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Ruth N. López Turley¹ and Matthew Desmond²

Abstract

Using parent interview data from a subsample of the National Postsecondary Student Aid Study (NPSAS), the authors compared the financial contributions of married, divorced, and remarried parents toward their children's college education and found that although divorced parents contributed significantly less than married parents, remarried parents contributed amounts similar to those of divorced parents, despite having incomes similar to those of married parents. The authors also investigated the financial contributions of divorced and remarried parents who lived in states that permit courts to extend child support beyond the age of 18 for college expenses (postmajority states) and found that living in a postmajority state is not associated with increased parent contributions.

Keywords

education, college, financial aid, divorce, marital status, parents, family structure

The U.S. postsecondary education system is based on the premise that parents will fund a significant portion of their children's college costs. For example, in 1999-2000, low-income (<\$30,000) full-time dependent undergraduate

¹Rice University, Houston, TX, USA

²University of Wisconsin–Madison, Madison, WI, USA

Corresponding Author:

Ruth N. López Turley, Department of Sociology MS-28, Rice University, 6100 Main Street, Houston, TX 77005-1827, USA

Email: turley@rice.edu

students and their families had to pay \$4,600 to \$9,100, and middle-income (\$45,000-\$74,999) students and their families had to pay \$7,500 to \$14,600, depending on the type of institution (Choy & Berker, 2003). Although federal, state, and institutional aid help defray the cost of a postsecondary education, these figures reflect the net price after financial aid. Furthermore, recent trends show that parents must shoulder a growing portion of their children's college costs. Tuition and fees have been rising at a significantly faster rate than financial aid or inflation (Baum, 2001; Kane, 1999), and non-tuition expenditures—such as room and board, textbooks, and meal plans—also have increased substantially. Federal aid has been shifting toward the allocation of loans, most of which are unsubsidized and are not need based (Hearn, 2001; McPherson & Schapiro, 1998), and at the same time, state funding for merit-based programs has increased at a much faster rate than funding for need-based programs (Heller, 2002). In addition, there is evidence that some institutions respond to increases in government aid by inflating student charges, such that institutions recover as much as 30% of the financial aid intended to help families (Long, 2004).

Among those most harmed by the increasing costs of college and the devaluation of financial aid are children from low-income families, whose college enrollment rates are decreasing (Kane, 1999; McPherson, 1993). The widening gap between financial aid and college costs makes it increasingly difficult for low-income parents to pay for college, and single parents are disproportionately affected since they experience greater economic hardship than married parents. The odds that a parent will be able to pay for a child's postsecondary education are estimated to decrease by 57% if he or she is single (Steelman & Powell, 1991).

Social scientists have long argued that the economic disadvantages that accompany marital disruption limit the educational performance of children from divorced homes. According to the well-known economic deprivation thesis, children from divorced households fare worse in educational attainment than children from married households because of the financial disadvantage associated with marital disruption rather than the negative effects of marital disruption per se (McLanahan, 1985; Ploeg, 2002). Yet very few studies investigate the specific ways in which children of divorced households are economically deprived. In this study, we examine one mechanism of economic deprivation that is significantly associated with students' postsecondary achievement and attainment: parental contributions to college costs.

In contrast to the economic deprivation thesis, we find that married parents contribute more than divorced/separated parents, even after important factors, such as income and education, are held constant. We also find that

remarried parents contribute amounts similar to those of divorced parents, despite having incomes similar to those of married parents. In addition, after comparing the financial contributions of divorced/separated and remarried parents who live in states that require child support for college (postmajority states) with those of divorced and remarried parents who live in other states, we find that living in a postmajority state does not seem to be associated with increased parents' contributions.

Previous Research

Social scientists have devoted a considerable amount of effort attempting to explain the relationship between family structure and educational success. Numerous studies have concluded that young adults from divorced or separated households are less likely to be admitted to college and are also less likely to attend and to graduate compared with their peers from married households (McLanahan & Sandefur, 1994; Sandefur, McLanahan, & Wojtkiewicz, 1992). Significant differences in college attendance and completion rates remain even after the amount of financial aid students receive is held constant (Ploeg, 2002), and they widen when comparisons include data from selective universities (Lillard & Gerner, 1999).

Researchers have offered several explanations (some competing, others compatible) to account for the negative relationship between marital disruption and educational success, including parental absence (Astone & McLanahan, 1991; Duncan & Hoffman, 1985), residential mobility (Astone & McLanahan, 1994; Haveman, Wolfe, & Spaulding, 1991), lower returns to education (Becker & Tomes, 1986; M. A. Powell & Parcel, 1997), and economic deprivation (McLanahan & Sandefur, 1994). The economic deprivation thesis asserts that fiscal disadvantages that accompany marital disruption are a more potent causal explanation in determining educational outcomes than family dynamics *per se*. Relative to the other explanations, the economic deprivation thesis seems to explain the most variation.

The economic deprivation thesis can be traced back to 40-year-old arguments reacting to claims linking single motherhood to "social pathologies," such as those found in the Moynihan Report (see Rainwater & Yancey, 1967). Its recent popularity in the debate over the relationship between marital disruption and educational attainment is attributed to work demonstrating that the lower academic attainment of children from single-parent homes is a result of poverty rather than family structure. As one researcher put it, "family structure is more important than poverty in determining behavioral and psychological problems, whereas poverty is more important than family

structure in determining educational attainment” (McLanahan, 1997, p. 48). In sum, single parents lack the wherewithal to pay for educational expenses (such as private tutoring, textbooks, computers, college tuition, etc.), which significantly reduces the educational achievement and attainment of their children (see also Amato, 1993).

