

Sibling Sex Composition and Marriage Outcomes*

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Abstract

This paper examines the effect of sibling sex composition on marriage outcomes in the United States using a, newly-constructed dataset from Texas covering individuals born between 1976-1997. Leveraging both singleton and twin analyses, we find robust evidence that having a same-sex sibling significantly increases the likelihood of marriage and accelerates marriage timing. We also reveal substantial heterogeneity across racial groups with White individuals consistently showing strong effects. Furthermore, we document that sibling sex effects on marriage is predominantly present in wealthier counties. Our results highlight the importance of considering both racial background and socioeconomic context when studying family formation patterns.

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1 Introduction

Marriage plays a crucial role in shaping economic outcomes. Households headed by single mothers are five times more likely to live in poverty, and those headed by single fathers are twice as likely, compared to households with married couples (U.S. Census Bureau, 2020). Children raised in single-parent households experience significant disadvantages relative to their peers, particularly in social-emotional development and high school graduation rates (McLanahan & Sandefur, 1986; Parke, 2003; Carlson, 2006; Lopoo & DeLeire, 2014; Blandin & Herrington, 2022; McLanahan et al., 2013). Besides some specific cases (such as the case of criminal parents, (Norris et al., 2021)), two-parent households perform much better than their single-parent counterparts. Moreover, the benefits of marriage extend beyond child-rearing. Even among adults, married individuals report higher life satisfaction compared to those who are cohabiting, suggesting that the institution of marriage itself, rather than just shared living arrangements, contributes to well-being (Gattig & Minkus, 2021).

Despite these advantages, marriage rates have experienced a noticeable decline in the United States and other high-income countries. In 1980, 77% of the children lived with married parents, but by 2019 that number had dropped to only 63% (Kearney, 2023). There is also considerable heterogeneity by race. Whites and Asians are much more likely to be married than Blacks and Hispanics (Kearney, 2023). Although factors such as economic conditions, cultural changes, and shifting social norms have been studied (Autor et al., 2019; Kearney, 2022; Akerlof et al., 1996), less attention has been paid to the potential influence of family dynamics, particularly the role of siblings, on marriage outcomes.

Using the universe of people born in Texas from 1976 to 1997, this paper explores whether the sex of a sibling affects an individual’s propensity for family formation in the United States. Because individuals grow up alongside their siblings, these relationships can substantially shape their long-term outcomes and life choices through channels such as competition and information sharing (Peter et al., 2018; Joensen & Nielsen, 2018a). We extend previous research in several ways. First, we examine this effect within the U.S., which, to our knowledge, has not been done previously. The U.S. presents a particularly interesting case due to its unique combination of cultural, economic, and demographic factors that shape marriage patterns. Unlike developing countries, where family formation is heavily influenced by parental control and arranged marriages, or highly developed Scandinavian social-democratic countries, where strong welfare systems and gender-equal norms make marriage and cohabitation more interchangeable, the U.S. occupies a middle ground by balancing strong individualistic values with historical norms of family formation.

Second, our newly constructed dataset allows us to stratify our analysis by racial group, which, to our knowledge, has also not been done before. Family formation patterns vary significantly across different communities in the U.S., as White, Black, and Hispanic populations have distinct cultural norms, economic conditions, and family structures that shape marriage decisions. Studying these groups within the U.S. presents a unique opportunity to analyze how different cultural traditions and economic conditions influence family formation while holding broader institutional factors, such as legal frameworks, economic policies, and access to education, constant. To further explore how local economic conditions shape family formation decisions, we also stratify this analysis by the wealth of the county of birth, using county-level economic indicators as a proxy for wealth. This allows us to isolate the role of cultural and familial influences in shaping marriage outcomes in a way that cross-country comparisons cannot.

We employ multiple empirical strategies to examine whether sibling sex composition influences family formation outcomes. Our primary approach, the singleton analysis, focuses on the oldest child in families with at least one younger sibling and investigates how the sex of the second-born child affects the first-born’s likelihood and timing of marriage. We find that first-born men and women with a same-sex younger sibling are more likely to marry and to do so at a younger age. When we disaggregate by race, we find that this effect is almost entirely driven by White families. While we cannot pin down the exact mechanism behind this racial heterogeneity, identifying these patterns is important for understanding the broader social and cultural forces that shape family formation decisions.

