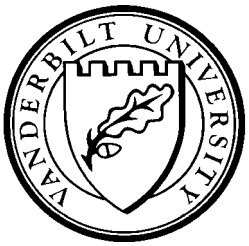
IS THE WICKED STEPMOTHER JUST A FAIRYTALE?

by

Eirik Evenhouse and Siobhan Reilly



Working Paper No. 00-W49

September 1999
Revised November 2000

DEPARTMENT OF ECONOMICS
VANDERBILT UNIVERSITY
NASHVILLE, TN 37235

www.vanderbilt.edu/econ

Is the wicked stepmother just a fairytale?

Eirik Evenhouse
Department of Economics &
Institute for Public Policy Studies
Vanderbilt University
eirik.evenhouse@vanderbilt.edu

Siobhan Reilly
Department of Economics
Vanderbilt University
siobhan.reilly@vanderbilt.edu

September 1999
Revised: November 2000

ABSTRACT

Most studies of family structure and child outcomes conclude that stepchildren fare little better than children in single-parent families, and substantially worse than children in intact families. Is this because adults treat biological children differently from stepchildren, or are stepchildren's inferior outcomes "explained" by selection into stepfamilies? To address this question we examine a rich array of child outcomes and parental investment measures drawn from the National Longitudinal Study of Adolescent Health (Add Health). Sibling comparisons control for unobserved parental and household characteristics, and the effect of living with a stepparent is identified by comparing outcomes across half-siblings in households in which one child is living with both biological parents and the other is living with their common parent and a stepparent. The results support the differential-treatment hypothesis. Despite the radical reduction in sample size associated with differencing across siblings, a third of the stepparent effects remain statistically significant. Over four-fifths of the point estimates retain their sign after differencing, and as many increase as shrink. Selection bias may be present in stepparent effects measured between families, but in the Add Health data the bias is as likely to be negative as positive. Furthermore, the sensitivity of the results to the choice of indicator suggests that the story cannot be told in full by studies focusing on only one or two indicators.

Is the wicked stepmother just a fairytale?

Eirik Evenhouse and Siobhan Reilly[1]
November 2000

1. Introduction

Most studies of family structure and child well-being conclude that children from stepfamilies "have outcomes very similar to children who grow up with only one parent, and worse than children who are raised by both of their biological parents" (Case, Lin, and McLanahan 1999, p. 234). One explanation, consistent with the folk model that emerges from medieval fairy tales and is rationalized by evolutionary psychologists (e.g., Daly and Wilson, 1988), is that stepchildren fare poorly because stepparents stint them. An alternative view, supported by the work of Gennetian (1999), Ginther and Pollak (2000), and Hofferth and Anderson (2000), is that correlations between family structure and children's welfare arise not from discriminatory treatment but from the unobserved process by which adults self-select into stepfamilies. The evidence presented in this paper suggests that the truth lies somewhere in between.

Drawing on a rich array of measures of child well-being from the National Longitudinal Study of Adolescent Health (Add Health), this study tries to reduce selection bias by using sibling comparisons to control for unobserved parental and household characteristics. The effect of living with a stepparent is identified by differencing measures across half-siblings in households in which one child is living with both biological parents and the other is living with their common parent and a stepparent. The results support the differential-treatment hypothesis. Despite the radical reduction

[1]We thank George Akerlof, Kathryn Anderson, J. S. Butler, Ken Chay, Jo Jones, David L. Levine, Charles Mullin, Steve Raphael, and Joyce Tabor for comments and advice, as well as discussants at the Population Association of America meetings and the Midwestern Economic Association meetings. We thank Claudia Wood for research assistance.

in sample size that results from differencing across siblings, a third of the stepparent effects remain statistically significant. Over four-fifths of the point estimates retain their sign after differencing, and as many increase as shrink. While selection bias may indeed be present in between-family estimates of stepparent effects, in the Add Health data that bias is as likely to be negative as positive. Furthermore, the results' sensitivity to the choice of indicator suggests that the story cannot be told in full by studies focusing on only one or two indicators.

2. Background and significance

Current policymaking reveals a need for valid information on the importance of family structure to children's well-being, and in particular, on the value of stepparents. A main goal of recent welfare reforms has been to encourage marriage. Many of the marriages that could result would be to stepfathers rather than to fathers. The past decade has also seen a wave of legislative efforts to tighten state divorce laws. The most commonly offered motivation has been a desire to benefit children, suggesting a belief by legislators and advocates that children do better with both biological parents than with a single parent, or a stepparent. Such preferences should be well-informed.

Whether, how, and how much family structure matters to children's well-being is an area of active research (see McLanahan's 1998 overview, for instance). The attention is warranted, in that only a minority of American children spend their entire childhood with both biological parents (Dawson 1991). A third live apart from one biological parent, and five percent apart from both (Evenhouse and Reilly 1999). Thirty percent spend time in a stepfamily (Bumpass, Raley, and Sweet, 1995).

Research relating child well-being to family structure spans many disciplines. While the

main distinction has been between one- and two-adult families (McLanahan and Sandefur 1994, for example), a growing strand of the literature distinguishes between children who live with both parents and those who live with a parent and stepparent (usually a stepfather). These studies usually find that stepchildren have significantly worse outcomes. For example, they score 6 to 8 percent lower on standardized tests at age 14 (Dronkers 1994), complete six months less of schooling (Sandefur and Wells 1997), and are 8 percent less likely to finish high school (Garasky 1995). They are nearly three times more likely to be incarcerated by age 18 (McLanahan and Harper 1998), five times more likely to leave home due to conflict (Mitchell 1994), and 70 times more likely to be killed by their mother's male partner (Daly and Wilson 1988). By many criteria, children with stepfathers fare no better than the children of single mothers (McLanahan 1998).

Stepparent effects are mismeasured, however, if selection bias arises from the omission of variables that affect children's well-being and that are also correlated with being in a stepfamily. Unobserved maternal characteristics are one possible example—the same factors that helped separate a woman from her child's father may also handicap her as a mother. Heritable paternal traits are another.

One way to address selection bias is with instrumental variables. For instance, in analyzing the link between a male youth's odds of incarceration and his family structure, McLanahan and Harper (1998) use his state's 1975 divorce rate, an indicator that his mother's education exceeds his father's, and several demographic controls to create an instrument for family structure. Noting the insignificant correlation between the error terms of the incarceration equation and the family structure equation, they conclude that selection bias is negligible.

A drawback of instrumental variables is the difficulty of finding suitable instruments. For the question at hand, an ideal instrument is highly correlated with family structure but uncorrelated

with the error term of the outcome equation being estimated, and such a variable is hard to find. The higher the correlation between family structure and the instrument, the less plausible the claim that it is uncorrelated with the disturbances. The weaker the correlation between instrument and family structure, the less useful the approach. The latter consideration is particularly relevant, as researchers typically can explain only a very small fraction of the variation in individuals' marital status or living arrangements (6 to 10 percent in Evenhouse and Reilly 1997, 1999, for example).

