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Number of Siblings During Childhood and the Likelihood of Divorce in Adulthood

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Abstract

Despite fertility decline across economically developed countries, relatively little is known about the social consequences of children being raised with fewer siblings. Much research suggests that growing up with fewer siblings is probably positive, as children tend to do better in school when sibship size is small. Less scholarship, however, has explored how growing up with few siblings influences children's ability to get along with peers and develop long-term meaningful relationships. If siblings serve as important social practice partners during childhood, individuals with few or no siblings may struggle to develop successful social lives later in adulthood. With data from the *General Social Surveys 1972-2012*, we explore this possibility by testing whether sibship size during childhood predicts the probability of divorce in adulthood. We find that, among those who ever marry, each additional sibling is associated with a three percent decline in the likelihood of divorce, net of covariates.

Keywords

Divorce; Dating/Relationship Formation; Family Demography; Fertility; Life Course

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Some scholarship has considered the potential problems low fertility may cause at the societal level, such as labor shortages and an aging population (Zachariah, 2001), but surprisingly little research has explored how growing up with few siblings influences children's ability to get along with peers and eventually develop long-term meaningful relationships in adulthood. As fertility has declined in the United States over the last century, the social consequences of this change in family structure have been underexplored. The primary goal of this research is to assess whether there are long-term consequences to growing up with fewer siblings. Specifically, we assess whether the number of siblings one has in childhood affects the likelihood of divorce in adulthood.

Siblings and Social Skills: Two Explanations

How might growing up in a family with few siblings shape life outcomes such as social skills? The primary theoretical perspective that has dominated research on sibship size is

resource dilution. We present that view along with an alternative, more optimistic view of how siblings matter.

(1) Resource Dilution—Social science research investigating the consequences of siblings has been dominated by resource dilution arguments. The dilution perspective posits that parental resources are finite and that siblings end up reducing the amount of time, attention, and financial resources any one child can receive (Blake, 1989; Downey, 1995, 2001). From this perspective, siblings compete for, and therefore, dilute familial resources. As such, this perspective posits that the presence of siblings should lead to more negative outcomes for children with more siblings than those with fewer or no siblings. Proponents of this view often point to studies that show that children with few or no siblings perform better in school and on tests of cognitive skills than children with many siblings (Blake, 1981, 1989). Blake (1989) performed the most expansive analysis, assessing the relationship between sibship size and years of education attained in every available large-scale study at the time. Her analysis showed a consistent pattern: those with fewer siblings tended to attain more years of education than those with many. Building off this work, Downey (1995) analyzed data from the *National Education Longitudinal Study* and noted a negative relationship between sibship size and parental resources such as money saved for college, having a computer in the home or other educational objects, and frequency of talking about school-related matters. Moreover, he showed that these resources mediated the inverse relationship between sibship size and educational outcomes (Downey, 1995). The inverse relationship between sibship size and educational outcomes is so consistently observed that Steelman et. al (2002) describe it as “virtually unequivocal” (p.248).

More recent research raises several important questions about the dilution model. Some scholars point out that most of the research supporting resource dilution stems from cross-sectional studies that may not fully account for differences in the kinds of parents who have many versus few children. The observed association between sibship size and educational outcomes, therefore, may not be causal (Guo and VanWey, 1999). Of course, proponents of resource dilution attempt to equalize families with many versus few children by statistically controlling for factors such as socioeconomic status, family structure, and race, but these statistical controls may not fully capture the differences among families. Others have attempted to address this problem through clever research designs involving twins (Black, Devereux, and Salvanes, 2005, 2010) and sex composition of the sibship (Conley and Glauber, 2006). Overall, however, this methodologically rigorous research produces mixed results – some of it suggests a causal relationship and some of it does not.

But the limitation that is most relevant to our study is the dilution model's nearly exclusive focus on educational outcomes. Siblings likely matter in other ways too and so the focus on schooling outcomes may have obscured the more positive aspects of sibling interactions. Recently, scholars have started to explore how siblings are related to the development of social skills. While this exciting research is less developed, early studies suggest that there may be negative social skills consequences for growing up without siblings (Downey and Condrón, 2004), although it is unclear if this pattern persists later in life (Bobbitt-Zeher and Downey, 2013). The notion that children might benefit from siblings, however, merits more serious consideration. Exploring how siblings matter beyond educational attainment is an

important step toward developing a more comprehensive understanding of the consequences of declining fertility.