Next, we analyze twins to assess how having a same-sex twin influences family formation. Twin analysis provides a cleaner identification strategy by eliminating birth order and age gap effects, ensuring that any observed differences in family formation are driven by sibling sex rather than these confounding factors. We find that men and women with a same-sex twin are more likely to marry, with an effect size roughly double that of the singleton analysis. Racial decomposition again reveals that White families drive this pattern. However, notable differences emerge: Black men with a same-sex twin are significantly less likely to divorce, while Hispanic men with a same-sex twin tend to marry at an older age.

Finally, while we lack direct measures of family income, we use the median income of the county of birth to explore how these sibling effects interact with wealth. We find that the observed effects on marriage are concentrated among individuals born in counties within the top 50% of median income

in 2001. For men, this pattern is driven by White families—White men from wealthier counties are more likely to marry if they have a same-sex younger sibling. For women, the effect is driven by Hispanic families—Hispanic women from wealthier counties are more likely to marry under the same condition.

We contribute to three strands of literature. First, we add to the research on the determinants of family formation. Akerlof et al. (1996) show that the decline of shotgun marriages, driven by increased access to contraception and abortion, significantly contributed to the rise in out-of-wedlock births in the U.S. by shifting social norms and reducing the economic and social pressure for men to marry. Autor et al. (2019) find that declining relative earnings for men, driven by rising international manufacturing competition, led to lower marriage and fertility rates, increasing the share of unwed mothers and children living in single-parent households below the poverty line. Kearney & Wilson (2018) demonstrate that the reverse does not hold—increases in men’s income due to the fracking boom raised fertility rates but did not increase marriage rates, suggesting that social norms, rather than economic factors alone, primarily shape family formation. Together, these findings highlight the complexity of family formation, where economic shifts interact with evolving social norms in ways that do not always align with traditional economic predictions. This paper contributes to this literature by showing that sibling sex also influences family formation decisions in the United States.

Second, there is a vast literature on how siblings influence each other. Siblings play a significant role in shaping each other’s lives, often serving as lifelong role models, confidants, and competitors. Their presence and characteristics can impact various life choices, including educational attainment, career paths, and social behaviors (Nicoletti & Rabe, 2017; Joensen & Nielsen, 2018a; Altonji et al., 2017; Zang et al., 2023; Bingley et al., 2021; Black et al., 2020; Dahl et al., 2014; Bhai, 2016; Norris et al., 2021). Research also suggests that siblings’ family formation decisions influence each other (Buyukkececi & Leopold, 2021). Closely related to our study, Vogl (2013) finds that in developing countries in South Asia, same-sex siblings affect parental strategies for timing their children’s marriages to minimize competition. Similarly, Peter et al. (2018) shows that in Sweden, having a younger sibling (or twin) of the same sex increases the probability of marriage for both men and women. Our paper contributes to this literature by providing new evidence from the U.S., a country with a unique cultural landscape and a diverse population that allows for the examination of heterogeneous effects of siblings’ sex on family formation.

Finally, we contribute to the literature on racial inequality. In the United States, racial disparities

persist across multiple dimensions, including income, wealth accumulation, and representation in positions of power (Darity & Mason, 1998; Bertrand & Mullainathan, 2004; Derenoncourt et al., 2023; Rider et al., 2023). White households tend to have higher median incomes and greater access to generational wealth compared to Black and Hispanic households, who face structural barriers that limit upward mobility (Chetty et al., 2019). These economic disparities are reinforced by differences in access to education, employment opportunities, and homeownership, all of which contribute to long-term financial security. Marriage serves as an important pathway to economic stability, as married households tend to accumulate more wealth, benefit from dual incomes, and provide a more stable environment for children. However, marriage rates vary significantly by race, with White and Asian individuals being more likely to marry than Black and Hispanic individuals (Kearney, 2023). Given that marriage has important economic implications, understanding its determinants across different racial groups is critical. By examining how sibling sex composition influences family formation within racial subgroups, our study sheds light on whether family dynamics play a role in shaping marriage disparities and contributes to a broader understanding of racial inequality in the U.S.

2 Potential Mechanisms

2.1 Differential Parental Treatment

There are two main mechanisms by which a sibling’s sex could affect an individual’s family formation outcomes. The first is through differential parental treatment (indirect), wherein parents allocate resources, attention, and expectations differently based on the sex of their children, ultimately shaping family formation outcomes in distinct ways. Parents may have gender-specific investment strategies that reflect cultural norms, economic incentives, and biological considerations. These differences can manifest in educational opportunities, financial support, inheritance patterns, and expectations surrounding marriage and child-rearing. For instance, Pollet et al. (2009) and Danielsbacka et al. (2011) show that maternal grandparents are more likely to invest time with their grandchildren due to the higher levels of certainty in genetic relatedness. Additionally, Vogl (2013) looks at South Asia and finds that girls with sisters are more likely to get married and tend to get married younger. This is driven by parents wanting to rush the marriage of their older daughter(s) to make sure they have enough time to marry off the younger one(s).