Fixed effects are an alternative to instrumental variables. Certain indicators of child well-being—relatively rare events like teen incarceration, for instance—may be poorly suited to a fixed effects approach, but where the focus is the general importance of family structure for child outcomes rather than the determinants of a particular outcome, researchers have latitude in their choice of indicators.

Longitudinal data on parents and children allow the incorporation of parent or child fixed effects. Cherlin *et al.* (1991), studying the impact of divorce, find that controlling for a child's test scores at age 7 reduces the significance and size of the estimated effect of divorce on test scores at age 11. In contrast, Painter and Levine (2000) find that controlling for parent and child characteristics measured when the child is in 8th grade does not significantly reduce the estimated effect of a subsequent divorce on the child's outcomes four years later. Such before-and-after comparisons, however, control only for omitted factors that are constant over the intervening period.

Sibling data permit the use of a family fixed effect. Geronimus and Korenman (1992), for example, looking at the consequences of teen childbearing, compare sisters who had their first births at different ages and conclude that cross-sectional studies tend to overstate the consequences. Sandefur and Wells (1997) look at the educational attainment of stepchildren. They compare pairs of siblings in the National Longitudinal Survey of Youth (NLSY), relating each sibling's family

structure at age 14 to his or her eventual educational attainment, and conclude that controlling for common family background lowers by half the educational disadvantage associated with being in a stepfamily at age 14, to roughly six months. A drawback of their approach is that some important omitted variables may diverge between two siblings, because "family structure at age 14" is observed in a different calendar year for each sibling, and because the educational outcomes are observed years later.

Our study parallels Gennetian (1999), Ginther and Pollak (2000), and Hofferth and Anderson (2000) by controlling more fully for time-varying unobserved variables. All variables are measured at the same point in time. Pairwise sibling comparisons difference out any parental factors or household conditions, observed or not, that affect two siblings equally and that therefore cannot explain differences in their well-being. Stepparent effects are identifiable because, in some families containing half-siblings, one sibling has both biological parents present while another has a parent and a stepparent. Retrospective data are used to control for the effects of past experiences that were not shared by the siblings. Such controls are vital because having had these experiences is strongly correlated with being the stepchild in a half-sibling pair.

While we use the same identification strategy as Ginther and Pollak (2000), Gennetian (1999), and Hofferth and Anderson (2000), our data set—the National Longitudinal Study of Adolescent Health (Add Health)—offers several advantages. Ginther and Pollak (2000) and Gennetian (1999) are limited by a dearth of measures in the NLSY-Child data that are amenable to a sibling difference approach—there are only a few questions that are asked of all children regardless of age.[2] Hofferth and Anderson (2000) use the newly available Child Development Supplement

[2]Both studies examine children's Peabody Individual Achievement Test (PIAT) scores in math and reading. In addition, Gennetian examines the cognitive subscore of the Home Observation

(CDS) to the Panel Study of Income Dynamics (PSID), which offers more measures that are comparable between siblings, but contains many fewer half-sibling pairs. In contrast, Add Health contains many more half-sibling pairs than either the PSID or the NLSY, the respondents are in a more compact age range,[3] all respondents are asked the same questions, and the questions cover a wider range of topics. Our study exploits Add Health's relative richness by examining nearly three dozen measures of child outcomes or parental investment.

3. Estimation strategy

The link between family structure and children's well-being can be modeled as operating through parental effort and productivity. A parent makes a constrained choice of the effort to invest in a given child. Parents are constrained by their resources (health, wealth, or time, for example). Effort may take many forms, but most are difficult to measure (e.g., expenditures of patience or thought). Observable effort consists of visible investments of time or money in the child. Effort depends on a parent's own characteristics, and possibly on those of the child. The question motivating this research is whether effort seems to depend on a parent's biological relationship to the child.

The productivity of a parent's effort is a function of the characteristics of the parent (e.g., age or education), the child (e.g., age, sex, or physical attractiveness), and the child's environment (e.g., school quality or the local crime rate).

Children's well-being can be seen in terms of either parental investments or child outcomes.

---

for Measurement of the Environment (HOME) assessment, and Ginther and Pollak examine the NLSY's behavioral problem index (BPI).

[3] 97 percent are teenagers in the 1994 wave.

Parental investments are interpreted as the combined parenting efforts of the adults in the household, and child outcomes as a function of combined parenting effort and the productivity of that effort. Parental investment measures are particularly germane to the differential-treatment hypothesis, as they are more directly attributable to adult behavior. They may also be more closely related to current variables than are child outcomes, making it less vital to control for differences in siblings' past experiences.

Researchers in this field have generally avoided estimating structural models. Given the difficulty of observing important aspects of parenting behavior and the many theoretically plausible interactions among the observable characteristics of a family, this study continues the tradition of estimating reduced-form models. We estimate the following model of child well-being:

$$W_{ih} = \beta_0 + \beta_1 M_{ih} + \beta_2 F_{ih} + \beta_3 C_{ih} + \beta_4 E_{ih} + \epsilon_{ih} \quad (1)$$

where i indexes the child and h the household; W is a child outcome or parental investment; M, F, and C_i are vectors of characteristics of the male adult, female adult, and child; E is a vector of environmental (e.g., school and neighborhood) characteristics; and ϵ_{ih} is the error term. Estimating Equation (1) for each outcome or investment measure provides a benchmark for the size and significance of stepparent effects in the absence of a family fixed effect.

The error term is assumed to consist of a man-specific error, μ_{ih}, a woman-specific error, ω_{ih}, a child-specific error, γ_{ih}, an environment-specific error, η_{ih}, and a random error, ν_{ih}:

$$\epsilon_{ih} = \mu_{ih} + \omega_{ih} + \gamma_{ih} + \eta_{ih} + \nu_{ih} . \quad (2)$$

In estimating equation (1), selection bias arises if any of the person- or environment-specific error terms are correlated with family structure. If parents' choices concerning family structure and neighborhood are largely independent of their children's characteristics, most of the bias is likely to result from parent- or environment-specific errors. The portion of the bias arising from adult or environmental characteristics that are constant across siblings is therefore eliminated by first-differencing between two (half)siblings living with the same adults at the same time. The sibling-difference model we estimate is given by:

$$\Delta_{ij} W_h = \beta_1 \Delta_{ij} M_{ijh} + \beta_2 \Delta_{ij} F_{ijh} + \beta_3 \Delta_{ij} C_{ijh} + \beta_4 \Delta_{ij} E_{ijh} + \Delta_{ij} \epsilon_{ijh} \quad (3)$$

with the subscript *ij* denoting a comparison between sibling *i* and sibling *j*. The vectors of differenced variables for the man and woman, M_{ijh} and F_{ijh}, contain zeros except in cases when two siblings do not have identical relationships to an adult (e.g., when they are half-siblings). These cases identify the effect of living with a stepparent. This specification allows the estimation of distinct stepfather and stepmother effects. Comparing the estimates from Equation (3) to those of Equation (1) gives an idea of the magnitude of selection bias present in the former.