(2) Siblings as Resources—An alternative perspective to resource dilution is that siblings serve as resources themselves, albeit of a different kind than those provided by parents. Sibling relationships are unique, given their generally long duration, shared familial environment, heritage, and experiences, and binding of individuals to a larger network of relationships (White, 2001:555; Goetting, 1986:703). Siblings may provide children with opportunities to negotiate conflict at home, a skill that would have currency for interactions with peers in the neighborhood and at school, and perhaps for developing and maintaining relationships later in life. For example, siblings “can provide a unique opportunity for children to develop the ability to understand other people's emotions and viewpoints, to learn to manage anger and resolve conflict, and to provide nurturance themselves” (Brody, 2004:124). In addition, siblings may indirectly affect development by influencing how parents rear their children. Successes with first children may promote increased parental self-esteem, leading to increased use of parenting practices that contribute to fewer behavior problems among subsequent children (Brody, 2004:125).

From this view, only-children are seen as disadvantaged by lacking at least one sibling. As Polit and Falbo (1987:319) summarize the premise of the sibling deprivation argument, “Only children fail to learn critical developmental lessons by not being raised with siblings, and consequently would be expected to fare worse than non-onlies in terms of such outcomes as personal adjustment, cooperativeness, and ability to get along with peers.” While Polit and Falbo's (1987) meta-analysis of only-children and personality development concluded that only-children do not differ significantly from children with siblings in sociability, more recent work by Van Lange et. al (1997) found that children with siblings behaved in a more prosocial way in laboratory games (i.e., more likely to cooperate and trust others) than those without siblings. More recently, Cameron et. al. (2013) associated China's one-child policy with several negative social consequences, including lower levels of trust and trustworthiness.

The most persuasive evidence that siblings promote social skills emerges from a study of over 20,000 children in the *Early Childhood Longitudinal Study—Kindergarten Cohort of 1998-99* (Downey and Condron, 2004). The authors found that kindergarten teachers rated only children as having less self-control, poorer interpersonal skills, and more externalizing problem behaviors than children with at least one sibling. More recently Bobbitt-Zeher and Downey (2013) extended this line of inquiry by assessing whether the only-child deficit observed at kindergarten persists until adolescence. Analyzing 13,466 7th-12th graders from the *National Longitudinal Study of Adolescent Health*, they found no evidence that only children receive fewer peer nominations of friendship than youths with one (or more than one) sibling(s). Their results suggest that the previously observed social skills deficit among only children in kindergarten appears to be overcome by adolescence, perhaps because of greater exposure to peers through school. These conclusions are tentative, however, because the dependent variable employed in their study (peer nominations of friendship) is different than the one analyzed among kindergartners (teacher evaluations of social skills).

Looking later in life, there are a paucity of studies that have considered the social effects in adulthood of having grown up with siblings in one's childhood. In an article entitled, "The Only Child in America: Prejudice Versus Performance," Blake (1981) maintained that while only children sometimes exhibit poorer social skills, this pattern disappears once indicators of children's disability status and family structure are statistically controlled. Her cursory examination of marital stability suggests that the proportion of individuals ever divorced does not differ in a meaningful way when comparing children with no siblings to those with one or two siblings; however, the proportion ever divorced is higher for these small sibships than for larger ones (Blake 1981, p. 52). And Blake, Richardson, and Bhattacharya (1991) concluded that adults are no more sociable (i.e., they respond no more favorably to questions such as "How important are friendships?" and "How important is it to work with a nice group?") if they have many versus few siblings. Of course, these indicators may tell us less about social skills and more about respondents' *interest* in friendship, leaving open the possibility that siblings serve as resources for the development of social skills. More recent work suggests that while sibling relationships change over the life span, for example, declining in contact and proximity from early adulthood to middle age, siblings may continue to act as resources, providing help and support, particularly at later ages (White, 2001; Goetting, 1986).

Overall, these previous explorations of the relationship between number of siblings and social outcomes have produced only a limited picture. As a result, it is not yet clear if the experiences with siblings that children have in their family of origin have long-term consequences for their later ability to develop and maintain relationships and if such consequences vary by sibship size.