Previous research primarily has focused on single-mother families not only because women usually retain custody of their children after marital dissolution but also because the economic well-being of women decreases dramatically after divorce. Low earnings, poor employment status, financially distant fathers, a lack of affordable child care, meager public assistance programs, and low levels of wealth result in single-mother families ranking as the poorest of all major demographic groups (Garfinkel & McLanahan, 1986; Hill, 1992; McLanahan & Booth, 1989). Recognizing the severity of their financial situation, researchers have shown that the negative effect of living with a single mother on educational achievement and attainment declines significantly when income is held constant (e.g., Boggess, 1998; Ploeg, 2002; Pong & Ju, 2000; Thomson, Hanson, & McLanahan, 1994).

Despite a growing body of literature that supports the economic deprivation thesis, only a handful of studies describe the specific ways children from divorced or separated homes are deprived economically and why they matter for educational outcomes (though see Amato, Rezac, & Booth, 1995; Grissett & Furr, 1994; White, 1992). That is, although many researchers have demonstrated effectively that socioeconomic status is more helpful in explaining inequalities in educational attainment and achievement than family structure, they have only speculated about the mechanisms by which this occurs. For the most part, direct measures of parental contributions toward their children’s educational costs have not been investigated.

Some researchers, however, have used college savings as a proxy for parental contributions. For example, Steelman and Powell (1991) found that income constraints make single parents much less likely to save for college than their married counterparts. Although reported savings are a key indicator of parents’ willingness to finance college, they are not a direct measure of their contributions. Some parents may contribute to college expenses even though they did not save for them and other parents may start saving for their children’s college costs but liquidate these assets before their children enter college. It is even possible that married and divorced parents have different saving patterns but make similar contributions once their children are in college.

The mechanisms of economic deprivation pertaining to marital disruption and educational attainment should be explored further. In this article, we investigate one mechanism by which economic deprivation may be detrimental for

the educational outcomes of the children of divorced families: parents' financial contributions toward college costs. Because students' success in college depends largely on their parents' willingness and ability to support them financially, parental contributions is an effective measure of an economic deprivation mechanism, one that is important for children's educational outcomes. Using parent-reported financial contributions for college, the present study measures parents' contributions (a) in absolute dollars, (b) as a proportion of their income, and (c) as a proportion of their children's financial need (calculated as the cost of college minus all aid). Our intention is to compare how much married, divorced/separated, and remarried parents are contributing, focusing on variation by parental education.

In addition, we seek to evaluate the effectiveness of child-support laws in large part designed to help children with divorced parents shoulder the costs of college. Nineteen states have enacted legislation that permits courts either to extend child support beyond the age of 18 or to order child support explicitly for college expenses. In the District of Columbia, Indiana, Mississippi, and New York, the age of the majority is 21. The states that have enacted statutes requiring child support to be extended beyond the age of the majority explicitly to cover college expenses are Alabama, Colorado (where the court, on deeming it appropriate that the parents contribute to college expenditures, terminates child support and constructs a new order requiring both parents to contribute), Georgia (provided that support will be terminated once the child turns 20), Hawaii, Illinois, Iowa, Massachusetts, Missouri, New Hampshire, New Jersey, North Dakota, Oregon, South Carolina, and Washington. And although Utah's statute does not explicitly permit courts to extend postmajority support for college expenses, it allows the courts to order support until the child turns 21. All this pertains to legislation in 1996, the year the data used in this study were collected (see Morgan, 1996, Section 4.05[d]). If postmajority child-support laws have a significant impact on divorced parents' support for their children's college expenses, we would expect divorced parents residing in the states with such laws to contribute more than those residing in states without them.

Data and Method

The data used in this study were obtained from the National Postsecondary Student Aid Study of the 1995-1996 academic year (NPSAS:96), which is a stratified sample of all types of postsecondary institutions and the students within them (Riccobono et al., 1997). Although more recent NPSAS data are available, these later data sets do not include supplementary parent interviews

reporting their financial contributions toward their children's college education. To be eligible for the NPSAS:96 study, institutions were required to have the following: (a) an education program designed for those who have completed a secondary education, (b) a program of study lasting at least 3 months, (c) access to the general public, (d) more than just correspondence courses, and (e) a location in the 50 states, the District of Columbia, or Puerto Rico. Students were eligible for this study if they were enrolled at any time during the year in full-time or part-time academic or vocational courses or programs at eligible institutions (those concurrently enrolled in a high school completion program were not eligible).

Detailed data concerning income, financial aid, tuition, and fees were extracted from institutional records as well as from Department of Education financial aid application and loan records. Demographic information, such as gender, race and ethnicity, and students' grade point averages, were obtained from student telephone interviews. And parental information, such as parents' marital status, education, and financial support provided to children, was acquired from a supplementary parent telephone interview administered to parents of dependent students. We used parents' financial self-reports because they are considered to be more accurate than those of students.¹ When multiple sources were available, we used all of them. For example, we estimated parents' income using the mean of two measures, one from financial aid applications and one from parent interviews.