Eliminating parental factors leaves only differences between siblings to predict differences in the dependent variable. Certain differences between siblings are potential sources of bias if they are omitted. It may be important, for example, to control for birth order. Some studies find that eldest children have better outcomes on average, and within pairs of half-siblings, being the eldest is highly correlated with being the stepchild. The inclusion of sibling pairs from intact and

single-parent families helps in this regard. It is also important to control for differences in the siblings' past experiences: a sibling who is a stepchild may have had difficult experiences that a half-sibling has not.

Data

The data are drawn from the first wave of the National Longitudinal Study of Adolescent Health (Add Health). In 1994, the Add Health survey began following over 20,000 adolescents. Its inclusion of 2,734 pairs of adolescent siblings, and among them, 442 pairs of half-siblings, makes it well-suited to the purposes of this study. Information on the adolescents is from several sources—from the children themselves, from their parents, from their network of school friends, and from school administrators.

Besides educational outcome measures, the survey contains information about the adolescents' sexual activity, their drug and alcohol use, the characteristics of their social network, and their emotional health. It also contains roxies for parental investment, such as the number of activities shared by parent and child, the level of the child's extracurricular activities, whether the child attends a good school, whether the child attends private school, how often the parent is home when the child goes to bed, the fraction of evening meals eaten together, parent involvement in the child's schoolwork, the child's weekly allowance, and the hours the child spends watching television. In addition, the survey contains enough retrospective information to allow the construction of variables such as "years of exposure to a stepparent," "years spent with both parents," "years spent in a one-parent household," "child never lived with other biological parent," "child has experienced 0, 1, or 2 or more residential moves," and "frequency of contact with absent biological parent." We define "stepparent" to mean simply that the biological parent reports living with a partner, married or not.

4. Empirical results

The Add Health survey contains a great many potential indicators of adolescent well-being. The 33 indicators presented here are intended as a representative assortment. Some are subjective measures of the sort that economists usually avoid, but we include them because we believe that they contain valid information about an adolescent's emotional and psychological well-being.[4]

For the sake of brevity, the discussion below does not focus on individual indices and their point estimates, as our concern is with the degree of selection bias in measuring stepparent effects in general. While the size or significance of some point estimates depends on the choice of regression technique, our general conclusion does not. For ease of interpretation, all coefficients reported below are from OLS regressions.

Tables 1A and 1B present differences in unadjusted means, across families and within families, respectively, as a precursor to regression analysis. Table 1A reports, for all 33 indicators, the mean difference between children in intact families and children in stepfather, stepmother, or mother-only families.[5] The difference is significant for 32 of the measures for children living with a stepfather, and for 29 measures for children living with a stepmother. What is noteworthy is that,

---

[4]In medicine there is increasing recognition that individuals' subjective assessments of their physical health are good predictors of subsequent morbidity and mortality, as good as and often better than the objective assessments made by doctors (see Epstein 1990). Clinical assessments of mental health are often based on self-reported measures.

[5]Note that the classification of family type is child-based, with each child classified by his or her relationship to the household's adults. Thus two half-siblings in the same household may be classified differently.

Sample size varies slightly by measure, but is typically around 16,800 observations (9,900 for measures concerning (step)fathers specifically).

by 30 of the measures, children living with stepfathers fare significantly worse than children living with both parents and, by 6 of the measures, worse even than children in mother-only families. Similarly, children living with stepmothers do worse than those living with both parents by 27 measures and, by 10 measures, worse than children in mother-only families.

When stepchildren are compared to their half-siblings in the same household, the differential-treatment hypothesis looks less compelling. Table 1B presents, for the same indicators, the difference between (a) the average differential when two siblings (full or half) have the same relationship to the adult(s) in the family, and (b) the average differential when they do not (namely, when they are half-siblings and one of the adults is parent to one and stepparent to the other).[6] For two-thirds of the measures, the sign on the difference is consistent with worse outcomes for the stepchild. In most cases, however, that difference is not statistically significant. The stepfather effect is significant for only twelve of the 33 indicators, and the stepmother effect for only seven.[7]

The story told by unadjusted means is suggestive, but only a beginning. Because families may differ in many ways that matter to child well-being and that are correlated with family structure, and because half-siblings may differ from each other in ways correlated with their status as stepchildren or biological children, the next step is to include controls. We estimate Equation (1)—the between-family regression—and then Equation (3)—the within-family regression—for each indicator. Table 2 lists the controls for family and child characteristics. Given our interest in within-family rather than between-family differentials, most of the covariates are ones that can differ among

[6]Each differential is a sibling comparison made by subtracting a value for the younger sibling from that of the older. The figure of -.289 for a child's four-subject grade point average (GPA), for example, implies that the average GPA differential between two siblings is roughly three-tenths of a point smaller when the man is the stepfather, rather than the father, of the older sibling.

[7]Sample size varies slightly by measure, but is about 2,000 observations (1,350 for measures concerning (step)fathers specifically).

siblings; family-level characteristics—such as the income-to-needs ratio—drop out upon differencing across siblings.

Regressions using the covariates listed in Table 2 were carried out for all 33 indices. Table 3A presents two representative between-family regressions, the first predicting a child's grade point average and the second whether a child has had sex yet. Table 3B presents the corresponding regressions on within-family differences, in which the unit of observation is not an individual but a pair of (half-)siblings, and the dependent variables and most explanatory variables are measured as differences between the two. Age is treated non-parametrically in both types of regression.[8] The within-family regressions also use separate dummy variables for "older boy/younger girl" and "older girl/younger boy" comparisons (the default being same-sex comparisons).

As the two examples in Table 3A suggest, the estimated stepparent effects in a between-family analysis are consistent with, if a bit smaller than, the simple differences in unadjusted means already reported (Table 1A). Compared to children living with both biological parents, children living with stepparents tend to have lower grades (by .14 to .21 grade points, or a fifth to a quarter of a standard deviation) and are more likely to have had sex (by 7 to 13 percentage points), other things equal.

For the sibling-difference model, in contrast, the differences in unadjusted means in Table 1B are much poorer predictors of the differences in regression-adusted means. Looking at Table 3B, for instance, we see that both stepmother effects become insignificant, the stepfather effect on a child's GPA rises by a third (from -.289 to -.454), and the stepfather effect on the likelihood that the child has had sex falls by a third (from 0.421 to 0.270).

---

[8]The between-family regressions use "years of age" dummies, and the within-family regressions use a dummy for each possible age combination.

Taking all the indicators as a whole, the between-family stepparent effects are consistent with the results of previous studies. As Table 4A shows, stepfather effects are statistically significant for 30 of the 33 indicators, and stepmother effects for 21. By every one of those measures, children living with a parent and a stepparent fare worse than children living with both parents. By a dozen or so, stepchildren fare worse than children in mother-only families.

The within-family stepparent effects reported in Table 4B should be interpreted in the context of much reduced sample sizes.[9] Despite the smaller samples, a third of the effects remain significant, consistent with the differential-treatment hypothesis.

