

Union Formation and Dissolution: Using SIPP 2014 to measure relationship transitions in a year.
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Relationships are complex: unions form, unions end, and some unions transition between types. Measuring relationship transitions is important because they can impact immediate well-being, stability, and economic conditions as well as have a long-term impact on events across the life course. Knowing who is forming a relationship and who is ending one can help us understand the profile of those who experience these transitions and possible consequences. For example, if many parents are divorcing we might expect an impact on child well-being. This study will examine union formation and dissolution of marriage and cohabitation.

The Survey of Income and Program Participation (SIPP) is a long-standing nationally representative longitudinal survey that measures economic, family, and housing indicators. Every SIPP panel follows individuals (excluding the institutionalized population) over several years, providing monthly data on changes in family and household composition. In 2014, SIPP was redesigned to ask respondents about changes over the last year in their marital status, residence, labor force participation, health insurance coverage, school enrollment, and program use. Previously, respondents were interviewed every four months about changes in these domains. SIPP is the only U.S. Census Bureau survey that collects data showing dynamic changes in a wide variety of measures across a 12-month period. Moreover, SIPP measures marital and cohabitation relationship transitions for all adults (many surveys limit collection to those under 50 years old) and includes a direct measure of multiple partner fertility. These data, along with economic and program use questions, data on child well-being and housing security, and demographic profiles allow for a comprehensive look at people who have marital transitions. With this unique source of data, the study aims to examine relationship transitions over a year for respondents.

This research is valuable as living arrangements, marriage, and cohabitation are in flux and what has been considered normative for relationships has changed over time. For example, today we see the percentage of older adults who are divorced increasing while divorce among ever-married younger adults is lower than in years past (Kreider and Ellis, 2011). In addition, more adults are electing to live together rather than, or before, marrying (Schondelmyer and Vespa, 2014). These changes in relationships influence household formation and composition and impact families.

The relationship transitions that will be assessed include transitions to marriage, transitions to cohabitation, dissolutions of marriage, and dissolutions of cohabitation. To do this, this study

¹ For information on the sampling and nonsampling error please see <https://www.census.gov/programs-surveys/sipp/methodology/sampling.html>. For information on the source and accuracy of the survey please see <https://www.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements/2014/sipp-2014-source-and-accuracy-statement.pdf>.

asks two main questions: 1) what are the characteristics of people who became married or entered a cohabiting relationship during the reference period, 2) what are the characteristics of people who ended a relationship (marital or cohabiting) during this period? Furthermore, I will use logistic regression to predict union formation (cohabitation and marriage) and union dissolution (cohabitation and marriage.)

Data

The longitudinal nature of SIPP data allows analysis of relationships within a twelve-month period as well as over a four-year period. This study will use data from the first twelve-month period of the 2014 panel to analyze relationship transitions and the characteristics of the persons who completed them. Wave 1 of the 2014 panel reflects data on respondents spanning from January to December 2013. Future research can utilize the multiple waves of data to analyze serial cohabitation and duration of relationships, and conduct survival analysis predicting formation or dissolution of unions. For this study, I will use data from wave 1 of the SIPP 2014 panel and limit my sample to respondents 15 years and older. The study will draw on demographic and socioeconomic data on respondents' race, age, sex, education, Hispanic origin, employment, poverty level, and family characteristics, including times married and multiple partner fertility (defined as having children with more than one partner).

Since the 2014 SIPP panel is the first following the redesign of the survey, I will compare SIPP estimates with estimates of marital transitions in the last year from the American Community Survey. Now that the reference period for SIPP is roughly a year prior to the survey, the way it is collected is perhaps more similar to ACS (which asks about events in the last 12 months) than the way it was collected in earlier panels of SIPP. In the past, changes in marital status were collected at each interview (every 4 months), and a marital history was collected in the second interview that asked about the dates for up to three marriages and how/when they ended. While the focus of this study is not to evaluate the SIPP data post redesign, this comparison across surveys will establish a valuable benchmark for the data on marital transitions, since the ACS has a far larger sample size than the SIPP.

Literature

Previous research has examined union formation and union dissolution. In this section, I will list my research questions, discuss the literature that informs them, and describe my hypotheses.

Research Question 1: Who forms unions?