Although this data set contains a nationally representative sample of undergraduate, graduate, and professional students, we focused on a subsample of 2,400 dependent undergraduate students whose parents were married, divorced/separated, or remarried and who were interviewed regarding their financial contributions toward their children's college costs.² We excluded students whose parents were never married or widowed (together, these two groups made up only 6% of the sample of students whose parents were interviewed) because these groups of parents are distinct from married, divorced/separated, and remarried parents. Widowed parents often are dissimilar financially from divorced parents on account of life insurance policies, and parents who never married can behave like either married or divorced couples, depending on a variety of circumstances. Students with separated parents, who made up about 2% of the sample, were combined with those with divorced parents since these two groups tend to share many similarities.

Unfortunately, none of the NPSAS:96 marital status variables include a category for remarried parents. However, there is a subtle but very important discrepancy in the manner in which parents' marital information was collected from parents and students. While parents were asked, "What is your

marital status?" students were asked, "Are your parents married *to each other?*" (italics added). We used this discrepancy to identify remarried parents. Students who indicated that their parents were not married to each other, but whose parents indicated that they were currently married, were identified as having remarried parents. Our resulting indicator of parents' marital status, which identifies remarried parents, is an improvement on previous research; however, it is limited by the fact that we cannot determine whether the non-interviewed parent is also remarried (the survey's interviewing practices are discussed below). Nevertheless, the marital status of the noninterviewed parent is less important than that of the interviewed parent, who is more likely to represent the parent with whom the student spends more time. This corresponds with financial aid forms (Free Application for Federal Student Aid [FAFSA]), which ask students with divorced or separated parents to answer questions about

the parent you lived with more during the past 12 months, or during the most recent year that you actually received support from a parent. If this parent is remarried as of today, answer the questions about that parent and the person to whom your parent is married (your stepparent).

Using our indicator of parents' marital status, our analytic sample included 1,870 students whose parents were married to each other, 368 students whose parents were divorced or separated, and 162 students whose parents were remarried.

We focused on parents' total financial contributions toward their children's college expenses. Parent-reported contributions were based on the sum of the following three amounts: (a) the amount that both parents paid directly to the student's school, (b) the amount that both parents paid directly to the student, and (c) the amount that both parents loaned to the student, which they expect the student to pay back.³ Like most national data sets, NPSAS interviewed only one parent (68% of whom were mothers), so it is possible that the amounts listed above could be underestimated for divorced parents since all three questions refer to the parent and his/her spouse without specifying whether divorced parents should include former spouses. To illustrate, parents were asked, "How much money have [you/you and your spouse] paid directly to [student's name]'s school for [his/her] educational expenses for the 1995-96 school year?" Based on this wording, it is unclear whether divorced parents included their former spouse's financial contributions. If at least some divorced parents did not report former spouse contributions, then our measure of parent contributions is underestimated for divorced parents.

Furthermore, it is also unclear whether remarried parents included their former or current spouse's financial contributions. We will return to this issue after the results are reported.

We also consider parents' contributions as a proportion of their income. NPSAS income data are unusually precise (and are provided in the form of a continuous measure) because they were obtained from FAFSA records. As indicated earlier, FAFSA instructs students to answer questions about both parents if they are living and married to each other. If they are divorced or separated, students are instructed to answer questions about the parent with whom they lived more during the previous 12 months; and if this parent is remarried, students are instructed to answer questions about that parent and the person to whom that parent is married. For the few students who did not file a FAFSA ($n = 177$), parent-reported income was used.

In addition, we consider parents' contributions as a proportion of their children's financial need or the amount of money that students need to attend the college in which they are enrolled. This is based on the total cost of college minus all aid. For each student, the sum of all federal, state, and institutional aid—including grants/scholarships, loans, work-study, and other types of aid—is subtracted from the actual cost of his/her college, which is based on tuition and nontuition costs, including fees, books, supplies, room and board, transportation, and personal expenses. The cost of college is adjusted for the number of months in which students were enrolled.⁴

In our analysis of the financial contributions of married, divorced, and remarried parents, we used several methods to test for differences among these groups. First, using Wilcoxon nonparametric tests of the equality of medians, we compared median contributions in absolute dollars as well as a proportion of parents' income and as a proportion of their children's financial need (\$1 was added to all amounts to avoid undefined values). We used medians instead of means because they tend to be more robust, particularly when dealing with monetary values and smaller samples. These tests demonstrated that most of the differences were statistically significant, despite the relatively small size of our analytic sample. Second, we compared median contributions for married, divorced/separated, and remarried parents with different education levels, using the highest education of either parent.

Third, we compared the median contributions of divorced/separated and remarried parents in states with differing policies regarding child support for college. Divorced/separated and remarried parents who lived in postmajority states that require the extension of child support beyond the age of 18 for the purpose of supporting college expenses were compared with those who living in states without such a requirement.