Comparison of the point estimates in Tables 4A and 4B offers further support for the differential-treatment hypothesis. Consider the signs of the 28 stepfather effects (i.e., ignore the 5 measures that pertain only to mothers). For all 28 measures, the sign on the between-family estimate indicates a worse outcome for stepchildren than biological children; the within-family estimates have identical signs for all but 5 measures. Repeating the comparisons for stepmother effects, we see that the sign on the between-family estimate indicates a worse outcome for stepchildren than biological children in every case; the within-family estimates have identical signs for 19 of the 28 measures.

As for the sizes of the point estimates, for stepfathers, the effect gets bigger after differencing for 17 of the 28 measures; of the remaining 11, 6 shrink and 5 reverse. We also compute the ratio of each within-family estimate to its corresponding between-family estimate, and find that the

[9]Although the samples for the sibling-difference regressions range from 1,350 to 2,000 observations, stepparent effects are identified by a relatively small number of half-sibling pairs. Of the 442 pairs in the 1994 Add Health survey, approximately two-thirds are in a mother-only household, leaving the other third to identify stepparent effects. Of that third, four-fifths are in stepfather families, implying that stepfather effects are identified on the basis of about 120 half-sibling pairs, and stepmother effects on the basis of two to three dozen.

median value of those ratios is 1.66. For stepmothers, 12 of the point estimates rise after differencing, 11 fall, and 5 change sign. The median value of the ratio of each within-family point estimate to its corresponding between-family estimate is 0.69.

5. Conclusions

In this paper we examine nearly three dozen indices of child well-being for evidence of selection bias in the measurement of stepparent effects. Our results stand in contrast to those of Gennetian (1999), Ginther and Pollak (2000), or Hofferth and Anderson (2000), who use the same identification strategy but find little evidence of stepparent effects when they compare half-siblings. Consistent with the results of most studies, we find negative effects for virtually every measure when children are compared across families. When sibling comparisons are used to control for unobserved family factors, one-third of the effects remain significant. Comparison of the within-family estimates to the between-family estimates suggests that many more of the within-family effects, particularly stepfather effects, would remain significant if the sample were larger.

These results are consistent with the hypothesis that parents favor biological children over stepchildren. While sample selection may indeed bias the measurement of stepparent effects based on between-family estimates, our results suggest that the direction of that bias is not uniform—it appears as likely to understate as to overstate the true effects of living with a stepparent. Researchers should therefore be cautious about generalizing the results of any study based on a single indicator of child well-being.

We view the stepparent effects in this study as conservative estimates, as half-sibling comparisons seem likely to underestimate true stepparent effects. One reason is that unobserved family factors might affect siblings differently, and if such differences are correlated with differences

in family structure, they introduce bias. In particular, attempts by biological parents to compensate children for discrimination by stepparents would tend to reduce measured stepparent effects.[10] Even if such differences are not correlated with differences in family structure, they may reduce the explanatory power of the sibling-difference model, as Duncan and Raudenbusch (1998) note.

Another reason that half-sibling comparisons may understate stepparent effects is that the families that permit us to identify the effects—families with half-siblings and an adult who is parent to one child and stepparent to the other—may themselves be a select group themselves. If, as Hofferth and Anderson (2000) suggest, the stepparents who choose to have children with a partner who already has children from a previous relationship are those with better parenting or relationship skills, we might expect more equal treatment of half-siblings.

Half-sibling comparisons may also understate stepparent effects if overt parental discrimination among two children living under the same roof violates social norms. If a stepparent's response is to stint both children, measured stepparent effects will be smaller. Differential treatment may be more apparent in data from countries where discriminatory treatment of siblings is more permissible, or in data from poor countries where parents face much harsher constraints in the intra-household allocation of food, education, or health care (see, for instance, Case, Lin, and McLanahan's 1999 study using South African data).

To the extent that differential treatment involves illicit behavior like abuse or neglect, it is bound to be underestimated. There are reasons to suspect that stepchildren are very disproportionately the victims of abuse (the finding by Daly and Wilson (1988) that children are 70

[10]If this were the case, one might expect children in a stepfather family to report better relationships with their mother, or to participate in more activities with her, than children in an intact family. The signs of some estimates in Table 4B are consistent with this hypothesis, although none of the estimates is significant.

times more likely to be murdered by their mothers' unrelated male partners than by their biological fathers is a stepparent effect far outstripping any we find in Add Health data). To the best of our knowledge, however, no large-scale surveys, including Add Health, ask questions about parental neglect or abuse. Reasons for this omission include the fear that parents would forbid participation in the survey, and concern over legal requirements to report known or suspected child abuse. We inject here a plea that, given the serious impact of neglect and abuse on children's wellbeing and life outcomes, greater efforts be made to collect such data in the context of large surveys, if only by asking retrospective questions of respondents once they reach adulthood.

Finally, there are three aspects of Add Health's design that are likely to lead us to underestimate negative stepparent effects. First, the survey's school-based design means that there are no dropouts in the initial sample. Research, meanwhile, suggests that stepchildren are more likely to drop out of high school than children who live with both parents (e.g., Garasky 1995, Bogess 1998), and it may be that the children with the worst relationships with their stepparents are the most likely to drop out. Furthermore, youths in juvenile detention are not surveyed, but are disproportionately from stepfamilies (McLanahan and Harper 1998) and can be presumed to have poorer outcomes in general. Second, the ten percent of respondents who live with neither biological parent[11] are excluded from our analysis because too much family history information is missing. Stepchildren are more likely than other children to leave home because of conflict (Mitchell 1994), and it is reasonable to suppose that some of the conflict is between stepparent and stepchild. Third, the survey collects information on only one household per child, but which biological parent's household becomes the child's household is not random. Children, and particularly teenagers, often

[11]Even among adolescents under 18, the proportion is eight percent.

have a voice in custody determination, and their preferences are affected by the behavior of parents' new partners. Even if children had no voice in the matter, stepparents' sentiments toward their spouses' children would influence custody arrangements. Hence, children observed in stepparent households are likely to be living with the most successful among potential stepparents.

Continued efforts to improve the measurement of stepparent effects are worthwhile. Better estimates would help us judge how much confidence to place in reports that children derive little or no benefit from stepfathers, other things equal. A clearer understanding of whether or how stepchildren are disadvantaged may help legislators decide how hard to try to keep more parents together. If negative stepparent effects persist despite careful attempts to minimize selection bias, then welfare, and Transitional Aid to Needy Families (TANF) in particular, should perhaps be redesigned to stop subsidizing the replacement of fathers with unrelated men. Perhaps "wedfare" programs should be given less priority, and child-support enforcement more. Perhaps family courts should look upon a stepparent as a liability, rather than an asset, in making custody decisions. Alternatively, if stepparent effects are judged to be more apparent than real, perhaps the younger half-siblings of stepchildren should be viewed as an "at risk" group, despite living with both biological parents.

References

Bogess, Scott. 1998. Family structure, economic status, and educational attainment. *Journal of Population Economics* 11:205-222.

Bumpass, Larry, R. Kelly Raley, and James A. Sweet. 1995. The changing character of stepfamilies: Implications of cohabitation and nonmarital childbearing. *Demography* 32:3 (August): 425-436.

Case, Anne, I-Fen Lin, and Sara McLanahan. 1999. How hungry is the selfish gene? National Bureau of Economic Research Working Paper 4701.