Martin, Astone, and Peters (2014) posit that millennials will have lower marriage rates by age 40 than any other cohort. Further, while the demographic differences between cohabiters and people who married are well known, Martin, Astone, and Peters (2014) suggest that the educational and resource gap will further grow between those who marry and those who do not. Moreover, adults wait almost six years longer to marry than in 1967 and that only 8 percent of 18 to 24-year-olds today are living with a spouse compared to the nearly 40 percent in 1967 (Schondelmyer and Vespa, 2014).

This study will examine the socioeconomic status, marital history, and demographic and childbearing characteristics of persons who married over the year. With this snapshot of who married, we can examine the factors associated with marriage. I expect older age, higher educational attainment and employment to be positively associated with transitioning to marriage.

Cohabitation is becoming more commonplace today than in years past. The rate of 25 to 34-year-olds living with an unmarried partner is fifteen times higher than in 1967 (Schondelmyer and Vespa, 2014). Estimates suggest that 75 percent of women will experience a cohabitation event in their life (Copen, Daniels, and Mosher, 2013). Further, a growing share of older Americans are cohabiting, particularly among those who have divorced (Lin and Brown 2012). With cohabitation rapidly becoming the norm, what are the characteristics of the persons forming this type of relationship? Using SIPP, we can capture the formation of cohabiting relationships.

I anticipate that having multiple marriages, minority race status, having lower educational attainment, having children present, and multiple partner fertility will be positively associated with transitions into cohabitation.

Research Question 2: Whose unions dissolve?

While overall divorce rates have declined, there are certain demographic characteristics that are related to divorce like education and age at first marriage (Kennedy and Ruggles, 2014; Rotz, 2016). Studies have found that a larger proportion of the older population is divorced today than in years past (Brown and Lin, 2012; Lin and Brown, 2012; Vespa and Schondelmyer, 2014). Moreover, persons who have previously divorced are more likely to have their subsequent marriages end in divorce as well (Kennedy and Ruggles, 2014). Marital unions formed quickly after conception often end in divorce (Lichter, Michelmore, Turner, and Sassler, 2016). Women with lower educational attainment have had an increase in divorce rates over time compared to women with higher educational attainment (Martin, 2006). Raley and Bumpass (2003) found that the majority of black women's first marriage would end in divorce whereas only about half of white women's first marriages would end in divorce. However, Teachman (2002) found that over time the effect of race on union dissolution has decreased, largely a function of selection into marriage among blacks.

Using the data available in SIPP 2014, I will assess the characteristics of people who divorced or separated during the reference year. Factors that will be examined include the person's marital history, their socioeconomic status, demographic characteristics, and family characteristics. I anticipate that multiple partner fertility, previous marriage, and young age will be associated with a higher likelihood of divorce.

Cohabitation has a higher rate of dissolution than marriage. Lichter, Qian, and Mellot (2006) found that cohabiting unions are more likely to end in dissolution than in marriage and that most cohabiting unions dissolve within 5 years. Given that most cohabiting unions end, what are the characteristics of those whose relationship ended? Lichter, Qian, and Mellot (2006) noted that dissolution of a cohabiting union was more likely to occur among poorer couples and that for poor women, cohabitation was likely to be a long-term substitute for marriage. Cohabiting

unions formed during pregnancy or after birth have high rates of dissolution (Lichter, et al, 2006.) Black women are also more likely to have their cohabiting unions dissolve than other groups (Lichter, et al, 2006). Women's employment did not have a significant effect on union dissolution among cohabiting women. Having previously cohabited significantly reduced the likelihood of a cohabiting union transitioning into a marital union, but had no effect on the union dissolving (Lichter, et al, 2006).

Close to 60 percent of all non-marital births are to cohabiters (Curtin, et al., 2014) and because serial cohabitation continues to rise (Lichter, Turner, and Sassler (2010), I anticipate that multiple partner fertility will be significantly associated with cohabiting union dissolution. It may be likely that those with multiple partner fertility may experience more higher-order unions (unions that are at least the second cohabiting or marital union for an individual) that are less stable. Multiple marriages were also highly associated with cohabiting union formation. Xu, Hudspeth, and Bartkowski, (2006) found that people who have divorced are increasingly more like to cohabit than to remarry. This is not to say that they will only cohabit, but that some of these cohabiting unions will also transition into a remarriage. Further, many women enter a cohabiting union post-divorce with children (Bumpass, Raley, and Sweet, 1995), and this could lead to multiple partner fertility.