Siblings in Childhood and the Likelihood of Divorce as an Adult

There are several reasons for believing that experiences during childhood with siblings might influence an individual's ability to develop and maintain relationships later in life. First, early childhood is highly consequential for other outcomes, such as academic performance and health (Conley and Bennett, 2000). Such effects which persist over the life course give us reason to believe that the "long arm of childhood" might extend to social skills as well. The notion here is that children acquire base skills of interaction during childhood that shape their lifelong skill set. That is not to say that childhood is determinative in this way, but that it is an important arena in which skills are developed and plays a role in the likelihood of exhibiting social skills as an adult and in developing and maintaining long-term relationships like marriage. Of course, we recognize that the quality of the sibling relationship may be critical in understanding how siblings matter. There are many reasons to believe that growing up with a supportive and positive sibling is of greater benefit than a troublesome antagonistic one (see Williams, Conger, and Blozis, 2007, and Brody, 2004, for example, for negative effects of siblings), but that is a question we leave for other researchers with better measures of sibling relationship quality. Our question is more basic: Is sibship size (regardless of relationship quality) during childhood related to the likelihood of staying married as an adult?

Second, sibling relationships are intimate, mixed with both positive and negative emotions. These kinds of relationship dynamics may closely match the experiences individuals have in marriages. In other words, the skills learned in early childhood sibling relationships may provide the foundation for lifelong skills needed for developing intimate relationships characterized by frequent positive and negative exchanges. Such skills would include getting along with others who are different, and expressing one's feelings, ideas, and opinions in a constructive way. Downey and Condrón's 2004 work suggests that only children demonstrate fewer of these specific skills than do children with at least one sibling at kindergarten entry. The authors conclude, "if children's social skills improve as a result of exposure to at least one sibling, the patterns we observe here could cumulate over time so that the gap in social skills between only children and children with siblings would grow (Downey and Condrón, 2004:347)." To the extent that marital relationships depend more heavily than do friendships on the kinds of skills developed via sibling relationships, assessing whether exposure to siblings during childhood promotes marital stability in adulthood tells us something unique about the long-term consequences of early childhood sibling configuration.

Third, most work on sibship effects focuses on children without siblings. However, there is reason to expect that the number of siblings one has, rather than just the presence of any siblings, could have lasting effects on the development of interpersonal skills. More siblings means more opportunities to develop the kinds of skills discussed above as potentially contributing to long-lasting marital relationships. Such opportunities could result from the structural effects of larger family sizes, such as sharing household spaces and resources. Additionally, family interactional dynamics, which become exponentially more complex as group size grows (Simmel 1902), may promote more complex social skills. Expanding the operationalization of siblings to number of siblings allows for a consideration of siblings beyond comparisons of children with and without siblings.

The Consequences of Siblings Across Cohorts

There are reasons for believing that the benefit of growing up with siblings for children's social skills may have increased during the twentieth century. Children growing up in the later part of the twentieth century experienced qualitatively different childhoods than those raised earlier. They were more likely to live away from extended family, and so their formative years were dominated, to a greater extent, by nuclear family processes. In contrast, children born earlier in the century more frequently lived near extended kin, shared child care responsibilities, and played and socialized with relatives such as cousins – all experiences that would reduce the consequences of growing up without siblings. Relative to families of the past, smaller family sizes and changing family structures brought about through divorce and remarriage in more recent cohorts may increase the intensity of sibling relationships (Goetting 1986). In their study of determinants of divorce, de Graaf and Kalmijn (2006) find both consistency and change in the social factors affecting divorce across cohorts in the Netherlands in the second half of the 20th Century. Such work suggests the need to consider cohort effects when exploring the relationship between siblings and divorce.

Expanding Existing Research

Our contribution to the literature is to expand the horizon for understanding how siblings during childhood might matter later in life. Downey and Condrón (2004) found evidence of a social skills deficit among only children at kindergarten entry. Even though more recent scholarship is not replicating this pattern among adolescents, the evidence is still just emerging. No study that we have seen has yet explored the relationship between sibship size and meaningful outcomes among adults, such as divorce, in a rigorous fashion.

Thus, this work contributes to the literature in three meaningful ways. First, we expand the understanding of siblings and social skills into adulthood. The emerging literature paints different stories in early childhood (where siblings seem to provide a resource) and adolescence (where any sibling benefit seems to have disappeared). By looking further into the life course we can gain insight into the long-term consequences of growing up with siblings. Moreover, by considering number of siblings, rather than comparing only-children to those with siblings, we gain greater leverage on how siblings matter. This is particularly relevant given contemporary declines in average family size and fertility. Second, we examine a social outcome of significant real world consequence: marriage and divorce. While other studies have examined the relationship between sibship size and various social skills' measures, our dependent variable has clear and meaningful consequences for individuals' lives. Third, we consider whether the relationship between siblings and marital outcomes has changed over time. This will provide greater leverage on how demographic changes in both family size and marital stability relate.