Case, Anne, I-Fen Lin, and Sara McLanahan. 1999. Household resource allocation in stepfamilies: Darwin reflects on the plight of Cinderella. *American Economic Review* 89:2 (May): 234-238.

Cherlin, Andrew J., Frank F. Furstenberg, Jr., P. Lindsay Chase-Lansdale, Kathleen E. Kiernan, Philip K. Robins, Donna Ruane Morrison, and Julien Teitler. 1991. Longitudinal studies of effects of divorce on children in Great Britain and the United States. *Science* 252:5011 (June 7): 1386-1389.

Daly, Martin and Margo Wilson. 1988. *Homicide.* New York: A. de Gruyter.

Dawson, Deborah A. 1991. Family structure and children's health and well-being: Data from the 1988 National Health Interview Survey on Child Health. *Journal of Marriage and the Family* 53 (August): 573-584.

Duncan, Greg J. and Stephen W. Raudenbush. 1998. Neighborhoods and adolescent development: How can we determine the links? Joint Center for Poverty Research Working Paper, 12-3 (December).

Epstein, A. M. 1990. The outcomes movement—Will it get us where we want to go? *New England Journal of Medicine* 323:4 (July 26): 266-270.

Evenhouse, Eirik and Siobhan Reilly. 1997. Divorce laws and divorce rates: Evidence from panel data. Manuscript (August).

Evenhouse, Eirik and Siobhan Reilly. 1999. Welfare and children's living arrangements. Manuscript (July).

Garasky, Steven. 1995. The effects of family structure on educational attainment. *American Journal of Economics and Sociology* 54:1 (January): 89-105.

Gennetian, Lisa. 1999. One or two parents? Half or step siblings? The effect of family composition on cognitive outcomes for young children. Manuscript, Manpower Demonstration Research

Corporation (December).

Geronimus, Arline T., and Sanders Korenman. 1992. The socioeconomic consequences of teen childbearing reconsidered. *Quarterly Journal of Economics* 107:4 (November): 1187-1214.

Ginther, Donna A., and Robert A. Pollak. 2000. Does family structure affect children's educational outcomes? Federal Reserve Bank of Atlanta Working Paper 2000-13 (September).

Hofferth, Sandra L., and K. G. Anderson. 2000. Biological and stepfather investment in children. Manuscript, Institute for Social Research, University of Michigan (February).

Painter, Gary, and David L. Levine. 2000. Family structure and youths' outcomes: Which correlations are causal? *Journal of Human Resources* XXXV:3 (Summer): 524-529.

McLanahan, Sara. 1998. Father absence and the welfare of children. In M. Hetherington (ed.) *Coping with Divorce, Single Parenting, and Remarriage: A Risk and Resiliency Perspective*. L. Erlbaum Associates, Inc.: Mahwah, NJ.

McLanahan, Sara and Cynthia Harper. 1998. Father absence and youth incarceration. Mimeo (August), Princeton University.

McLanahan, Sara and Gary Sandefur. 1994. *Growing up with a single parent: What hurts, what helps.* Harvard University Press: Cambridge, MA.

Mitchell, Barbara. 1994. Family structure and leaving the nest: A social resource perspective. *Sociological Perspectives* 37(4): 651-671.

Sandefur, Gary and Thomas Wells. 1997. Using siblings to investigate the effects of family structure on educational attainment. Institute for Research on Poverty Discussion Paper 1144-97 (September).

Table 1A. Mean differences in child well-being across family types

Measures of child well-being	Stepfather vs intact	Stepmother vs intact	Mother-only vs intact
Measures of parental investment			
Child attends a private school	**-.039** (.005)	**-.031** (.011)	**-.042** (.005)
Child saw dentist in past 12 months	**-.080** (.010)	**-.118** (.022)	**-.134** (.009)
Child wears braces on teeth	**-.030** (.006)	**-.051** (.010)	**-.044** (.005)
Number of child's extracurricular activities	**-.258** (.046)	**-.399** (.088)	**-.309** (.039)
Child shares few activities with (step)father	**.118** (.012)	**-.054** (.018)	
Child shares few activities with (step)mother	**-.028** (.009)	**.201** (.025)	-.009 (.008)
Outcome measures			
Education measures:			
Child's self-reported 4-subject GPA	**-.255** (.017)	**-.204** (.035)	**-.265** (.015)
Child ever held back a grade	**.094** (.009)	**.080** (.019)	**.118** (.008)
Child reports getting in trouble at school	**.038** (.004)	**.042** (.008)	**.023** (.004)
Child reports having been suspended from school	**.155** (.010)	**.127** (.020)	**.163** (.009)
Child reports having been expelled from school	**.023** (.004)	**.035** (.010)	**.045** (.004)
Measures of risky behavior:			
Child reports having had sex	**.178** (.011)	**.096** (.022)	**.158** (.009)
Child reports drinking alcohol away from adults	**.077** (.011)	**.062** (.022)	**.016** (.009)
Child reports having used marijuana	**.117** (.010)	**.125** (.021)	**.084** (.009)
Child reports having used "hard" drugs	**.039** (.007)	**.062** (.015)	**.073** (.009)
Child's percentile rank for delinquent behavior	**4.87** (0.61)	**6.16** (1.26)	**4.02** (0.54)
Measures of child's social network:			
Number of students naming child as a friend	**-.374** (.097)	**-.573** (.198)	**-.833** (.082)
Mean GPA of child's friends	**-.172** (.016)	**-.119** (.034)	**-.182** (.014)
Mean number of extracurricular activities of friends	**-.278** (.037)	**-.197** (.087)	**-.318** (.033)
High alcohol/tobacco/marijuana use by best friends	**.068** (.009)	**.047** (.017)	**.044** (.007)
Measures of relationship quality:			
"My (step)mother is mostly warm and loving"	**-.041** (.007)	**-.185** (.022)	**-.040** (.006)
"My (step)father is mostly warm and loving"	**-.140** (.012)	-.013 (.017)	
"My (step)mother cares for me "	**-.021** (.006)	**-.353** (.024)	**-.023** (.006)
"My (step)father cares for me"	**-.123** (.009)	-.009 (.009)	
"I feel close to my (step)mother"	**.011** (.007)	**-.264** (.024)	**-.013** (.006)
"I feel close to my (step)father"	**-.191** (.012)	**.060** (.014)	
"Have unsatisfactory relationship with(step)mother"	**.045** (.007)	**.146** (.021)	**.036** (.006)
"Have unsatisfactory relationship with (step)father"	**.103** (.011)	.021 (.016)	
"I badly want to leave home"	**.056** (.008)	**.050** (.017)	**.048** (.007)
"Last physical fight was with a family member"	.007 (.005)	.004 (.011)	.002 (.005)
Measures of emotional health:			
Child contemplated suicide seriously within past year	**.046** (.008)	**.042** (.016)	**.017** (.006)
Child often feels depressed	**.169** (.031)	**.045** (.066)	**.131** (.028)
Child has poor self-image	**.047** (.011)	**.056** (.022)	**.055** (.010)

Notes: Classification of family type is child-based, with child classified by relationship to household's adults. Sample size ranges from about 10,500 to 16,900. Standard errors (in parentheses) adjusted for within-family correlation. Bold font indicates statistical significance at 10-percent level or better. See appendix for more detail about indicators.