2.2 Sibling-to-Sibling Effects

The second mechanism is through sibling-to-sibling effects (direct) where siblings directly influence each other’s behaviors, aspirations, and life choices through competition, imitation, and shared experiences. Sibling competition is particularly relevant in shaping family formation outcomes, as individuals often compare themselves to their siblings and adjust their decisions accordingly. This competition can manifest in various ways, such as striving to achieve milestones earlier, aligning with or differentiating from a sibling’s choices, or responding to perceived familial and social expectations. Research suggests that brothers, especially those close in age, tend to compete across multiple life domains, including academics, career choices, and social status (Conley, 2002; Grose, 2003; Adams, 1972). In the context of education, Joensen & Nielsen (2018b) find that younger brothers are likely to take the same courses in school as their older brothers unless the older sibling excels, in which case younger brothers seem to opt out, likely to avoid unfavorable comparisons. This highlights how competition can shape decision-making and life trajectories. In terms of marriage, sibling effects can operate through both competition and information spillovers. Peter et al. (2018) show that individuals, particularly women with sisters, tend to get married around the same time as their siblings. This synchronization may stem from a desire to compete for attention, social standing, or parental resources, or it could reflect information spillovers, where seeing a sibling marry provides reassurance about the benefits and timing of marriage.

2.3 Intermediary Effects

As mentioned above, research indicates that brothers frequently compete across multiple life domains, including academics, career choices, and social status (Conley, 2002; Grose, 2003; Adams, 1972). Peter et al. (2018) find that first-born men and women in Sweden with a same-sex younger sibling tend to have higher earnings than those with opposite-sex siblings, suggesting that sibling competition may drive greater economic success. However, Bhai (2016) finds that this effect is reversed for women in the United States—American women with an opposite-sex twin earn more than those with a same-sex twin—while no such effect is observed for men. Regardless, if sibling sex composition enhances income and social standing, it may also facilitate marriage by increasing an individual’s attractiveness as a partner. Because we do not have direct measures of income or social status, our analysis holistically captures the effect of having a same-sex sibling on marriage, encompassing potential pathways such as education, career advancement, and social positioning.

2.4 Heterogeneity by Race

The impact of sibling sex on family formation may vary across racial groups due to differences in cultural norms, family structures, and socioeconomic factors. In this paper, we examine the effect of having a same sex sibling on family formation outcomes across three racial groups: non-Hispanic White, non-Hispanic Black, and Hispanic individuals.

Existing research highlights significant variation in sibling-to-sibling relationships across racial groups. In Black and Hispanic families, older siblings often take on more paternalistic roles, providing guidance and support for younger siblings, particularly in single-parent households (McHale et al., 2007; Stack, 1997; Updegraff et al., 2005). In contrast, White families tend to emphasize individualism and sibling competition, leading to different intra-family dynamics that may shape marriage decisions (Vogl, 2013).

Family structure also differs across racial groups in ways that may influence sibling relationships and, ultimately, marriage patterns. Black families are more likely to rely on extended family networks, including grandparents and other relatives, as part of a multi-generational household rather than a strictly nuclear family structure (McHale et al., 2007; Frazier, 1948). Hispanic families often emphasize familism, where strong intergenerational bonds prioritize family obligations over individual autonomy, reinforcing traditional family roles (Landale & Oropesa, 2007; Falicov, 1998). White families are typically more nuclear-family oriented, with a greater emphasis on autonomy and self-sufficiency, particularly in higher-income households where parental intervention in children’s life choices, including marriage, is less pronounced (Cherlin, 2004).

Racial differences in marriage markets also shape family formation outcomes. Hispanic men tend to prefer younger spouses, reflecting more traditional gender roles and family structures, particularly among first-generation immigrants. However, with increasing assimilation, their preferences shift toward educational homogamy, aligning more closely with White men’s marriage patterns (Landale & Oropesa, 2007). White men often prioritize educational homogamy, choosing spouses of similar socioeconomic status and educational background. This preference reinforces class-based marriage patterns and social network effects (Qian & Lichter, 2007). Black men tend to place greater emphasis on economic traits in a spouse, such as employment and education, rather than prioritizing age or traditional family structures, which distinguishes them from both White and Hispanic men (Banks, 2012).