In future waves of SIPP, we can measure and examine instances of serial cohabitation, but for this study, we will highlight the demographic, family, marital, and socioeconomic characteristics of people who ended a cohabiting relationship as indicated by a cohabiting partner moving out. I expect that people who have multiple partner fertility, and are younger will be more likely to experience a cohabiting union dissolution.

This study will provide a snapshot of who is forming and ending unions in America during a given year. This study highlights the usefulness of SIPP as a survey that provides valuable data on the composition of American families today, along with a wealth of socioeconomic and program participation measures. It will provide information about relationship transitions today, and the demographic and socioeconomic characteristics associated with these transitions.

Methods

To analyze the SIPP data on union transitions, I limited the sample to interviewed respondents 15 years and older. SIPP only collects marital history data for respondents at least 15 years old. To calculate the number of divorces that occurred in the 12-month period, I used the monthly SIPP files for months 1-12 (January through December of the reference year, 2013). From this, I established monthly marital status. I measured marital dissolution as when the respondent was not divorced in the prior month but was divorced in the current month. A similar method was used to calculate the number of cohabiting unions that ended. SIPP asks respondents to report what months they lived with a cohabiting partner. If a respondent reported living with a partner in a prior month but not in the current month, they were recorded as having ended a cohabiting union. Marital union formation was measured when the respondent was not married in the prior month but was married in the current month. For cohabitation union formation, if the respondent did not report living with a partner in the month prior but did have a partner present in the current month they are recorded as having a cohabiting union formed. After establishing union

dissolution and formation, I ran a univariate analysis on select sociodemographic characteristics to profile those whose unions had ended or began. Then I utilized logistic regression to model what variables were significant in predicting divorce, cohabitation union dissolution, marital union formation, and cohabiting union formation.

Variables used in the analysis include basic demographics: sex, age, race, Hispanic origin, and educational attainment. Poverty is dichotomized to show those in poverty or not in poverty. Family characteristics included in the analysis are multiple partner fertility (if the respondent reported having multiple partner fertility). Multiple partner fertility has three categories: yes, no (which includes respondents with one child), and no children. If a respondent reported more than one marriage they were categorized as having multiple marriages.

Results

Union Formation

Of those who entered a marital union during 2013, thirty-five percent were between the ages of 25 and 34 (See Table 1). Forty-one percent had a bachelor's degree or higher. Twelve percent of those who married during the year were in poverty, and 12 percent had multiple partner fertility (had children with more than one person). Of those who married, 73 percent identified as White alone. Nineteen percent were of Hispanic origin (of any race).

Of the people who entered a cohabiting relationship during 2013, 81 percent were white alone, 12 percent were of Hispanic origin (of any race), and 35 percent were between the ages of 25 and 34. Thirty percent had a bachelor's degree or higher, and 27 percent were in poverty. Thirteen percent of people who had entered a cohabiting relationship during the year also had multiple partner fertility (See Table 2).

Logistic regression results showed that college graduates had higher odds of marrying than high school graduates and that those with less than a high school degree had lower odds of marrying than high school graduates (See Figure 1). This is in line with prior research showing the educational divide between those who marry and those who do not (Martin, Astone, and Peters, 2016; Manning, Brown, and Payne, 2014). Those in poverty had lower odds of marrying than those who did not. Having multiple marriages was positively associated with entering a marriage during 2013, which also agrees with earlier research showing that most unions that end go on to form a new partnership, either through cohabitation or in marriage (Cherlin, 2009). Asians had higher odds of marrying compared to whites. Hispanic origin was positively associated with entering a marriage compared to those of non-Hispanic origin.

Blacks had a lower likelihood of entering a cohabiting union compared to Whites (See Figure 2). People of Hispanic origin were also less likely to enter a cohabiting union compared to non-Hispanic people. People that obtained a college degree (Bachelor's degree or higher) had higher odds of entering a cohabiting union than people with a high school degree. However, those with less than a high school degree had significantly lower odds of entering a cohabiting union. This is in contrast to other studies that show that lower educational attainment is associated with higher rates of cohabitation (Kennedy and Bumpass, 2008). These results for those with less than

a high school degree appear to conflict with the additional finding that being in poverty was positively associated with cohabiting union formation. It is possible that SIPP captured a different group of cohabiters than other surveys. It is also important to note that these findings represent people who entered a cohabiting union during a one-year period, not who has ever, or will ever enter a cohabiting union.