Methods

Sample

To consider the long term consequences of siblings, we use data from the *General Social Surveys* (GSS) from 1972 to 2012. Collected via phone interviews with random samples of adults, the GSS represent a wealth of data collected from approximately 57,000 adults at 28 points over the four decades. Routinely used to analyze demographic and social trends, the data are well suited for this study because of the detail of the measures on family composition and marital outcomes. Furthermore, given the consistency with which questions are asked, we are able to utilize the span of the data while also taking into consideration potential cohort effects. The total sample size is 57,041 prior to imputations for missing data.

Independent Variables

The primary independent variable of interest is *number of siblings*. Measured in a continuous fashion, this measure captures the total number of siblings reported by the respondent. The original GSS question prompts the respondent to count all siblings, including full, half, step, and adopted siblings.

Sibling effects are difficult to isolate because the kinds of parents who have many children may be different from the kinds who have few. As a result, we attempt to statistically control for potential differences between family sizes that may also influence the likelihood of

marriage and divorce. (See Sayer, England, Allison, and Kangas, 2011; Amato 2010; Amato and Cheadle, 2005; and Teachman, 2002 for further discussion of how each of these factors is associated with marital dissolution.) We begin with such background factors. We created a continuous variable for *respondent's education*, measured in years. Similarly, we measure years of *mother's education*, which serves as a proxy for socioeconomic status of family of origin. Given that past studies suggest the potential for education to effect divorce differently across levels of schooling (see Kposowa, 1998), we include squared terms for both educational variables to allow for nonlinear effects. We measure family structure with dichotomous variables for the respondent's reported family structure at age 16: *living with both biological parents*, *parents divorced*, and *other family structures*. Living with both biological parents is the reference category in analyses. *Race* is gauged with three dichotomous dummy variables based on self-reports of racial group: white, black, or other, with white serving as the reference category.ⁱ *Sex* is captured with a dummy variable for males (females are the reference category). Recognizing changing demographic patterns historically, we include controls for age and birth cohort. Respondent's *age* is captured with a continuous variable for age in years. Given the potential for non-linear effects, models include a squared age term as well. We also created a dichotomous variable for the *birth cohort* of the respondent, coded 1 for being born during or after 1950, and 0 for being born before 1950. Finally, we include a continuous variable for *survey year* to serve as a control for the time at which the survey was administered.

We also consider variables for family formation, economic standing, and geography. In models predicting the likelihood of divorce, we use *age at marriage*, measured as age in years when the respondent married for the first time, and *number of children*, measured with a continuous variable for the total number of children the respondent reports ever having. Given its association with divorce in past studies (see Amato, 2010), we also include a dummy variable for *cohabitation* prior to marriage (1=cohabited; 0=did not cohabit).ⁱⁱ Recognizing the importance of economic factors for marriage formation and dissolution, in all models we include *family income*, a logged, continuous variable that captures the respondent's reported family income at the time of the survey in constant 2000 dollars. We also include a dummy variable for *home ownership*, where 1 indicates the respondent owns their own dwelling and 0 indicates they do not. Furthermore, we consider geographic differences in two ways. Based on respondents' location at the time of survey, we created dummy variables for *geographic region*, coded as Northeast, Midwest, West, and South, with South serving as the reference category. We also measured *residency* with dummy variables for urban, suburban, and rural residency. Suburban residency is the referent in analyses.

Finally, since large families may foster more traditional worldviews and such worldviews may affect marriage and divorce patterns, we include measures for gender role attitudes and religiosity. We created an index measure of *gender role attitudes*, based on level of

ⁱThe GSS data do not allow for a more detailed analysis of racial/ethnic categories.