Given these racial differences in sibling relationships, family structures, and marriage preferences,

the effect of sibling sex on marriage outcomes likely differs across racial groups. If sibling competition is a primary driver, we might see stronger effects among White individuals, where sibling rivalry plays a more pronounced role. Conversely, if family obligations and intergenerational support shape marriage decisions, we might observe distinct patterns among Black and Hispanic families. By stratifying our analysis by race, we aim to capture these nuanced effects and contribute to a deeper understanding of how cultural and familial influences interact with sibling dynamics to shape marriage outcomes.

2.5 Heterogeneity by Wealth

The effect of having a same-sex sibling on marriage may be influenced by wealth, as financial resources shape both family dynamics and marriage decisions. In wealthier households, sibling competition may be more pronounced due to greater parental investment in education, career advancement, and social positioning, which could enhance an individual’s desirability in the marriage market. Additionally, in affluent settings where marriage is often tied to economic stability and social status, the pressure to marry may be stronger for individuals with a same-sex sibling, particularly if sibling comparisons reinforce traditional milestones.

Parental resource allocation decisions may also play a key role in driving this wealth-based heterogeneity. Previous research has shown that parents allocate resources differently based on birth order and the sex of their children (Rubalcava & Contreras, 2000; Behrman & Taubman, 1986; Ejrnæs & Pörtner, 2004). Poorer parents, facing more limited financial resources, may adopt a more egalitarian approach to investment in their children, providing similar levels of support regardless of birth order or sex. With fewer discretionary resources, there is less room for differentiation in how children are treated, leading to weaker sibling effects on marriage. In contrast, wealthier parents have greater capacity to allocate resources strategically, potentially reinforcing differences between siblings based on sex or perceived future prospects. This could mean preferential investment in certain children’s education, career opportunities, or social standing, amplifying sibling competition and its downstream effects on marriage timing. The fact that we observe this effect only in wealthy counties suggests that sibling sex composition interacts with wealth to shape family formation in ways that are less relevant in economically disadvantaged contexts.

However, because we use the wealth of the county of birth as a proxy for household wealth, these counties may differ in other unobservable dimensions, such as social norms or labor market conditions. Therefore, we cannot definitively attribute the observed effects to wealth alone, but it

remains a plausible mechanism through which sibling sex composition influences marriage outcomes.

Additionally, cultural attitudes toward marriage differ substantially by socioeconomic status. Kearney (2022) documents a large gap in marriage rates between college-educated and non-college-educated women, a pattern that persists within racial groups. Both Kearney (2023) and Murray (2012) highlight that the cultural and economic elite are more likely to marry, even though they often express that marriage itself should not be a central priority. These cultural distinctions, combined with resource differences, may help explain why we observe stronger effects of sibling sex composition on marriage outcomes in wealthier counties, suggesting that economic and cultural contexts could shape family formation outcomes differently across socioeconomic strata.

3 Data

Our analysis focuses on the state of Texas due to several key advantages. First, the availability of data in Texas allows us to construct a comprehensive dataset with detailed demographic information at the individual level. Second, Texas has relatively low out-migration rates, meaning that individuals born in the state are more likely to remain there compared to other large states, reducing concerns about sample attrition and geographic mobility bias (Fowler et al., 2021). Third, Texas is broadly representative of the U.S. in terms of race and income, though with a larger Hispanic population than the national average (U.S. Census Bureau, 2022; Kochhar et al., 2020). Despite slightly lower median income levels and a higher poverty rate than the national average, Texas exhibits significant economic diversity, including wealthier cities and lower-income rural areas, ideal for analyzing socioeconomic heterogeneity in marriage patterns. We combine several Texan data sources for this project including birth records, marriage records, and divorce records.