Union Dissolution

According to the SIPP 2014 wave 1 panel, approximately 928,000 people divorced in 2013 (See Table 3). 36 percent were between the ages of 45 and, White (80 percent), with some college education (36 percent), and not in poverty (80 percent). Nineteen percent of people who divorced during 2013 had multiple partner fertility.

Approximately, 1.9 million people (1.934 million) reported a dissolution of a cohabiting union (see Table 4). Fifty-one percent of people who had a cohabiting union dissolve were women (See table 4). Thirty-four percent of people with a cohabiting union dissolution were between the ages of 25 and 34. Seventeen percent of people who reported a cohabiting union dissolution were of Hispanic origin. Approximately one third (34 percent) had a high-school degree or the GED equivalent. The majority of people who ended a cohabiting union had at least one child but did not have multiple partner fertility (46 percent) and 37 percent reported having no children.

Logistic regression was used to identify the significant predictors of divorce during 2013. Factors significantly associated with higher odds of divorce include having more than one marriage and being in poverty (see Figure 3). The only significant factor associated with a lower likelihood of divorce was being older. While the divorce rate for older ages groups has gone up (Kennedy and Ruggles, 2014) the present study has found that older Americans were significantly less likely to enter a divorce during 2013 than people aged 25-34. It is important to note that some of these marriages may have been early marriages; people in this age group may have been married prior to age 25, and age at marriage is a significant factor in likelihood of divorce (Raley and Bumpass, 2003).

The only factors positively associated with cohabiting union dissolution was having multiple marriages and being male. As established in prior literature, cohabiting unions are often unstable and perhaps more unstable than in years past (Guzzo, 2014). After divorce, many of these higher-order relationships start as cohabiting unions (Cherlin, 2009). These two conditions may make higher-order cohabiting unions especially unstable. Factors significantly associated with a lower likelihood of dissolving a cohabiting union include having less than a high school degree (compared to having a high school degree or GED equivalent) and age since all ages groups (except 35-44 year olds) were less likely to dissolve their unions compared to 25-34 year olds. It is possible that the lower odds of dissolving their union among younger people and those with lower education attainment is because staying in the union makes the most financial sense. Smock and Manning (1997) and Smock, Manning, and Porter (2005) noted the value of economic security in the transition to marriage. If low-income people do not feel that they have enough money to transition into marriage, they may also feel that they do not have enough money to leave a cohabiting union- at least compared to the reference groups.

Conclusion

Union formation and dissolution are events that often occur during the course of a person's life. In SIPP 2014, we captured many union formations and union dissolutions. There were more cohabiting unions forming and dissolving than marriages, which is to be expected. However, it is important to note that the estimates of divorce and marriage are roughly half of what is captured in the ACS 2014 data.² This is a large difference between surveys and the reason for the discrepancy needs to be studied further. Since there is a large discrepancy, caution should be used in interpreting results from the models.

Having more than one marriage did have a significant association with union formation and dissolution. It was a significant factor in forming a marriage, but also a significant factor in dissolving a cohabiting union and marital union. This suggests that higher-order relationships may have a significant association with entrance into and the stability of future relationships. This is supported by prior research indicating that those whose unions dissolved often enter a new union at some point (Cherlin, 2009). Further, the large association between multiple marriages and union dissolution may be because these people are selected into less stable unions. Multiple partner fertility was not associated with union dissolution and was only negatively associated with marital union formation. This may suggest that while multiple partner fertility may dissuade a new marriage from forming (but does not account for having ever-married previously), it may not have much of an impact on union dissolution. The effect of multiple partner fertility may be largely captured with the inclusion of multiple marriages into the models. That is to say people with multiple partner fertility may have experienced prior marriages.

Age played an important role in union formation and dissolution. Younger (15-24 year olds) and older (45 years old and above) people were less likely to form a marriage compared to 25-34 year olds (there was not a significant difference for 35-44 year olds). This finding highlights the delay in the age of first marriage, but also, past a certain age, people are less likely to ever marry (or remarry). These findings are similar to the finding that people aged 18-24 years were not significantly different from 25-34 year olds in divorcing and that older people (aged 35 and above) were less likely to divorce.