ⁱⁱThe GSS collected data on cohabitation only in the 1988 and 1994 survey years. When we restrict analyses to these two survey years, we find, consistent with past research, that cohabitation is a clear predictor of divorce and, moreover, there is a clear relationship between number of siblings and divorce. Given these patterns and methodological preferences for utilizing variables included in select years of longitudinal surveys (see, Gelman, King, and Liu, 1999), we include the measure for cohabitation in the analyses reported here, using multiple imputation to handle data for missing cases. Excluding the cohabitation variable from analysis does not alter the direction or significance of the sibling coefficient in the models reported below.

agreement with each of the following statements: 1) “It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family,” 2) “A working mother can establish just as warm and secure a relationship with her children as a mother who does not work,” and 3) “A preschool child is likely to suffer if his or her mother works.” The responses to each statement were captured on a scale of 1 (strong agreement) to 4 (strong disagreement). Answers to the second question were reverse coded and then the three responses were added to create an index ($\alpha=0.74$) with possible values of 3 to 12. To capture religion, we include two measures. *Religious affiliation* is a binary variable, coded 1 for reporting any religious affiliation and 0 for none. We also measure *religious attendance* based on answers to the question, “How often do you attend religious services?” Response categories are never, less than once a year, once or twice a year, several times a year, about once a month, two to three times a month, nearly every week, every week, and several times a week. This variable is coded continuously from 0 to 8.

Dependent Variables

We consider two dependent variables. First, we constructed a binary variable for the respondent *ever having been married*. The reference category is never been married. Second, for respondents who have ever married, we created a binary variable for *ever having been divorced*. Never having been divorced serves as the reference category. Together, these two outcomes allow use to consider both the effect of sibship size on relationship formation and dissolution.

Analytic Strategy

We begin with an overview of the descriptive statistics from the sample. Then, we test the effect of sibship size on likelihood of marriage using the full sample. Given that the outcome is a dichotomous dummy variable (0=never been married, 1=ever been married), we use logistic regression. We test the effect of number of siblings on likelihood of every marrying, considering first the bivariate relationship and then multivariate models. Next, to consider divorce, we limit the analysis to those who have ever been married ($N=45,127$ prior to imputations for missing data). We then predict the likelihood of ever having been divorced using logistic regression, specifically testing the effect of number of siblings. Again, we first test the bivariate relationship and then consider multivariate model specifications. In multivariate models, we focus on including variables (described in the preceding section) with potential to affect the relationship between siblings and the marriage or divorce outcome and then measuring any such effect.

In all analyses, we handle missing data with multiple imputation. We replaced missing values on independent variables with plausible estimates developed from an imputation model constructed from all variables in our regression models (Allison, 2002). Our reported results are based on analyzing the combined information from five imputed data sets, which models the uncertainty of imputed values. We do not impute missing values on dependent variables (von Hippel, 2007). Sample sizes reported do not include the five imputations.

Results

Marriage, Divorce, and Siblings in the GSS Sample

Descriptive statistics indicate most Americans have grown up with multiple siblings (mean = 3.94) although there is considerable variation in sibship size (standard deviation = 3.14) (Table 1). In addition, 80 percent of the sample has married at some point in their lives. Of this group, 36 percent have experienced a divorce. Other descriptive findings show that 72 percent of the sample lived with both biological parents at age 16, 81 percent of the sample is white, and the average respondent was nearly 46 years old.

Do Siblings Affect the Likelihood of Ever Marrying?

One way siblings might matter is to influence who is likely to marry in the first place. We predict the likelihood of ever marrying in Table 2. Results suggest a significant positive effect of number of siblings on likelihood of marrying, with each additional sibling one has increasing the likelihood of marriage (Model 1; $b=0.069$; $p.>0.000$). Specifically, with no control variables in the model, each additional sibling is associated with a seven percent increase in the odds of ever marrying.

With the addition of control variables in subsequent models, we consider whether these sibling findings might be attributable to differences between large and small families. The addition of background, economic, and geographic control variables in Model 2 reduces the effect of siblings on marrying, yet the effect remains significant ($b=0.036$; $p.>0.000$). Adding additional control variables for gender role attitudes and religious affiliation and attendance to the model (Model 3), however, does not appear to substantially alter the relationship between number of siblings and likelihood of marriage. On the whole, the modeling, then, suggests that there is a significant relationship between number of siblings and likelihood of marrying; net of covariates, each additional sibling one has is associated with a three percent increase in the odds of every marrying. With Model 4 we test whether the effect of siblings on the likelihood of marrying varies by cohort. With historical trends toward smaller, more isolated sibships, understanding any changes in these relationships is important. We find a statistically significant, yet substantively small interaction term ($b=0.020$; $p.>0.05$), suggesting that siblings matter slightly more among the more recent cohort of Americans.

Among those who ever married, does the number of siblings one has affect the likelihood of divorcing?