3.1 Texas Birth Index

The Texas Birth Index (TBI) is an administrative record, recorded by the Texas Department of State Health Services, that contains the universe of births in the State of Texas.¹ Our sample includes all Texan births from 1976-1997, which equates to approximately 6.6 million observations. This dataset includes name, sex, birth date, county, and the names of parents. We construct a family identification

¹This dataset was scraped from public genealogical websites, such as Ancestry.com and familysearch.org. Similar data from Ancestry.com has been used in other published economics papers Aizer et al. 2016; Price et al. 2021. The Texas Birth Index was obtained in compliance with the Computer Fraud and Abuse Act and limited our collection to what is publicly available.

variable, using parents who share the same name, in order to determine siblings. Various iterative techniques were used to determine the validity of the family identification, some of which include relaxed spelling accuracy, nickname-corrected matches, and similar phonetic encoding (Soundex), as well as siblings that only match on mothers' name (when father name was not present in the birth record).

The distribution of this family indicator and the corresponding versions are presented in Table 1

3.2 Texas Marriage and Divorce Records

We also collected data from publicly available marriage and divorce records in Texas. We merge the information provided by the Texas Birth Index with marriage and divorce records using individuals' names and birth year. The resulting data set contains the universe of children born in Texas from 1976-1997 with the family identification variable and their marriage and divorce records.

3.3 Identification of Race

To determine the racial composition of individuals in the Texas Birth Index, we implement an algorithm that probabilistically assigns racial and ethnic classifications based on first and last names. This algorithm is trained on large-scale datasets, including the 2022 Florida voter registration records and census data, where individuals have self-reported their race. The algorithm uses Random Forest classifiers, an ensemble learning method that constructs multiple decision trees and aggregates their outputs to improve predictive accuracy. To process names effectively, it first converts them into numerical representations through n-gram analysis, capturing linguistic patterns associated with different racial and ethnic groups. The model then analyzes these features and assigns probabilities to different racial categories.

3.4 County-Level Median Income

We obtain estimates of median income by county from The Bureau of Economic Analysis (BEA) (Bureau of Economic Analysis, 2001). The BEA is a division of the U.S. Department of Commerce that provides key economic statistics, including data on GDP, personal income, and regional economic trends.

For our purposes, we use BEA county-level median income data from 2001, the earliest year available, as it aligns closest with birth year information from the Texas Birth Index, allowing us

to categorize individuals based on whether they were born in a low-income county or a high-income county. By stratifying the sample this way, we aim to see if the effects of having a younger sibling with the same sex differ across economic backgrounds.

4 Descriptive Statistics and Demographic Patterns

In this section, we summarize key marriage and demographic patterns observed in our dataset, providing both an introduction to the data we use in our analysis and an exploration of demographic trends related to family formation across racial groups.

4.1 Racial Composition

Table 2 shows that our sample consists of approximately 60% White, 6% Black, and 32% Hispanic individuals, which closely reflects the demographic composition of Texas during the study period. Compared to national statistics from the 1990 U.S. Census, which reported that Whites made up 76%, Blacks 12%, and Hispanics 9.0% of the U.S. population, our dataset overrepresents Hispanics and underrepresents White and Black individuals (U.S. Census Bureau, 1990). Given Texas’s proximity to the U.S.-Mexico border and its historically large Hispanic population, this discrepancy is expected. While the racial composition of our sample does not perfectly match national demographics, it remains broadly comparable, and we believe our findings offer meaningful insights that are likely to generalize to the broader U.S. population.

4.2 Family Formation

Table 3 presents summary statistics of family formation outcomes for men, stratified by race. Overall, 43% of men in the sample were married by 2017, with an average age at marriage of 25.44 years and a divorce rate of 6%. White men have the highest marriage rates at 45%, followed by Hispanic men at 41%, while Black men are least likely to marry at 38%. Hispanic men marry at the youngest age, around 24.86 years, while Black men marry slightly later at 25.93 years, compared to Whites at 25.65 years. Divorce rates are relatively similar across groups, but slightly higher for Black and White men at 7% compared to 4% for Hispanic men.

Twins are substantially less likely to be married than first-born singletons, with an overall marriage rate of 35% compared to 43% for singletons. The racial order remains the same, with White twins

most likely to marry at 36%, followed by Hispanic twins at 37%, and Black twins least likely to marry at 27%. Hispanic twins again marry at the youngest age, around 24.39 years, while White twins marry at 25.22 years and Black twins at 25.32 years.

Table 4 displays parallel statistics for women. Women exhibit higher marriage rates and earlier marriage ages than men. By 2017, 49% of women in the sample were married, with an average age at marriage of 24.33 years and a divorce rate of 7%. White women are the most likely to marry at 51%, followed by Hispanic women at 46%, while Black women are the least likely to marry at 44%. As with men, Hispanic women marry much younger, around 23.72 years, compared to White women at 24.51 years and Black women at 24.99 years. Twins follow the same trends as singletons, with lower marriage rates overall but the same racial order in marriage likelihood and age at marriage. These statistics suggest that race plays a significant role in family formation patterns, with Hispanic individuals marrying younger, Whites having the highest likelihood of marriage, and Black individuals consistently having the lowest marriage rates.