Overall, this paper serves to identify the characteristics of persons who form and end unions as well as highlighting the ability of SIPP to measure relationship transitions within a year period. SIPP is the only longitudinal survey conducted by the Census Bureau that captures the formation and dissolution of cohabiting unions during the year. With these data, more research can eventually be done on the formation and dissolution of unions over the four-year period covered by the whole panel.

² ACS 1 year estimates show that there were 4,521,210 marriages in the past year for data year 2014 and 2,162,925 divorces were reported. Please see tables B12503 and B12501 at www.factfinder.census.gov

Tables and Figures

Table 1. Characteristics of people 15 and over who married during 2013 (Numbers in thousands)			
	Estimate	Percent	SE Percent
Sex ¹			
Male	1,009	49	1
Female	1,066	51	1
Age			
15-24	276	13	2
25-34	732	35	2
35-44	465	22	2
45-64	505	24	2
65 and over	96	5	1
Race			
White Alone	1,508	73	3
Black Alone	229	11	2
Asian Alone	250	12	2
All Other Race Combinations	87	4	1
Hispanic Origin			
Yes	393	19	2
No	1,681	81	2
Education			
Less than High School	164	8	1
High School Graduate or GED Equivalent	529	25	2
Some College or Associates Degree	533	26	2
Bachelor's Degree or Higher	849	41	3
Poverty Level			
Not in Poverty	1,829	88	3
In Poverty	246	12	3
Multiple Partner Fertility²			
Yes	240	12	2
No	1,049	51	3
No Children	786	38	3
Multiple Marriages			
Yes	829	60	3
No	1,246	40	3
Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1			
¹ Estimates denoted by (*) have a coefficient of variance greater than 30%.			
² Multiple partner fertility includes respondents with only one child. They are categorized as having no multiple partner fertility			

Table 2. Characteristics of people 15 and over who began cohabiting during 2013
(Numbers in thousands)

	Estimate	Percent	SE Percent
Sex ¹			
Male	1,278	49	1
Female	1,323	51	1
Age			
15-24	726	28	2
25-34	897	34	2
35-44	498	19	2
45-64	442	17	2
65 and over *	37	1	1
Race			
White Alone	2,098	81	2
Black Alone	276	11	2
Asian Alone	94	4	1
All Other Race Combinations	134	5	1
Hispanic Origin			
Yes	309	12	2
No	2,292	88	2
Education			
Less than High School	195	8	1
High School Graduate or GED Equivalent	745	29	2
Some College or Associates Degree	869	33	2
Bachelor's Degree or Higher	791	30	3
Poverty Level			
Not in Poverty	1,891	73	2
In Poverty	710	27	2
Multiple Partner Fertility²			
Yes	333	13	2
No	925	36	2
No Children	1,343	52	3
Multiple Marriages			
Yes	279	11	2
No	2,322	89	2

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

¹ Estimates denoted by (*) have a coefficient of variance greater than 30%.

² Multiple partner fertility includes respondents with only one child. They are categorized as having no multiple partner fertility

Table 3. Characteristics of people 15 and over who divorced during 2013
(Number in thousands)

	Estimate	Percent	SE Percent
Sex ¹			
Male	385	41	4
Female	543	59	4
Age			
15-24 *	22	2	1
25-34	289	31	4
35-44	243	26	3
45-64	335	36	4
65 and over *	40	4	2
Race			
White Alone	742	80	3
Black Alone	138	15	3
Asian Alone *	28	3	2
All Other Races and Combinations *	21	2	1
Hispanic Origin			
Yes	117	13	2
No	811	87	2
Education			
Less than High School	49	5	1
High School Graduate or GED Equivalent	229	25	3
Some College or Associates Degree	338	36	4
Bachelor's Degree or Higher	312	34	4
Poverty Level			
Not in Poverty	741	80	3
In Poverty	188	20	3
Multiple Partner Fertility²			
Yes	179	19	3
No	595	64	3
No Children	155	17	3
Multiple Marriages			
Yes	287	31	4
No	641	69	4

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

¹ Estimates denoted by (*) have a coefficient of variance greater than 30%.