Table 3 presents results related to the effect of siblings on likelihood of divorce. At the bivariate level number of siblings has a non-significant relationship with divorce (Model 1), but once controls for background, economic, and geographic factors are added in Model 2, number of siblings exhibits a significant, negative association with divorce ($b=-0.032$; $p.>0.000$). Net of the covariates, each additional sibling one has is associated with a three percent decrease in the likelihood of divorce. The introduction of controls for gender role attitudes and religious affiliation and attendance do not substantially alter these findings (Models 3). The interaction of siblings with cohort in Model 4 suggests that the relationship between siblings and likelihood of divorce does not differ significantly between the older

and younger cohorts ($b=0.011$; ns). Thus, we conclude that siblings may provide some protection from divorce, but this pattern does not appear to have changed over time.

Discussion

An increasing number of Americans are being raised with few or no siblings and yet social scientists know very little about the consequences of this social change. We advance the literature by looking at the relationship between number of siblings and the likelihood of divorce later in life. Our results indicate that additional siblings are associated with a greater likelihood of getting married, and, once married, a decreased likelihood of divorce.

This is significant news because it is one of the few pieces of empirical evidence that siblings may provide value for important later life outcomes. The bulk of literature on siblings has focused primarily on the strong negative relationship between sibship size and educational outcomes (Downey, 2001), but scholars are now beginning to appreciate the benefits of siblings. Downey and Condrón (2004) found that only children received poorer social skills evaluations by their kindergarten teachers than did children with siblings. Our study takes this research in a new direction by exploring whether childhood conditions may have long-term consequences for individuals' ability to get along with others. And by studying divorce outcomes, we find that siblings are related not just to evaluations of social skills, but to a social outcome with meaningful life consequences.

Our findings suggest that sibling interactions during childhood have long-term value. Perhaps they promote skills for negotiating with intimate others that are uniquely developed via sibling interactions. If so, we observed a different pattern than Downey and Condrón (2004). Whereas their article emphasized a distinction between only children and all others, our results point to a more incremental pattern – each successive sibling lowers the probability of divorce by three percent. This pattern prompts us to reconsider the mechanism by which siblings matter. One argument is that any sibling (even one) provides children with the kinds of interactions that promote social skills useful in adulthood. However, it appears that these skills cumulate as sibship size grows. Perhaps family interaction styles change as sibship size grows, becoming more conducive to building the kinds of skills needed for long-term relationships. Indeed, rather than diluting familial resources, this study suggests that when it comes to building and maintaining marital relationships, the more siblings the better.ⁱⁱⁱ

Of course, there remains the possibility that the observed sibling effects may arise from a different source. Perhaps siblings matter less for developing relationship skills than they do for orienting expectations for family formation. It is possible that individuals from larger families appreciate the unique social bonds of such families and seek to reproduce those close relationships by marrying and creating their own family. And once married, their larger family network of siblings means that they have more sisters-in-law, more brothers-in-law,

ⁱⁱⁱIn supplemental analyses we tested nonlinear effects of sibship size by creating a series of binary variables consistent with past studies (e.g., Downey and Condrón, 2004). The binary variables are having ten or more siblings, nine, siblings, eight siblings and so forth with the final category being no siblings. Here we found that eventually (around seven or more siblings) the protective effect of additional siblings reached a threshold.

and more nieces and nephews than their counterparts from small families. Independent of their spouse's characteristics, this broader network of familial connections may reduce their likelihood of divorce. While divorce primarily affects the spousal relationship, it also impacts this broader familial network, and so such bonds may reduce the attractiveness of divorce at the margins. Future work could gain leverage on this possibility by empirically testing whether such an affinity for larger social networks explains the sibship size association with divorce.

Furthermore, the magnitude of sibling effects found in this study should be taken into consideration. Our findings suggest that each additional sibling one has is associated with a three percent decline in the likelihood of divorce. To put this in perspective, an individual would have to be raised with eight siblings to counteract the negative effect (on divorce) of being raised by parents who divorced. While not a linchpin for predicting divorce, this suggests a meaningful relationship worthy of further exploration. In particular, our results suggest a need for future research to push the study of sibling effects beyond attention to the number of children in the family and more directly assess the interactional processes within families that may explain the associations we observed. Specifically, we suggest that scholars consider children's ability to take the role of the other, solve conflicts amicably, and develop meaningful connections, all skills developed, in part among siblings, yet useful in marital relationships.