Table 1B: (Half-)sibling differences and stepparent effects

Differenced measures of child well-being	Stepfather vs. father	Stepmother vs. mother
Differenced measures of parental investment		
Child attends private school	.010 (.010)	.000 (.001)
Child saw dentist in past 12 months	-.049 (.057)	-.046 (.117)
Child wears braces on teeth	.024 (.039)	-.136 (.011)
Number of child's extracurricular activities	.460 (.324)	.108 (.590)
Child shares few activities with (step)father	.103 (.083)	-.108 (.156)
Child shares few activities with (step)mother	-.045 (.066)	**.403** (.162)
Differenced outcome measures		
Differenced education measures:		
Child's self-reported 4-subject GPA	**-.289** (.090)	-.048 (.212)
Child ever held back a grade	.049 (.065)	.068 (.106)
Child reports getting in trouble at school	**.040** (.024)	.034 (.058)
Child reports having been suspended from school	**.150** (.069)	-.170 (.115)
Child reports having been expelled from school	-.020 (.018)	-.059 (.052)
Differenced measures of risky behavior:		
Child reports having had sex	**.421** (.066)	**.388** (.141)
Child reports drinking alcohol away from adults	.082 (.100)	**.434** (.168)
Child reports having used marijuana	**.245** (.073)	**.352** (.135)
Child reports having used any of 5 "hard" drugs	**.411** (.128)	.452 (.351)
Child's percentile rank for delinquent behavior	**7.62** (4.25)	3.37 (7.69)
Differenced measures of child's social network:		
Number of students naming child as a friend	-1.28 (1.10)	0.34 (2.71)
Mean GPA of child's friends	.152 (.123)	-.272 (.361)
Mean number of extracurricular activities of friends	.057 (.301)	-.149 (.799)
High alcohol/tobacco/marijuana use by best friends	.092 (.061)	.143 (.118)
Differenced measures of relationship quality:		
"My (step)mother is mostly warm and loving"	.004 (.045)	-.126 (.089)
"My (step)father is mostly warm and loving"	**-.177** (.062)	-.051 (.095)
"My (step)mother cares for me "	.024 (.054)	**-.265** (.117)
"My (step)father cares for me"	**-.164** (.050)	.115 (.075)
"I feel close to my (step)mother"	.067 (.048)	**-.189** (.106)
"I feel close to my (step)father"	**-.263** (.067)	.011 (.111)
"Have unsatisfactory relationship with (step)mother"	.006 (.052)	.054 (.064)
"Have unsatisfactory relationship with (step)father"	**.186** (.068)	.099 (.074)
"I badly want to leave home"	-.096 (.082)	-.074 (.142)
"Last physical fight was with a family member"	-.006 (.034)	-.123 (.083)
Differenced measures of emotional health:		
Child contemplated suicide seriously within past year	.084 (.062)	.109 (.078)
Child often feels depressed	-.347 (.264)	**-.164** (.050)
Child has poor self-image	**-.272** (.084)	-.276 (.196)

Notes: Each variable measured as differential between two (half-)siblings. Table reports correlation between outcome differential and any difference between siblings' relationships to an adult in the family. Standard errors (in parentheses) adjusted for within-family correlation (multiple pairings in some families). Bold font indicates statistical significance at 10-percent level or better. See appendix for more detail on indicators.

Table 2. Descriptive statistics for regression controls

Explanatory variable	Stepfather family	Stepmother family	Mother-only family	Intact family
Number of pre-teen years in two-parent family	3.7 (4.2)	7.3 (4.3)	4.5 (4.8)	
Number of pre-teen years in one-parent family	4.1 (3.9)	3.6 (3.9)	5.6 (4.6)	
Number of pre-teen years in stepparent family	4.2 (3.9)	1.0 (2.1)	1.9 (3.2)	
Child has lived with two or more stepparents	0.37	0.03	0.15	
Child is female	0.52	0.42	0.53	0.50
Household's income-to-needs ratio	2.7 (2.9)	3.1 (2.3)	2.0 (3.3)	3.4 (3.7)
(Step)mother works full-time	0.64	0.66	0.69	0.56
Child has an alcoholic biological parent	0.25	0.18	0.21	0.06
Child is caucasian	0.66	0.75	0.47	0.71
Child is African-American	0.24	0.14	0.43	0.14
Child is Asian	0.03	0.08	0.04	0.08
Child is Hispanic	0.16	0.11	0.18	0.17
Eldest child	0.63	0.50	0.54	0.44
Low birth weight (under 5.5 lbs)	0.07	0.09	0.07	0.05
Parent says child is retarded	0.01	0.01	0.02	0.01
Parent says child is learning disabled	0.14	0.14	0.13	0.10
Interviewer rating of child's attractiveness (1-5)	3.6 (0.9)	3.5 (0.8)	3.5 (0.9)	3.6 (0.9)
Child's body mass index	23.8 (16.7)	23.0 (12.9)	24.9 (19.3)	24.5 (18.7)
Child looks older than actual age	0.10	0.12	0.13	0.12
Child looks younger than actual age	0.14	0.10	0.12	0.09
Child professes to be "born-again Christian"	0.26	0.25	0.26	0.26
School quality (% testing below grade level)	21.8 (15.5)	20.0 (14.0)	24.4 (16.2)	20.8 (15.0)
Child attends private school	0.05	0.05	0.04	0.09
Child born in United States	0.94	0.91	0.93	0.92
Child is twelve years old	.002	.002	.001	.002
Child is thirteen years old	.035	.025	.033	.037
Child is fourteen years old	.120	.088	.113	.124
Child is fifteen years old	.150	.158	.149	.143
Child is sixteen years old	.199	.184	.183	.182
Child is seventeen years old	.199	.203	.197	.196
Child is eighteen years old	.166	.205	.177	.184
Child is nineteen years old	.109	.114	.122	.121
Child is twenty or twenty-one years old	.009	.023	.027	.013
Number of observations	2,978	571	4,409	8,961

Notes: Data from 1st wave (1994) of Add Health survey.