² Multiple partner fertility includes respondents with only one child. They are categorized as having no multiple partner fertility

Table 4. Characteristics of people 15 and over who ended a cohabitation during 2013
(Numbers in thousands)

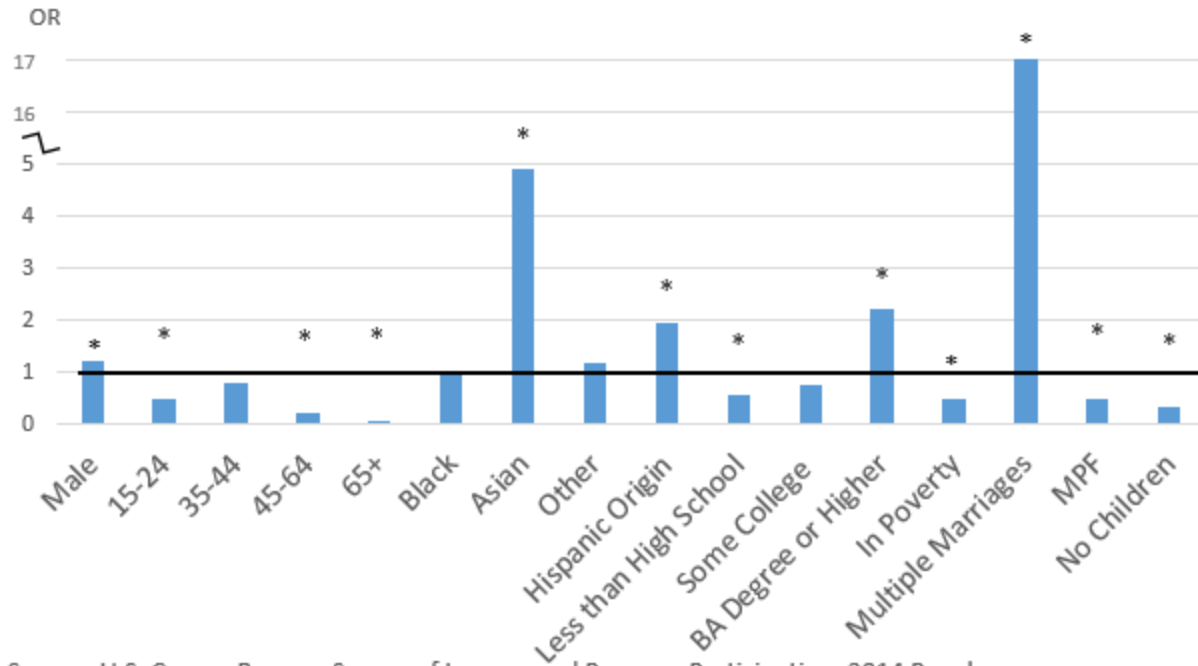
	Estimate	Percent	SE Percent
Sex ¹			
Male	950	49	2
Female	988	51	2
Age			
15-24	268	14	2
25-34	648	33	3
35-44	476	25	2
45-64	491	25	3
65 and over *	54	3	1
Race			
White Alone	1,534	79	2
Black Alone	223	12	2
Asian Alone *	56	3	1
All Other Races and Combinations *	124	6	2
Hispanic Origin			
Yes	320	16	2
No	1,618	84	2
Education			
Less than High School	181	9	1
High School Graduate or GED Equivalent	652	34	3
Some College or Associates Degree	605	31	2
Bachelor's Degree or Higher	500	26	3
Poverty Level			
Not in Poverty	1,512	78	2
In Poverty	426	22	2
Multiple Partner Fertility²			
Yes	342	18	2
No	887	46	3
No Children	708	37	3
Multiple Marriages			
Yes	638	33	3
No	1,299	67	3

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

¹ Estimates denoted by (*) have a coefficient of variance greater than 30%.

