth behavior by family structure, father's visitation and child support receipt

	Percent of sample	Smoking	Sex	Conviction
Overall	100.00	0.170	0.180	0.035
Father always present	55.88	0.165	0.120	0.026
Father not always present	44.12	0.176	0.255	0.045
See often & receive child support	19.48	0.135	0.205	0.021
See often & don't receive child support	16.40	0.167	0.279	0.036
See rarely & receive child support	32.00	0.234	0.295	0.076
See rarely & don't receive child support	32.11	0.148	0.233	0.035

1998 youth sampling weights used.

Table 3. Family income and child support receipt by mother's characteristics

	Total	Stepfather not present	Stepfather present	Mother is a high school drop out	Mother is a high school graduate	Mother has more than high school
			Panel A: Father present less than 144 months			
Both paying and non-paying fathers						
Average annual net family income (in $000's)	31.531	22.703	45.038	22.486	32.761	35.397
Average annual child support (in $000's)	1.310	1.559	0.927	0.757	1.393	1.528
Proportion of youth receiving child support	0.500	0.542	0.437	0.361	0.550	0.488
Correlation b/w family income & child support	**0.106**	**0.203**	**0.228**	0.058	0.040	**0.170**
Only paying fathers						
Average annual net family income (in $000's)	32.474	23.930	48.662	26.479	32.018	36.987
Average annual child support (in $000's)	2.617	2.879	2.120	2.098	2.532	3.127
Correlation b/w family income & child support	**0.147**	**0.249**	**0.326**	-0.147	0.115	**0.215**
Only non-paying fathers						
Average annual net family income (in $000's)	30.587	21.253	42.220	20.234	33.669	33.880
Average annual child support (in $000's)	0.000	0.000	0.000	0.000	0.000	0.000
			Panel B: Father present less than 180 months			
Both paying and non-paying fathers						
Average annual net family income (in $000's)	31.293	23.392	45.038	22.233	32.538	34.795
Average annual child support (in $000's)	1.404	1.678	0.927	0.736	1.547	1.539
Proportion of youth receiving child support	0.515	0.559	0.437	0.353	0.568	0.502
Correlation b/w family income & child support	**0.109**	**0.219**	**0.228**	0.065	0.037	**0.194**
Only paying fathers						
Average annual net family income (in $000's)	32.277	24.912	48.662	26.404	31.789	36.588
Average annual child support (in $000's)	2.727	2.999	2.120	2.082	2.722	3.065
Correlation b/w family income & child support	**0.147**	**0.251**	**0.326**	-0.142	0.106	**0.241**
Only non-paying fathers						
Average annual net family income (in $000's)	30.249	21.462	42.220	19.955	33.524	32.987
Average annual child support (in $000's)	0.000	0.000	0.000	0.000	0.000	0.000

1998 youth sampling weights used. Bold correlations are statistically significant at the 10% level.

Table 4. Smoking probits (marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father not always present (FNAP)	0.011	**0.059**	0.042	0.031				
	(0.030)	(0.031)	(0.032)	(0.038)				
FNAP & see often & receive child support (CS)					-0.030	-0.003	-0.020	-0.023
					(0.050)	(0.052)	(0.051)	(0.050)
FNAP & see often & don't receive CS					0.002	0.046	0.034	0.026
					(0.055)	(0.061)	(0.059)	(0.067)
FNAP & see rarely & receive CS					0.068	**0.117**	**0.094**	**0.086**
					(0.048)	(0.054)	(0.053)	(0.058)
FNAP & see rarely & don't receive CS					-0.018	0.057	0.038	0.033
					(0.041)	(0.050)	(0.048)	(0.054)
Male		0.016	0.016	0.016		0.021	0.020	0.020
		(0.027)	(0.027)	(0.027)		(0.028)	(0.027)	(0.027)
Number of children in household		-0.008	-0.006	-0.006		-0.008	-0.007	-0.007
		(0.013)	(0.013)	(0.013)		(0.013)	(0.013)	(0.013)
First born child		**-0.099**	**-0.099**	**-0.099**		**-0.101**	**-0.101**	**-0.101**
		(0.034)	(0.034)	(0.034)		(0.034)	(0.034)	(0.034)
Black		**-0.177**	**-0.181**	**-0.181**		**-0.175**	**-0.180**	**-0.180**
		(0.021)	(0.021)	(0.021)		(0.021)	(0.021)	(0.021)
Race other than white or black		-0.083	-0.087	-0.087		-0.076	-0.081	-0.081
		(0.042)	(0.040)	(0.039)		(0.046)	(0.043)	(0.043)
Mother's years of education		**-0.020**	**-0.017**	**-0.017**		**-0.021**	**-0.017**	**-0.017**
		(0.009)	(0.009)	(0.009)		(0.009)	(0.009)	(0.009)
Mother's average hours of work		-0.001	0.000	0.000		-0.001	0.000	0.000
		(0.001)	(0.001)	(0.001)		(0.001)	(0.001)	(0.001)
Mother's age at first birth less than 19		-0.027	-0.026	-0.027		-0.023	-0.023	-0.023
		(0.034)	(0.034)	(0.034)		(0.034)	(0.034)	(0.034)
Average net family income			-0.001	**-0.001**			-0.001	-0.001
			(0.001)	(0.001)			(0.001)	(0.001)
Stepfather present				0.023				0.012
				(0.046)				(0.047)