In this study we have focused on one aspect of sibship – number of siblings. If we knew more about what kind of sibling each is, such as ordinal position, gender, and spacing, we could provide more detailed tests of sibling effects. One might expect, for example, that respondents benefit the most from having a widely spaced older sibling who is relatively mature. Such dimensions of sibship size and relationship, and how they are related to the probability of divorce, are important but not amenable to analysis with the GSS data.

We chose to predict the likelihood of divorce but there are many other ways that we might observe the social benefits of siblings. Perhaps siblings ease the transition of a move to a new neighborhood. Among immigrant families with limited English skills, siblings might be especially important in negotiating transitions. And siblings could serve as important resources when providing care and social support for ailing parents (see Goetting 1986). All of these avenues remain additional yet understudied paths via which siblings might provide value to the family.

In the U.S. fertility decline has not been as steep as it has for several European countries. The possibility that sibship size during childhood could reduce marital stability later in life, therefore, could be of even greater import in countries like Spain and Italy, where fertility rates have dropped well below replacement. Expanding this line of inquiry beyond the U.S. is an important next step.

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Table 1

Descriptive Statistics

	N	Mean	SD	Min	Max
Dependent Variables					
Ever Married	57,041	0.80		0	1
Ever Divorced	45,127	0.36		0	1
Independent Variables					
Number of Siblings	57,041	3.94	3.14	0	37
Education (Years)	57,041	12.75	3.18	0	20
Mother's Education (Years)	57,041	10.43	3.83	0	20
Lived with Both Biological Parents (Age 16)	57,041	0.72		0	1
Parents Divorced (Age 16)	57,041	0.13		0	1
Other Family Structure (Age 16)	57,041	0.14		0	1
White	57,041	0.81		0	1
Black	57,041	0.14		0	1
Other	57,041	0.05		0	1
Male	57,041	0.44		0	1
Female	57,041	0.56		0	1
Age	57,041	45.71	17.47	18	89
Age at Marriage	57,041	22.60	4.87	12	90
Number of Children	57,041	1.95	1.79	0	8
Cohabitation before Marriage	57,041	0.35		0	1
Family Income (Dollars)	57,041	44,000	36,000	383	180,000+
Homeowner	57,041	0.63		0	1
Northeast	57,041	0.19		0	1
Midwest	57,041	0.26		0	1
South	57,041	0.35		0	1
West	57,041	0.19		0	1
Urban	57,041	0.22		0	1
Suburban	57,041	0.64		0	1
Rural	57,041	0.13		0	1

	N	Mean	SD	Min	Max
Survey Year	57,041	1992.08	11.72	1972	2012
Gender Role Attitudes	57,041	7.88	2.08	3	12
Religious Affiliation	57,041	0.89		0	1
Religious Attendance	57,041	3.82	2.71	0	8
Birth Cohort (1950 or later)	57,041	0.49		0	1

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Table 2
Logistic Regression Estimates Predicting Ever Marrying. N=57,041 Prior to Imputation.
Standard Errors are in Parenthesis

	Model 1	Model 2	Model 3	Model 4
Siblings	0.069 *** (0.004)	.0036 *** (0.005)	0.032 *** (0.005)	0.018 * (0.008)
Education		0.140 *** (0.023)	0.133 *** (0.023)	0.130 *** (0.023)
Education Squared		-0.009 *** (0.001)	-0.009 *** (0.001)	-0.009 *** (0.001)
Mother's Education		-0.022 (0.015)	-0.016 (0.015)	-0.017 (0.015)
Mother's Education Squared		-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Parents Divorced		0.012 (0.037)	0.053 (0.037)	0.051 (0.037)
Other Family Structure		-0.055 (0.043)	-0.029 (0.043)	-0.032 (0.043)
Black		-0.631 *** (0.037)	-0.689 *** (0.038)	-0.689 *** (0.038)
Other Race		0.027 (0.057)	-0.006 (0.057)	-0.009 (0.057)
Male		-0.605 *** (0.026)	-0.580 *** (0.027)	-0.579 *** (0.027)
Age		0.255 *** (0.005)	0.255 *** (0.005)	0.255 *** (0.005)
Age Squared		-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)
Family Income (logged)		0.468 *** (0.019)	0.465 *** (0.019)	0.466 *** (0.019)
Homeowner		0.485 *** (0.059)	0.452 *** (0.060)	0.452 *** (0.060)
Northeast		-0.532 *** (0.037)	-0.485 *** (0.037)	-0.486 *** (0.037)
Midwest		-0.205 *** (0.034)	-0.175 *** (0.035)	-0.175 *** (0.035)
West		-0.222 *** (0.037)	-0.160 *** (0.038)	-0.161 *** (0.038)
Urban		-0.421 *** (0.031)	-0.403 *** (0.031)	-0.403 *** (0.031)
Rural		0.227 *** (0.046)	0.227 *** (0.046)	0.226 *** (0.046)
Survey Year		-0.033 *** (0.002)	-0.031 *** (0.002)	-0.031 *** (0.002)
Gender Role Attitudes			-0.027 *** (0.008)	-0.026 *** (0.008)
Religious Affiliation			0.269 *** (0.040)	0.268 *** (0.040)