² Multiple partner fertility includes respondents with only one child. They are categorized as having no multiple partner fertility

Figure 1. Odds Ratios Predicting Marriage: 2013

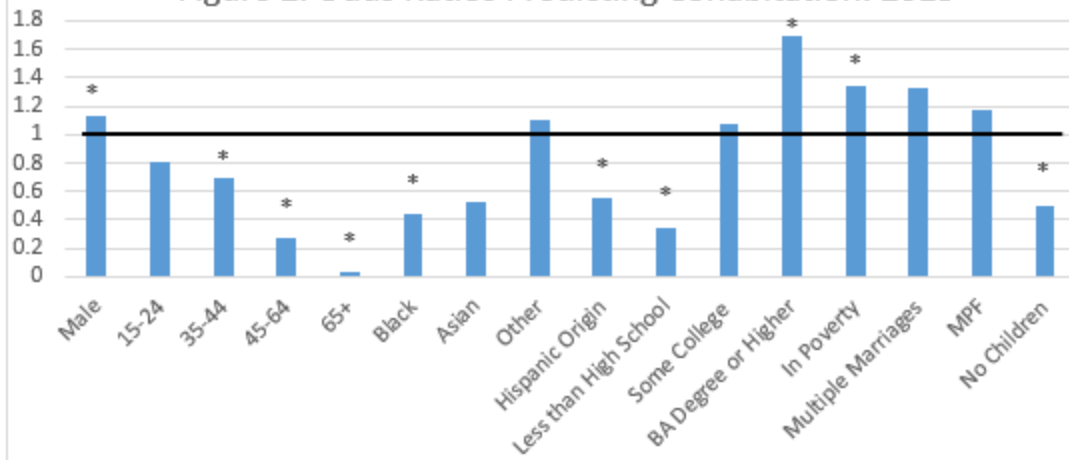


Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Note: The reference category for MPF is no MPF and includes people with one child.