Models (2)-(4) and (6)-(8) also include the youth's region of residence at age fifteen indicator variables and metropolitan status indicator variables. Heteroskedastic consistent standard errors are in parentheses. Bold coefficients are statistically significant at the 10% level. The smoking outcome variable measures participation before age fifteen. 1998 youth sampling weights are used. The sample size is 1101 in all specifications.

Table 5. Sexual activity probits (marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father not always present (FNAP)	**0.135**	**0.105**	**0.092**	**0.083**				
	(0.028)	(0.030)	(0.032)	(0.036)				
FNAP & see often & receive child support (CS)					**0.101**	0.081	0.063	0.060
					(0.060)	(0.055)	(0.055)	(0.056)
FNAP & see often & don't receive CS					**0.183**	**0.123**	**0.114**	**0.106**
					(0.061)	(0.061)	(0.061)	(0.073)
FNAP & see rarely & receive CS					**0.194**	**0.169**	**0.151**	**0.144**
					(0.053)	(0.053)	(0.055)	(0.056)
FNAP & see rarely & don't receive CS					**0.129**	**0.078**	0.061	0.056
					(0.045)	(0.046)	(0.046)	(0.051)
Male		-0.012	-0.011	-0.011		-0.009	-0.009	-0.009
		(0.027)	(0.026)	(0.026)		(0.026)	(0.026)	(0.026)
Number of children in household		**-0.026**	**-0.024**	**-0.025**		-0.028	**-0.026**	**-0.027**
		(0.013)	(0.013)	(0.013)		(0.013)	(0.013)	(0.013)
First born child		**-0.066**	**-0.065**	**-0.065**		**-0.067**	**-0.066**	**-0.065**
		(0.031)	(0.031)	(0.031)		(0.031)	(0.031)	(0.031)
Black		0.006	-0.005	-0.004		0.013	0.002	0.003
		(0.032)	(0.032)	(0.032)		(0.033)	(0.032)	(0.032)
Race other than white or black		0.087	0.079	0.079		0.094	0.086	0.085
		(0.078)	(0.076)	(0.076)		(0.081)	(0.079)	(0.079)
Mother's years of education		**-0.012**	-0.010	-0.009		**-0.013**	-0.010	-0.010
		(0.008)	(0.008)	(0.008)		(0.008)	(0.008)	(0.008)
Mother's average hours of work		-0.001	-0.001	-0.001		-0.001	-0.001	-0.001
		(0.001)	(0.001)	(0.001)		(0.001)	(0.001)	(0.001)
Mother's age at first birth less than 19		**0.089**	**0.087**	**0.086**		**0.090**	**0.088**	**0.087**
		(0.037)	(0.037)	(0.037)		(0.037)	(0.037)	(0.037)
Average net family income			-0.001	-0.001			-0.001	-0.001
			(0.001)	(0.001)			(0.001)	(0.001)
Stepfather present				0.019				0.010
				(0.040)				(0.041)

Models (2)-(4) and (6)-(8) also include the youth's region of residence at age fifteen indicator variables and metropolitan status indicator variables. Heteroskedastic consistent standard errors are in parentheses. Bold coefficients are statistically significant at the 10% level. The sexual activity outcome variable measures participation before age fifteen. 1998 youth sampling weights are used. The sample size is 1101 in all specifications.