Table 3A. Two examples of between-family regressions

	Outcome	
Covariates	**Self-reported GPA**	**Has child had sex yet?**
Child lives with stepfather	**-.143** (.024)	**.128** (.015)
Child lives with stepmother	**-.212** (.047)	**.073** (.029)
Child lives in mother-only family	**-.081** (.022)	**.088** (.013)
Number of pre-teen years in a one-adult family	**-.006** (.002)	.000 (.001)
Number of pre-teen years in a stepfamily	-.002 (.003)	.000 (.002)
Child has lived with two or more stepparents	.000 (.027)	.013 (.016)
Child is female	**.182** (.011)	**-.023** (.007)
Child is African-American	**-.179** (.015)	**.143** (.010)
Child is Asian	**.077** (.026)	**-.048** (.015)
Child is Hispanic	**-.243** (.017)	.011 (.010)
Child was born in United States	**-.080** (.024)	**.109** (.015)
Eldest child	**.034** (.011)	-.001 (.007)
Low birth weight	.039 (.027)	**-.045** (.015)
Child is learning-disabled	**-.401** (.018)	.004 (.011)
Child's body mass index (BMI)		**-.001** (.000)
Interviewer's rating of child's attractiveness (1-5)	**.065** (.007)	**.010** (.004)
Child looks younger than actual age	**-.048** (.019)	**-.022** (.011)
Child looks older than actual age	-.024 (.017)	**.121** (.011)
Child attends private school	**.207** (.022)	**-.110** (.013)
Percent of students below grade level	.000 (.000)	-.000 (.000)
Income-to-needs ratio	**.036** (.003)	**-.006** (.002)
Income-to-needs ratio, squared (x 10^{-3})	**-.487** (.071)	**.065** (.028)
Child has an alcoholic biological parent	**-.090** (.018)	**.048** (.011)
Child is self-described "born-again Christian"	**.117** (.013)	**-.060** (.008)
Age dummies	Yes	Yes
Number of observations	16,759	16, 821

Notes: Table reports OLS coefficients. Standard errors (in parentheses) adjusted for within-family correlation. Bold font denotes significance at 10-percent level or better.

Table 3B. Two examples of regression using within-family differences

	Outcome	
Differenced covariates	**Self-reported GPA**	**Has child had sex yet?**
Child lives with stepfather	**-.454** (.136)	**.270** (.098)
Child lives with stepmother	-.203 (.282)	.077 (.192)
Number of pre-teen years in a one-adult family	.018 (.016)	-.011 (.011)
Number of pre-teen years in a stepfamily	**.026** (.011)	.007 (.008)
Child has lived with two or more stepparents	-.048 (.125)	-.027 (.073)
Child was born in United States	-.130 (.189)	.088 (.102)
Eldest child	.008 (.032)	.000 (.021)
Low birth weight	.031 (.065)	.027 (.040)
Child is learning-disabled	**-.216** (.054)	-.043 (.032)
Child's body mass index (BMI)		-.002 (.003)
Interviewer's rating of child's attractiveness (1-5)	**.043** (.021)	**.045** (.013)
Child looks younger than actual age	.012 (.047)	-.028 (.032)
Child looks older than actual age	-.043 (.051)	**.079** (.032)
Child attends private school	-.088 (.193)	-.240 (.165)
Percent of students below grade level	-.001 (.003)	-.001 (.002)
Child has an alcoholic biological parent	-.021 (.091)	-.046 (.060)
Child is self-described "born-again Christian"	**.144** (.047)	**-.055** (.030)
Dummy indicating boy-to-girl comparison	**-.181** (.051)	**.097** (.034)
Dummy indicating girl-to-boy comparison	**.222** (.057)	-.007 (.036)
Dummy for each combination of ages	Yes	Yes
Number of observations	1,947	1,967

Notes: Except for last four explanators, each variable measured as differential between two siblings. Table reports OLS coefficients, with standard errors in parentheses. Standard errors adjusted for within-family correlation (multiple pairings in some families). Bold font denotes significance at 10-percent level or better.

Table 4A: Stepparent effects measured between families

Measures of child's well-being	Stepfather vs intact	Stepmother vs intact	Mother-only vs intact
Measures of parental investment			
Child attends private school	-.006 (.018)	-.008 (.015)	.007 (.008)
Child saw dentist in past 12 months	**-.041** (.016)	**-.121** (.031)	**-.039** (.014)
Child wears braces on teeth	-.003 (.008)	**-.038** (.014)	.002 (.008)
Number of child's extracurricular activities	**-.135** (.067)	**-.332** (.125)	**-.128** (.058)
Child shares few activities with (step)father	**.077** (.024)	**-.056** (.031)	
Child shares few activities with (step)mother	**-.045** (.014)	**.222** (.035)	**-.051** (.013)
Outcome measures			
Education measures:			
Child's self-reported 4-subject GPA	**-.143** (.024)	**-.212** (.047)	**-.081** (.022)
Child ever held back a grade	**.033** (.013)	.029 (.027)	**.033** (.014)
Child reports getting in trouble at school	**.033** (.006)	**.039** (.012)	**.021** (.005)
Child reports having been suspended from school	**.081** (.014)	**.095** (.030)	**.055** (.013)
Child reports having been expelled from school	.010 (.007)	**.029** (.015)	**.018** (.006)
Measures of risky behavior:			
Child reports having had sex	**.139** (.021)	**.131** (.056)	**.084** (.016)
Child reports drinking alcohol away from adults	**.077** (.015)	.044 (.030)	**.058** (.014)
Child reports having used marijuana	**.113** (.015)	**.127** (.030)	**.100** (.013)
Child reports having used "hard" drugs	**.110** (.015)	**.118** (.030)	**.091** (.015)
Child's percentile rank for delinquent behavior	**2.99** (0.91)	**4.76** (1.83)	**2.69** (0.83)
Measures of child's social network:			
Number of students naming child as a friend	**-.258** (.143)	**-.719** (.261)	**-.377** (.124)
Mean GPA of child's friends	**-.077** (.023)	**-.095** (.050)	**-.044** (.021)
Mean number of extracurricular activities of friends	**-.159** (.054)	-.160 (.122)	**-.112** (.049)
High alcohol/tobacco/marijuana use by best friends	**.034** (.013)	.033 (.025)	**.021** (.012)
Measures of relationship quality:			
"My (step)mother is mostly warm and loving"	**-.023** (.010)	**-.186** (.031)	**-.016** (.009)
"My (step)father is mostly warm and loving"	**-.112** (.022)	-.002 (.030)	
"My (step)mother cares for me "	**-.021** (.011)	**-.387** (.031)	**-.023** (.010)
"My (step)father cares for me"	**-.122** (.022)	-.041 (.034)	
"I feel close to my (step)mother"	**-.023** (.011)	**-.284** (.033)	**-.018** (.010)
"I feel close to my (step)father"	**-.175** (.023)	.045 (.029)	
"Have unsatisfactory relationship with (step)mother"	**.042** (.012)	**.128** (.032)	**.036** (.011)
"Have unsatisfactory relationship with (step)father"	**.084** (.022)	-.008 (.028)	
"I badly want to leave home"	**.030** (.012)	.029 (.025)	.013 (.011)
"Last physical fight was with a family member"	**.022** (.008)	**.034** (.015)	**.016** (.008)
Measures of emotional health:			
Child contemplated suicide seriously within past year	**.045** (.011)	**.048** (.025)	**.018** (.010)
Child often feels depressed	**.032** (.011)	.001 (.022)	**.031** (.010)
Child has poor self-image	**.040** (.016)	.039 (.032)	**.043** (.015)

Note: Table reports the difference in a variable's regression-adjusted mean between two types of families. Standard errors (in parentheses) adjusted for within-family correlation. Bold font indicates statistical significance at 10-percent level or better. See appendix for more detail about indicators.