Fourth, using ordinary least squares regressions, which were weighted for respondents who were undergraduates (weights provided by NPSAS), we compared the predicted contributions of married, divorced, and remarried parents after controlling for a series of factors likely to influence the amount parents contribute, including parents' income and education, student characteristics (race/ethnicity, financial need, grade point average [GPA], and gender), the number of siblings in college, whether a father or stepparent was interviewed, and whether the parent lived in a postmajority state.⁵ Parents' income and education were included as control variables because parents with higher incomes have the means with which to contribute more to their children's college expenses, and parents with higher education levels are more likely to contribute, especially if their own parents helped to finance their educations (Steelman & Powell, 1991). Race/ethnicity and gender were included because previous work has shown that, for women and minorities, the negative effects of divorce primarily occur through educational attainment (Churaman, 1992; M. A. Powell & Parcel, 1997). GPAs were included because parents of students with higher GPAs may have more confidence in their financial investments. Financial need, which was calculated as the cost of college (tuition and nontuition costs for the specific college attended) minus all aid (federal, state, and institutional), was included as a control variable because it may be lower for children of divorced parents because (a) they may attend institutions that cost less if they perceive that they cannot afford to attend high-cost institutions, (b) they may attend less prestigious institutions as a result of not performing well in high school (Ham, 2003; Pong & Ju, 2000), and (c) they may receive more financial aid because divorced parents tend to have lower incomes. The number of siblings in college was included because parents contribute less when they have multiple children in college at the same time (B. Powell & Steelman, 1995). Indicators of whether fathers or stepparents were interviewed were included because fathers and stepparents who agreed to be interviewed were unusual and therefore possibly more involved in the lives of their children. Finally, an indicator of whether parents lived in states requiring child support for college (postmajority states) was included because parents in these states are expected to contribute more than parents in non-postmajority states.

Missing values were estimated using multiple imputation, which aims to preserve the characteristics of the data set as a whole, rather than specific variables, and is appropriate for addressing various types of missing data, both those missing completely at random (MCAR) and those missing at random (MAR; Schafer & Graham 2002). Nine equally plausible complete data sets were constructed through information obtained from the observed data

(from a total of 1,000 iterations), since accurate results typically can be obtained from 5 to 10 imputations (Schafer, 1999). All statistical analyses were repeated on each of these data sets, producing 9 sets of results, which were combined (using Rubin's rule of combination; Rubin, 1987) to produce one set of estimates and standard errors that incorporate missing data uncertainty. All the variables used in the regressions are summarized in Table 1, which includes the proportion of imputed values for each variable.

Before presenting the results, it is important to note that we do not make claims about the effect of marital status on students' chances of attending college, which other studies have shown to be important (McLanahan & Sandefur, 1994; Sandefur, McLanahan, & Wojtkiewicz, 1992). Our claims focus exclusively on the financial contributions by married, divorced, and remarried parents *after* their children have enrolled in college. Furthermore, because the NPSAS sample is composed of students who are already in college, they tend to be more advantaged than the U.S. population in general. For example, 85% of the students had parents who were married or remarried (compared with 60% nationwide in 1996), and the median student's parents had an income of about \$60,000, compared with a national median of about \$35,000 in 1996 (Saluter & Lugaila, 1998). Because the results reported in this study only apply to students who are already in college, we make no claims regarding those who do not attend. Students from married, divorced, or remarried families who were selected out at any point before or during this process are beyond the scope of this study. Thus, any negative consequences associated with having divorced or economically disadvantaged parents occurring prior to or during the transition to college are not captured by our data.

Results

Divorced or separated parents contributed significantly less toward their children's college costs than married parents (see Table 2). Compared with married parents, divorced parents contributed only about a third as many dollars toward college costs (\$1,500 vs. \$4,700 per year). Of course, this was partly because divorced parents tend to have significantly lower incomes. The median income of married parents was about twice as much as the median income of divorced or separated parents (\$57,724 vs. \$30,546). Remarried parents, however, earned about the same amount as married parents (\$57,788 vs. \$57,724, a statistically insignificant difference) but contributed considerably less than the latter (\$2,490 vs. \$4,700). As a proportion of their income, married parents contributed about 8%, divorced parents contributed about 6%, and remarried parents contributed only 5%. All these differences were statistically significant.

Table 1. Summary Statistics ($N = 2,400$)

	MI Combined Data Sets ^a		
	% Imputed	Mean	Standard Error ^b
Outcome			
Parents' contributions (logged) ^c	23.88	7.39	0.07
Predictors			
Parents' marital status ^d			
Married to each other	Ref		
Divorced/separated	5.71	0.15	0.01
Remarried	6.04	0.07	0.01
Parents' income (10,000s)	1.29	6.04	0.09
Student financial need (10,000s) ^e	14.00	0.95	0.07
Number of siblings in college	0.00	0.36	n/a
Student GPA	11.25	2.71	0.02
Female student	0.00	0.56	n/a
Student race/ethnicity			
White	Ref		
Black	0.00	0.10	n/a
Hispanic	0.00	0.07	n/a
Other	0.00	0.05	n/a
Highest education of either parent			
High school or less	Ref		
Some college	1.25	0.20	0.01
4-Year college degree	1.25	0.25	0.01
Graduate school	1.25	0.28	0.01
Father interviewed	0.00	0.31	n/a
Stepparent interviewed	0.00	0.02	n/a
Postmajority state	1.50	0.43	0.01

Note. Adapted from NCES, NPSAS:96 dependent students with parent interviews.

a. Missing values were imputed using multiple imputation; nine data sets were combined using Rubin's rule of combination.

b. Standard errors are not applicable for variables with no missing data.

c. Total amount paid to student or school for educational expenses, including loans to student.

d. Excludes widowed and never married parents.

e. The cost of college (tuition and nontuition) minus all aid (federal, state, institutional).