Table 6. Conviction probits (marginal effects)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Father not always present (FNAP)	0.019	**0.020**	**0.019**	0.019				
	(0.014)	(0.011)	(0.012)	(0.013)				
FNAP & see often & receive child support (CS)					-0.007	-0.001	-0.002	-0.001
					(0.016)	(0.011)	(0.012)	(0.012)
FNAP & see often & don't receive CS					0.012	0.008	0.008	0.011
					(0.033)	(0.021)	(0.020)	(0.026)
FNAP & see rarely & receive CS					**0.051**	**0.059**	**0.056**	**0.061**
					(0.029)	(0.030)	(0.032)	(0.036)
FNAP & see rarely & don't receive CS					0.010	0.009	0.008	0.009
					(0.022)	(0.015)	(0.015)	(0.017)
Male		0.012	0.012	0.012		0.013	0.013	0.013
		(0.010)	(0.010)	(0.010)		(0.009)	(0.009)	(0.009)
Number of children in household		0.001	0.001	0.001		0.000	0.000	0.000
		(0.004)	(0.004)	(0.004)		(0.004)	(0.004)	(0.004)
First born child		**-0.042**	**-0.042**	**-0.042**		**-0.040**	**-0.041**	**-0.041**
		(0.016)	(0.015)	(0.015)		(0.015)	(0.015)	(0.015)
Black		-0.007	-0.008	-0.008		-0.004	-0.005	-0.005
		(0.009)	(0.009)	(0.009)		(0.008)	(0.008)	(0.008)
Race other than white or black		-0.008	-0.008	-0.008		-0.005	-0.005	-0.005
		(0.014)	(0.014)	(0.014)		(0.015)	(0.014)	(0.014)
Mother's years of education		**-0.006**	**-0.006**	**-0.006**		**-0.006**	**-0.006**	**-0.006**
		(0.002)	(0.003)	(0.003)		(0.002)	(0.002)	(0.002)
Mother's average hours of work		0.000	0.000	0.000		0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)
Mother's age at first birth less than 19		0.008	0.008	0.008		0.007	0.007	0.007
		(0.011)	(0.011)	(0.011)		(0.010)	(0.010)	(0.010)
Average net family income			0.000	0.000			0.000	0.000
			(0.000)	(0.000)			(0.000)	(0.000)
Stepfather present				0.000				-0.004
				(0.013)				(0.011)

Models (2)-(4) and (6)-(8) also include the youth's region of residence at age fifteen indicator variables and metropolitan status indicator variables. Heteroskedastic consistent standard errors are in parentheses. Bold coefficients are statistically significant at the 10% level. The conviction outcome variable measures participation before age fifteen. 1998 youth sampling weights are used. The sample size is 1101 in all specifications.

Appendix Table 1. Youth behavior by family structure, father's visitation and child support receipt by gender

	Percent of sample		Smoking			Sex			Conviction		
	M	F	M	F	D	M	F	D	M	F	D
Overall	100.00	100.00	0.172	0.167	0.005	0.171	0.189	-0.018	0.040	0.030	0.010
Father always present	0.588	0.529	0.169	0.159	0.010	0.105	0.138	-0.034	0.033	0.019	0.014
Father not always present	0.412	0.471	0.176	0.175	0.001	0.265	0.246	0.019	0.049	0.042	0.007
See often & receive child support	0.215	0.177	0.135	0.136	0.000	0.242	0.166	0.077	0.031	0.010	0.021
See often & don't receive child support	0.184	0.147	0.093	0.249	-0.155	0.291	0.267	0.024	0.000	0.077	-0.077
See rarely & receive child support	0.278	0.358	0.220	0.243	-0.024	0.280	0.306	-0.026	0.090	0.066	0.024
See rarely & don't receive child support	0.324	0.318	0.214	0.087	**0.127**	0.253	0.215	0.038	0.054	0.018	0.035

1998 youth sampling weights used. M, F and D are males, females, and the difference between males and females, respectively. Bold differences are statistically signficant at the 10% level.