Table 4B: Stepparent effects measured within families

Differenced measures of child well-being	Stepfather vs. father	Stepmother vs. mother
Differenced measures of parental investment		
Child attends a private school	.018 (.012)	.009 (.011)
Child saw dentist in past 12 months	-.040 (.089)	-.131 (.162)
Child wears braces on teeth	**.107** (.054)	-.012 (.115)
Number of child's extracurricular activities	.498 (.426)	.241 (.715)
Child shares few activities with (step)father	**.374** (.184)	.137 (.242)
Child shares few activities with (step)mother	.058 (.097)	**.456** (.177)
Differenced outcome measures		
Differenced education measures:		
Child's self-reported 4-subject GPA	**-.454** (.136)	-.203 (.282)
Child ever held back a grade	.025 (.095)	-.013 (.148)
Child reports getting in trouble at school	**.077** (.041)	**.157** (.086)
Child reports having been suspended from school	.137 (.097)	**-.450** (.150)
Child reports having been expelled from school	-.003 (.041)	.030 (.077)
Differenced measures of risky behavior:		
Child reports having had sex	**.270** (.098)	.077 (.192)
Child reports drinking alcohol away from adults	.110 (.104)	**.408** (.172)
Child reports having used marijuana	**.183** (.096)	**.341** (.166)
Child reports having used any of 5 "hard" drugs	.152 (.177)	.093 (.374)
Child's percentile rank for other delinquent behavior	6.30 (6.55)	5.69 (10.6)
Differenced measures of child's social network:		
Number of students naming child as a friend	-.185 (1.41)	1.58 (3.09)
Mean GPA of child's friends	**-.931** (.479)	-.854 (.800)
Mean number of extracurricular activities of friends	**-.930** (.479)	-.859 (.800)
High alcohol/tobacco/marijuana use by best friends	.121 (.084)	.165 (.160)
Differenced measures of relationship quality:		
"My (step)mother is mostly warm and loving"	.040 (.067)	-.192 (.127)
"My (step)father is mostly warm and loving"	**-.365** (.156)	-.144 (.178)
"My (step)mother cares for me "	.037 (.385)	-.064 (.159)
"My (step)father cares for me"	-.115 (.120)	.181 (.120)
"I feel close to my (step)mother"	.069 (.069)	**-**.048 (.165)
"I feel close to my (step)father"	**-.337** (.153)	.039 (.180)
"Have unsatisfactory relationship with (step)mother"	-.019 (.074)	-.081 (.117)
"Have unsatisfactory relationship with (step)father"	**.253** (.142)	.187 (.180)
"I badly want to leave home"	-.094 (.083)	-.046 (.143)
"Last physical fight was with a family member"	**.092** (.056)	.007 (.093)
Differenced measures of emotional health:		
Child contemplated suicide seriously within past year	.119 (.089)	.192 (.136)
Child often feels depressed	-.244 (.414)	-.200 (.725)
Child has poor self-image	.014 (.117)	-.028 (.228)

Notes: Each variable measured as differential between two (half-)siblings. Table reports correlation between outcome differential and any difference between siblings' relationships to an adult in the family. Standard errors (in parentheses) adjusted for within-family correlation (multiple pairs in some families). Bold font denotes statistical significance at 10-percent level or better. See appendix for more detail about indicators.

Appendix
Definitions of measures of child well-being in AddHealth data

Number of child's extracurricular activities

Number of activities child participates in (from 30-item list). Topcoded at 10, which corresponds to the 99th percentile.

Child shares few activities with (step)mother

Dummy variable coded "Yes" if child participated in 2 or fewer of ten possible activities with parent during preceding month. Characterizes 23 percent of children.

Child shares few activities with (step)father

Dummy variable coded "Yes" if child participated in one or none of ten possible activities with parent during preceding month. Characterizes 25 percent of children.

Child's self-reported four-subject GPA

Grade point average can range from 1.0 to 4.0. Four subjects are mathematics, science, history or social studies, and language arts.

Child getting in trouble at school

Dummy variable coded "Yes" if child admitted to two or more of four possible types of trouble at school. Characterizes ten percent of children.

Child reports having used "hard" drugs

"Hard" does not include marijuana.

Child's percentile rank for delinquent behavior

Children were asked about 15 types of delinquent behavior (other than use of tobacco, alcohol, or illegal drugs). Each type was scored 0-3 (3=most frequent) and the scores summed. The raw scores were converted into percentiles.

Number of children naming child as friend

Number of fellow students who included child in their own list of friends.

High alcohol/tobacco/marijuana use by best friends

Child was asked how many of three best friends (a) smoke one or more cigarettes per day, (b) drink alcohol at least once a month, or (c) use marijuana at least once a month. Dummy variable coded "Yes" if child's answers sum to six or more. Characterizes 16 percent of children.

"My (step)mother is mostly warm and loving"

Dummy variable coded "Yes" if child marked 4 or 5 on a scale of 1 (strong disagreement) to 5 (strong agreement). Characterizes 84 percent of children.

"My (step)father is mostly warm and loving"

Dummy variable coded "Yes" if child marked 4 or 5 on a scale of 1 (strong disagreement) to 5 (strong agreement). Characterizes 83 percent of children in two-adult families.

"My (step)mother cares for me"

Dummy variable coded "Yes" if child marked 5 on a scale of 1 (strong disagreement) to 5 (strong agreement). Characterizes 82 percent of children.

"My (step)father cares for me"

Dummy variable coded "Yes" if child marked 4 or 5 on a scale of 1 (strong disagreement) to 5 (strong agreement). Characterizes 82 percent of children in two-adult families.

"I feel close to my (step)mother"

Dummy variable coded "Yes" if child marked 4 or 5 on a scale of 1 (strong disagreement) to 5 (strong agreement). Characterizes 83 percent of children.

"I feel close to my (step)father"

Dummy variable coded "Yes" if child marked 4 or 5 on a scale of 1 (strong disagreement) to 5 (strong agreement). Characterizes 80 percent of children in two-adult families.

"Have an unsatisfactory relationship with (step)mother"

Dummy variable coded "Yes" if child marked 1, 2, or 3 on a scale of 1 (very dissatisfied) to 5 (very satisfied). Characterizes 16 percent of children.

"Have an unsatisfactory relationship with (step)father"

Dummy variable coded "Yes" if child marked 1, 2, or 3 on a scale of 1 (very dissatisfied) to 5 (very satisfied). Characterizes 18 percent of children in two-adult families.

"I badly want to leave home"

Dummy variable coded "Yes" if child marked 4 or 5 on a scale of 1 (doesn't want to leave home) to 5 (badly wants to leave). Characterizes 16 percent of children.

"Child often feels depressed"

Dummy variable coded "Yes" if child marked 3, 4, or 5 on a scale of 1 (rarely feels depressed) to 5 (always feels depressed). Characterizes 15 percent of children.

"Child has poor self-image"

Dummy variable coded "Yes" if child in lowest 20 percent for positive self-image. Children were asked about 11 indicators of positive self-image. Each indicator was scored 1 (strongly disagree) to 5 (strongly agree) and the scores summed. The raw scores were converted into percentiles.