But these proportions do not account for students' financial need, which may be lower for children of divorced parents than children of married or remarried parents for the reasons described earlier, including attending lower-cost institutions and qualifying for more financial aid. If the children of divorced parents

Table 2. Parents' Contributions by Marital Status (Medians Reported)

	Married	Divorced/ Separated	Remarried	Chi-Squared ^a	
				Married – Divorced/ Separated	Married – Remarried
Frequency	1,870	368	162		
Parents' contributions ^b	\$4,700	\$1,500	\$2,490	47.66***	11.50***
Parents' income	\$57,724	\$30,546	\$57,788	179.60***	0.01
Student financial need ^c	\$6,873	\$4,909	\$5,875	20.30***	8.22**
Contribution/income	0.08	0.06	0.05	5.47*	11.28***
Contribution/financial need	0.77	0.42	0.53	19.28***	4.89*

Note. Adapted from NCES, NPSAS:96 dependent students with parent interviews.

a. Continuity corrected Pearson χ^2 , based on a nonparametric test of the equality of medians.

b. Total amount paid to student or school for educational expenses, including loans to student.

c. The cost of college (tuition and nontuition) minus all aid (federal, state, institutional).

* $p < .05$. ** $p < .01$. *** $p < .001$.

have less financial need than the children of married or remarried parents, divorced parents may be covering a larger proportion of their children's financial need. Table 2 shows that financial need was indeed lower for the children of divorced parents (\$4,909) than for the children of married (\$6,873) or remarried parents (\$5,875). However, despite their children's lower needs, divorced parents covered a significantly smaller proportion of their children's financial need (42%), compared with married parents (77%). The same was true for remarried parents, who covered just a hair above half (53%) of their children's college costs. Divorced or separated parents contributed significantly less than married parents—in absolute dollars, as a proportion of their income, and as a proportion of their children's financial need—and the same was true for remarried parents, even though they had incomes similar to those of married parents.

Might this variation be explained in part by educational differences between married, divorced, and remarried parents? It is true that divorced and remarried parents tend to have lower education levels than married parents. For instance, in our data set, these two groups were less likely to have a graduate degree (20% and 23%), compared with married parents (30%). However, even after controlling for parents' education, we found a pattern similar to that observed in Table 2, where divorced/separated as well as remarried parents contributed significantly less than married parents (see Table 3). Within each education

Table 3. Parents' Contributions by Marital Status and Education (Medians Reported)

	Married	Divorce/ Separated	Remarried	Chi-Squared ^a	
				Married – Divorced/ Separated	Married – Remarried
High school or less					
Frequency	492	116	53		
Parents' contributions ^b	\$1,804	\$502	\$500	19.44***	2.41
Parents' income	\$42,566	\$21,639	\$43,352	69.90***	0.00
Student financial need ^c	\$5,292	\$4,337	\$4,480	1.80	0.73
Contribution/income	0.05	0.03	0.02	5.64*	2.05
Contribution/financial need	0.41	0.09	0.17	11.60***	2.96 [†]
Some college					
Frequency	358	73	41		
Parents' contributions ^b	\$3,483	\$1,000	\$2,800	4.13*	0.10
Parents' income	\$52,328	\$29,564	\$51,880	31.68***	0.00
Student financial need ^c	\$5,622	\$4,074	\$5,483	6.49*	0.41
Contribution/income	0.07	0.04	0.05	1.59	0.10
Contribution/financial need	0.70	0.45	0.50	4.13*	1.70
4-Year college degree					
Frequency	469	107	32		
Parents' contributions ^b	\$5,200	\$2,400	\$3,730	8.49**	0.81
Parents' income	\$60,224	\$32,244	\$70,780	66.30***	4.09*
Student financial need ^c	\$7,800	\$5,200	\$6,877	10.33***	0.29
Contribution/income	0.08	0.09	0.06	0.00	0.81
Contribution/financial need	0.79	0.66	0.80	0.73	0.03
Graduate school					
Frequency	553	73	37		
Parents' contributions ^b	\$9,500	\$5,200	\$7,000	7.51**	4.15*
Parents' income	\$78,196	\$47,764	\$76,388	35.73***	0.00
Student financial need ^c	\$8,932	\$7,152	\$6,709	5.02*	1.04
Contribution/income	0.12	0.11	0.06	0.25	2.88 [†]
Contribution/financial need	0.98	0.76	0.78	2.23	0.12

Note. Adapted from NCES, NPSAS:96 dependent students with parent interviews.

a. Continuity corrected Pearson χ^2 , based on a nonparametric test of the equality of medians.

b. Total amount paid to student or school for educational expenses, including loans to student.

c. The cost of college (tuition and nontuition) minus all aid (federal, state, institutional).