* $p < .05$

Figure 2. Odds Ratios Predicting Cohabitation: 2013

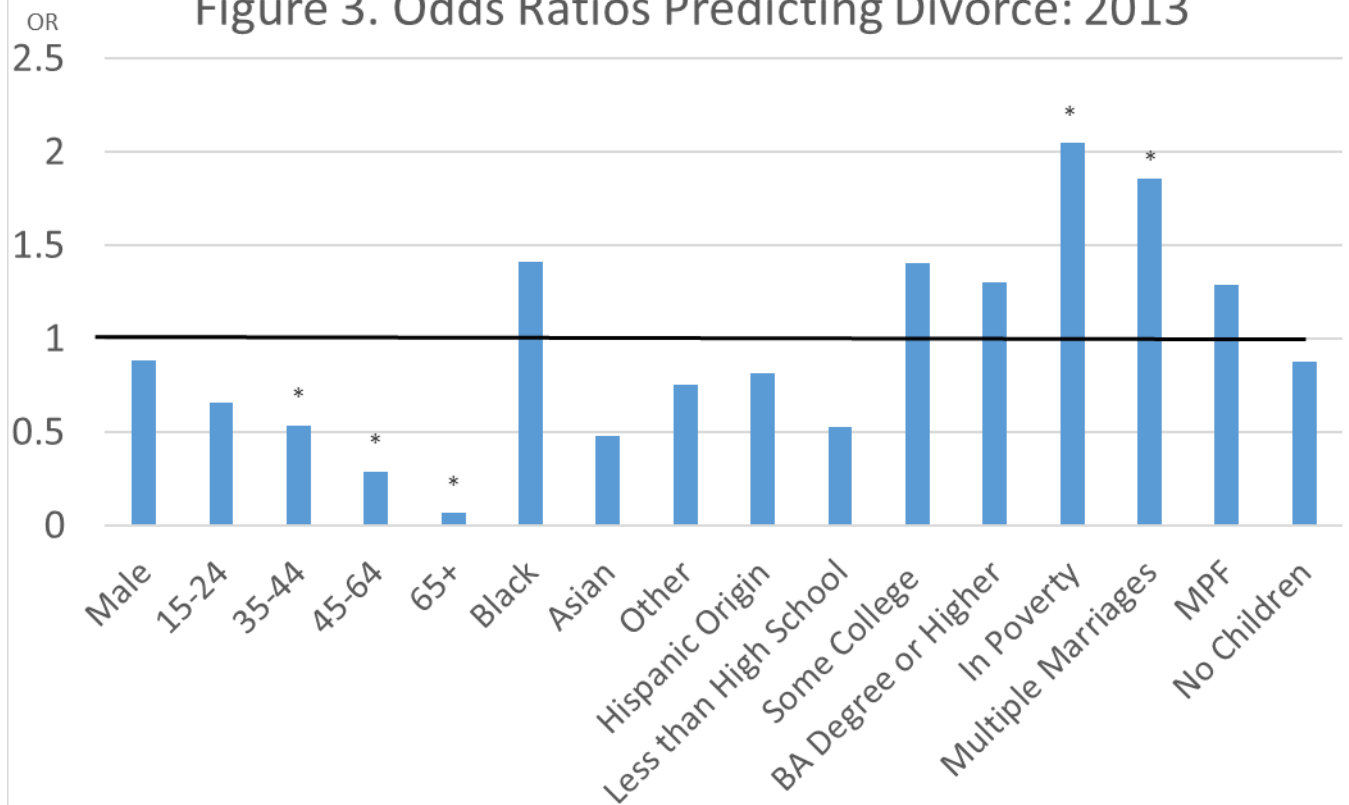


Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Note: The reference category for MPF is no MPF and includes people with one child.

* p < .05

Figure 3. Odds Ratios Predicting Divorce: 2013

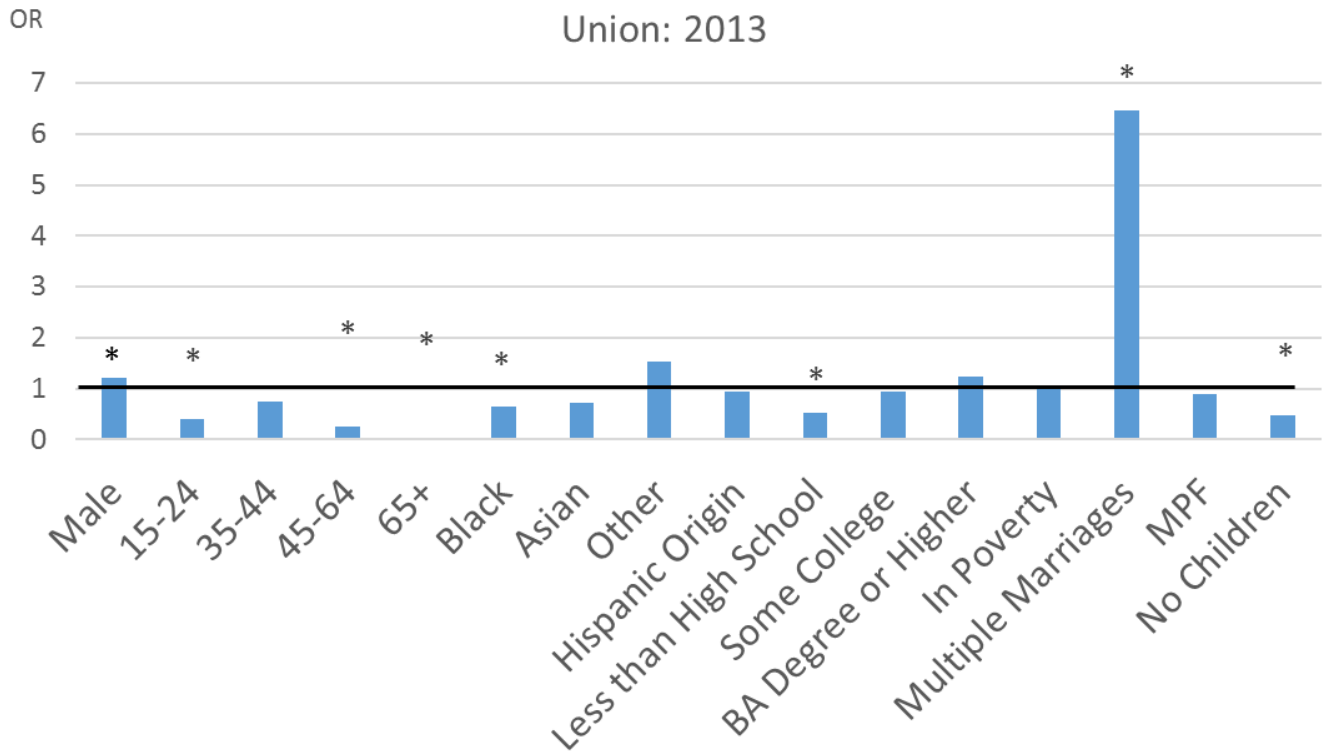


Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Note: The reference category for MPF is no MPF and includes people with one child.

* $p < .05$

Figure 4. Odds Ratios Predicting Dissolution of a Cohabiting Union: 2013



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Note: The reference category for MPF is no MPF and includes people with one child.

* $p < .05$

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