	Model 1	Model 2	Model 3	Model 4
Religious Attendance			0.047*** (0.006)	0.047*** (0.006)
Birth Cohort (1950+)		-0.235*** (0.046)	-0.240*** (0.046)	-0.313*** (0.058)
Siblings * Birth Cohort				0.020* (0.009)
Constant	1.097*** (0.017)	56.913*** (2.956)	52.014*** (3.002)	51.968*** (3.002)
Pseudo R ²	0.01	0.31	0.32	0.32

*
 $p < .05$

**
 $p < .01$

 $p < .001$

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Table 3
Logistic Regression Estimates Predicting Divorce (Among Those Ever Married).
N=45,127 Prior to Imputation. Standard Errors are in Parenthesis

	Model 1	Model 2	Model 3	Model 4
Siblings	-.0004 (0.003)	-.032 *** (0.008)	-.029 *** (0.008)	-.033 *** (0.007)
Education		0.122 *** (0.019)	0.125 *** (0.019)	0.123 *** (0.019)
Education Squared		-.004 *** (0.001)	-.004 *** (0.001)	-.004 *** (0.001)
Mother's Education		0.061 *** (0.014)	0.057 *** (0.014)	0.056 *** (0.014)
Mother's Education Squared		-.002 ** (0.001)	-.002 ** (0.001)	-.002 ** (0.001)
Parents Divorced		0.277 *** (0.063)	0.253 *** (0.063)	0.251 *** (0.063)
Other Family Structure		0.019 (0.100)	0.013 (0.097)	0.011 (0.097)
Black		0.400 *** (0.056)	0.459 *** (0.059)	0.458 *** (0.059)
Other Race		-.332 * (0.129)	-.303 * (0.124)	-.307 (0.124)
Male		0.186 *** (0.049)	0.167 *** (0.047)	0.167 *** (0.047)
Age		0.248 *** (0.011)	0.248 *** (0.011)	0.248 *** (0.011)
Age Squared		-.002 *** (0.000)	-.002 *** (0.000)	-.002 *** (0.000)
Family Income (logged)		-.421 *** (0.025)	-.428 *** (0.026)	-.428 *** (0.026)
Homeowner		-.645 *** (0.083)	-.621 *** (0.080)	-.620 *** (0.080)
Northeast		-.345 *** (0.053)	-.393 *** (0.047)	-.393 *** (0.047)
Midwest		-.129 *** (0.033)	-.155 *** (0.034)	-.155 *** (0.032)
West		0.081 (0.049)	0.027 (0.047)	0.026 (0.046)
Urban		0.068 (0.064)	0.067 (0.062)	0.068 (0.062)
Rural		-.107 * (0.055)	-.110 * (0.052)	-.109 * (0.052)
Survey Year		0.022 ** (0.007)	0.020 ** (0.006)	0.020 ** (0.006)
Gender Role Attitudes			0.036 (0.022)	0.036 (0.022)
Religious Affiliation			0.063 (0.138)	0.062 (0.138)

	Model 1	Model 2	Model 3	Model 4
Religious Attendance			-0.069 *** (0.012)	-0.069 *** (0.012)
Birth Cohort (1950+)		-0.297 ** (0.101)	-0.281 ** (0.097)	-0.323 ** (0.102)
Siblings *Birth Cohort				0.011 (0.008)
Constant	-0.553 *** (0.016)	-43.850 ** (13.204)	-41.599 ** (12.964)	-41.549 ** (12.975)
Pseudo R ²	0.00	0.21	0.22	0.22

*
 $p < .05$

**
 $p < .01$

 $p < .001$

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