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

Table 4. Parents' Contributions by Marital Status and State (Medians Reported)

	Divorced/Separated Parents			Remarried Parents		
	Postmajority State	Non-Postmajority State	Chi-Squared ^a	Postmajority State	Non-Postmajority State	Chi-Squared ^a
Frequency	162	206		71	91	
Parents' contributions ^b	\$1,200	\$2,000	1.39	\$2,800	\$2,416	0.40
Parents' income	\$30,283	\$30,653	0.01	\$59,988	\$55,492	0.40
Student financial need ^c	\$4,752	\$5,009	0.01	\$5,988	\$5,866	0.10
Contribution/income	0.05	0.06	1.33	0.06	0.05	0.10
Contribution/financial need	0.39	0.44	0.28	0.50	0.54	0.00

Note. Adapted from NCES, NPSAS:96 dependent students with parent interviews.

a. Continuity corrected Pearson χ^2 , based on a nonparametric test of the equality of medians.

b. Total amount paid to student or school for educational expenses, including loans to student.

c. The cost of college (tuition and nontuition) minus all aid (federal, state, institutional).

level, divorced or separated parents consistently contributed significantly fewer dollars than married parents. Remarried parents, in contrast, had comparable or even higher incomes than married parents but contributed less (though the difference is not always statistically significant, owing to small sample sizes). Accordingly, remarried parents contributed a smaller proportion of their income, relative to both married and divorced/separated parents, and covered a similar proportion of their children's financial need as divorced/separated parents. Thus, the pattern observed in Table 2 remained even after taking account of parents' education.

Turning now to examining how postmajority child-support laws affect divorced and remarried parents' college contributions, Table 4 shows the median financial contributions of divorced and remarried parents by state and shows that none of the differences were statistically significant. Among divorced/separated parents, living in a state that requires child support for college (postmajority state) did not seem to increase the amount they contributed toward their children's college expenses. And among remarried parents, living in a postmajority state was associated with slightly larger contributions, but these contributions represented neither a higher proportion of their income nor a higher proportion of their children's financial need (since parents in postmajority states had slightly higher incomes and their children had slightly higher financial needs).

Table 5. Weighted Ordinary Least Squares Regressions Predicting Parents' Contributions (Logged; $N = 2,400$)^a

	Model 1			Model 2		
	Coefficient	RSE ^b	MI <i>df</i>	Coefficient	RSE ^b	MI <i>df</i>
Parents' marital status ^c						
Married to each other	Ref			Ref		
Divorced/separated	-1.12	0.47	1,028*	-0.98	0.38	801*
Remarried	-0.96	0.55	65 [†]	-0.82	0.56	65
Parents' income (10,000s)	0.14	0.04	143***	0.13	0.04	139***
Highest education of either parent						
High School or less	Ref			Ref		
Some college	0.31	0.45	338	0.24	0.43	136
4-Year college degree	0.99	0.34	143**	0.95	0.35	80**
Graduate school	1.21	0.35	148***	1.08	0.34	97**
Student race/ethnicity						
White				Ref		
Black				-1.13	0.59	1,810 [†]
Hispanic				-0.67	0.46	80
Other				0.76	0.57	169
Student financial need (10,000s) ^d				0.10	0.12	46
Student GPA				0.02	0.13	210
Female student				0.28	0.24	197
Number of siblings in college				-0.06	0.20	132
Father interviewed				0.21	0.24	197
Stepparent interviewed				0.02	0.92	75
Postmajority state				0.24	0.27	1,246
Constant	5.82	0.30	430***	5.61	0.47	132

Note. RSE = robust standard errors; MI *df* = multiple imputation degrees of freedom. Adapted from NCES, NPSAS:96 dependent students with parent interviews.

a. Missing values were imputed using multiple imputation; nine data sets were combined using Rubin's rule of combination; regressions weighted for respondents who were undergraduates (weights provided by NPSAS).

b. Robust standard errors are adjusted for clustering.

c. Excludes widowed and never married parents.

d. The cost of college (tuition and nontuition) minus all aid (federal, state, institutional).

[†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Thus far, we have compared parents' contributions by marital status while controlling for a single variable at a time. Although these analyses are useful for descriptive purposes, they do not address the many other factors that could explain the differences in parents' contributions by marital status. Table 5 attempts to take account of these factors through ordinary least squares regressions

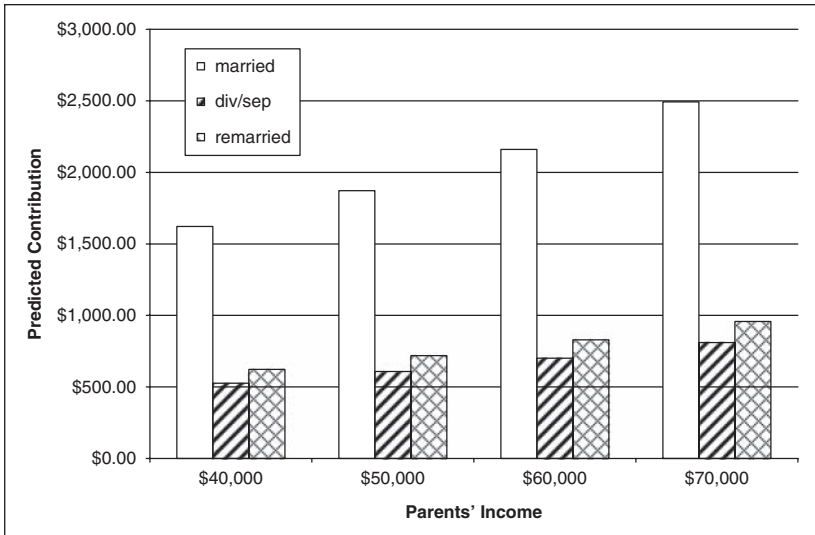


Figure 1. Predicted parent contributions by marital status and income

(weighted to represent all undergraduates in the United States) that predict the amount parents contribute (in logged dollars). We report the coefficients and robust standard errors, which are adjusted for clustering, as well as the multiple imputation degrees of freedom, to show that there are sufficient degrees of freedom despite the relatively small analytic sample. Model 1 included parents' marital status, income, and education, and Model 2 added student race/ethnicity, financial need, GPA, gender, number of siblings in college, whether a father or stepparent was interviewed, and whether parents live in a postmajority state. Models with interaction terms for marital status and income, marital status and education, and marital status and state (not shown) suggest that none of these interactions are significant.

Model 1 in Table 5 shows that, controlling for parents' income and education, divorced and remarried parents still contribute significantly less than married parents. Based on this model, Figure 1 illustrates the predicted parent contributions by marital status and income, showing that although parent contributions increase as income increases, the contributions from divorced and remarried parents are much smaller than those from married parents with the same income. For example, divorced or remarried parents who make \$70,000 per year are predicted to contribute less toward their children's college expenses than married parents who make only \$40,000 per

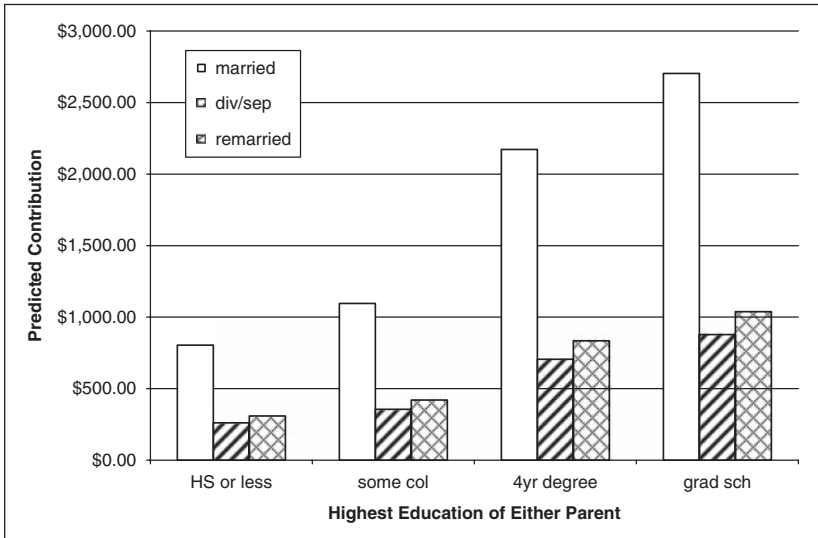


Figure 2. Predicted parent contributions by marital status and education

year (about \$900 vs. \$1,600). Similarly, Figure 2 illustrates the predicted parent contributions by marital status and education and shows that although parent contributions increase as education increases, the contributions from divorced and remarried parents are much smaller than those from married parents with the same education. For example, the contributions of divorced or remarried parents with graduate degrees are predicted to be similar to those of married parents with only a high school diploma or less. Although both income and education are very important factors in determining parents’ financial contributions toward college, parents’ marital status continues to have an important influence on contributions even when holding income and education constant.

Model 2 in Table 5 added student race/ethnicity, financial need, GPA, gender, number of siblings in college, whether a father or stepparent was interviewed, and whether parents lived in a postmajority state. Even after adding all these factors, this model suggests that marital status continues to be an important determinant of the amount of money parents contribute toward their children’s college expenses. As seen in Model 1, parents’ income and education also play an important role; however, almost none of the added variables appear to affect parents’ contributions significantly. Only race appears

to matter, where Black students tend to receive significantly lower contributions from their parents, net of the other factors in the model.

Discussion and Conclusion

Do divorced/separated and remarried parents contribute less—in absolute dollars, as a proportion of their income, and as a proportion of their children's financial need—toward their children's college expenses than married parents? The answer, we have learned, is yes. Although remarried parents stand shoulder to shoulder with married parents with respect to income, remarried parents behave more like divorced parents when it comes to contributing to their children's college costs, even though divorced parents' incomes are much smaller.

This study has contributed to the literature on the relationship between marital status and educational outcomes, going beyond previous research by evaluating parental contributions—a tangible mechanism of economic deprivation by which children from divorced/separated and remarried households might face financial disadvantages relative to children from married households (instead of simply “holding socioeconomic variables constant,” as is the convention). As our regression models demonstrate, marital status is a significant determinant of the amount of money parents contribute toward their children's college expenses, even after taking account of other important factors.⁶ In aggregate, children whose parents are married must cover about 23% of college expenses themselves, but children with remarried parents must shoulder 47% themselves, and those from divorced households need to come up with a full 58% of the cost. We should stress that these estimates are quite conservative. Because we included loans not only in our measure of financial aid but also in our measure of parental contributions, our measure of unmet financial need does not take into account money that must be repaid, along with interest or loan fees. When we excluded loans from our measure of financial aid, the median student's financial need increased by \$1,072. Moreover, the difference between these two measures of need (with and without loans) was smaller among high-income students because they do not take out as many loans as students from low-income families. These findings are troubling for college-bound students with divorced, separated, or remarried parents, especially given the fact that recent shifts in financial aid policy are making it harder for students to qualify for aid and are requiring families to contribute more money toward the cost of college (Potter & Burd, 2003; Winter, 2005).

With respect to the effectiveness of postmajority child-support laws, we found that divorced/separated and remarried parents residing in states with such laws do not contribute more than those residing in other states. On the

one hand, our analyses suggest that postmajority child-support laws may not be bringing about their desired effect and that their design and implementation may need to be reevaluated. On the other hand, as discussed above, our sample may not have captured the contributions of the noncustodial parent (who is especially affected by postmajority child-support laws) and thus may have underestimated the effectiveness of these statutes. Our findings regarding postmajority child-support laws should be interpreted as provisional and suggestive, a building block on which future researchers can perform more thorough analyses that evaluate the effectiveness of such laws.

Before we conclude, several important limitations should be stressed. First, our reliance on the report of one parent may have resulted in an underestimation of our measure of contributions and income for divorced/separated and remarried parents. If at least some divorced/separated or remarried parents excluded their former spouse's contributions, our estimates of their contributions were underestimated. However, our measure of their income may have also been underestimated, which may counterbalance our estimates of their contributions as a proportion of income. Recall that our measure of income was obtained from FAFSA records. For students whose parents are divorced, this form instructs them to report the income of the parent with whom they lived the most (or who provided the most financial support) during the previous 12 months. For those whose parents are remarried, it instructs them to list the combined income of the parent with whom they lived the most (or who provided the most financial support) during the previous 12 months and their stepparent, thereby not accounting for the income of the noncustodial parent. Although this measure may seem imprecise, the alternative to reporting the income of one divorced/separated parent or one remarried parent is to report the income of both biological parents, and this is also an imperfect measure since it is more costly to maintain two separate households. The income from two divorced parents in two households is clearly not comparable with the income from two married parents in one household. In other words, though our measure of income is imperfect, perhaps resulting in a deflated measure of income for some students of divorced/separated or remarried parents, the alternative is also imperfect.

Another important limitation is that, owing to financial constraints, researchers collecting data for NPSAS:96 did not interview all parents (in fact, more recent NPSAS data sets exclude parent interviews altogether). Moreover, the subsample of dependent undergraduate students whose parents were interviewed is not random: except for a few newly independent undergraduates, the students selected for parent interviewing were dependent undergraduates, and the parent interviews were intended to reduce the number of dependent

students with missing parental income data (Riccobono et al., 1997). Although this subsample was not selected to represent the larger sample of undergraduate, graduate, and professional students, our research question is most relevant for undergraduate students who are dependent on their parents' contributions. Furthermore, because the interviewed parent was determined by whoever was available for the interview, parents were not selected systematically within households and, as might be expected, more mothers were interviewed than fathers. However, the median dollar amount reported by divorced mothers and fathers is not statistically different (\$1,982 vs. \$2,150).

These limitations oblige us to stress the suggestive nature of our findings and compel us to urge researchers to dedicate themselves to addressing the many questions that remain regarding the contributions of married and divorced parents. Nonetheless, these analyses clearly suggest that divorced parents contribute significantly less than married parents and that remarried parents contribute amounts similar to those of divorced parents, despite having incomes similar to those of married parents. These findings are troubling for college-bound students with divorced, separated, or remarried parents.

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Authors' Note

Data used in this study are restricted due to sensitive financial information and are therefore not available from the authors; they were collected by the National Center for Education Statistics, U.S. Department of Education.

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The author(s) declared no conflicts of interest with respect to the authorship and/or publication of this article.

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Notes

1. While there are reasons why some divorcing parents may not be forthcoming about their assets at the time of divorce, we are unaware of any evidence that they are more likely to conceal their financial information in a confidential survey.
2. Unfortunately, data on parental contributions for students deemed “financially independent” were not collected (except for a handful of independent undergraduates). Students were considered financially independent if they met any of the following criteria (which are the same as those used for federal financial aid purposes): (a) they were 24 years old or older, (b) they were veterans of the U.S. Armed Forces, (c) they were enrolled in a graduate or professional program beyond a bachelor’s degree, (d) they were married, (e) they were orphans or wards of the court, or (f) they had legal dependents of their own (Riccobono et al., 1997).
3. We considered excluding loans from parents but decided to include them because loans from parents often appear more like gifts (e.g., they usually do not come with binding contracts, interest rates, and late fees; and parents are much more forgiving when their children cannot repay). Furthermore, we are ultimately interested in the amount of money students must acquire in a given term, even if part of it has to be repaid at a future date.
4. We considered excluding loans from the financial aid total because they have to be repaid and therefore are likely to have a different effect than other forms of aid; however, we decided to keep loans because, as stated in the previous endnote, we wanted to capture the amount of money students must acquire in a given term, even if part of it has to be repaid at a future date.
5. We did not show regressions for parents’ contributions as a proportion of their income or as a proportion of their children’s needs because these factors are already included among the predictors.
6. Although the economic deprivation thesis explains roughly half of the difference in educational attainment between children from divorced or separated homes and those in married homes (McLanahan & Bumpass, 1988), marital disruption may still explain at least some of the remaining difference. For example, recent studies suggest that, despite relative economic advantage, children from single-father and stepfamilies have lower educational attainment than children from single-mother families (Biblarz & Raftery, 1999; Boggess, 1998). These studies challenge the economic deprivation thesis because the fewer years of schooling of children from single-father and stepfamilies cannot be attributed to poverty.

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