Figure 1 presents kernel density plots illustrating the distribution of marriage age across racial groups. Panel A, which focuses on men, shows that Hispanic men tend to marry at the youngest ages, while White and Black men have more similar distributions, although Whites exhibit slightly lower variance in marriage timing. Panel B, which focuses on women, shows an identical pattern, with Hispanic women marrying younger and White and Black women displaying similar distributions. These density plots reinforce the earlier findings that Hispanic individuals tend to form families earlier, while Black and White individuals are more similar.

4.3 Demographic Characteristics

Tables 5 and 6 provide additional demographic insights, focusing on sibling sex composition, median county income at birth, and number of siblings. About 51% of first-born singleton men have a younger sibling who is also male, consistent with prior research showing a slight male bias in live births (Austad, 2015). Women’s sibling sex composition follows a similar pattern, with 49% of first-born singleton women having a younger female sibling. In terms of birth location, White men are born in the wealthiest counties, followed closely by Black men, while Hispanic men are born in significantly lower-income counties on average. This pattern holds for women as well. Hispanic men and women tend to have the most siblings, while White and Black individuals have fewer siblings and are more similar in family size. Among twins, 71% are both male or both female, which aligns with expectations

since both identical and fraternal twins can be same-sex, while opposite-sex pairings occur only among fraternal twins. Additionally, twins tend to come from larger families, suggesting that parents of twins may be more likely to continue with their original family size plans despite having twins.

These descriptive statistics reveal important demographic and family formation patterns. White individuals are the most likely to marry, Hispanic individuals marry at the youngest ages, and Black individuals have the lowest marriage rates. Twins are consistently less likely to marry than singletons. Hispanic families tend to be larger and from lower-income counties, while White families are from wealthier backgrounds. Sibling sex composition follows expected biological trends, with more same-sex sibling pairs among twins.

5 Empirical Strategy

In our primary methodology, singleton analysis, we estimate the effect of the second-born child's sex on the marriage outcomes of the first-born child. Ideally, we would examine all siblings within a family regardless of birth order. However, analyzing the effect of an older sibling's sex on a younger sibling's outcomes introduces selection bias. Angrist & Evans (1998) demonstrates that parents of same-sex siblings are significantly more likely to have additional children, suggesting that families with different sibling sex compositions may have systematically different preferences. To illustrate, if we were testing the effect of the first-born sibling's sex on the outcomes of the second-born sibling, we would then be comparing second-born men with an older brother to second-born men with an older sister. Because the decision to have the second child was likely affected by the sex of the first child, we would systematically be comparing two different kinds of families with distinct preferences: families that chose to have another child after having a son and families that chose to have another child after having a daughter. In our analysis, we compare first-born men (women) with a younger brother to first-born men (women) with a younger sister. Because we hold the sex of our person of interest constant (by running separate specifications for men and women), and the sex of the second-born child does not retroactively affect the existence of the first-born child, our methodology avoids this selection bias. Families that have a son after a son and families that have a daughter after a son are less likely to be systematically different.

However, because parents of two same-sex siblings are significantly more likely to have additional children than parents of two opposite-sex siblings as mentioned above, the total number of siblings

may differ between families with same-sex siblings and those with opposite-sex siblings (Angrist & Evans, 1998). Appendix A-2 confirms that this is indeed the case. But, since the number of siblings is endogenously determined by the sex composition of the first two children, our main independent variable, controlling for it directly would introduce bad control bias (Angrist & Pischke, 2009). For this reason, our main analysis does not include the number of siblings as a control. Nonetheless, Appendix A-2 demonstrates that our results remain robust even when we account for family size, suggesting that our findings are not simply driven by differences in the number of siblings.

To estimate the effect of having a same-sex sibling on family formation outcomes, we run the following specification:

$$Y_{icb} = \alpha + \beta_1 \text{samesex}_{icb} + \phi_c + \psi_b + \epsilon_{icb} \quad (1)$$

where Y_{icb} is our family formation outcome of interest for person i . For marriage and divorce, which are both coded as indicator variables, we run a logit model (with corresponding probit and linear probability models in Appendix B-1). For age at marriage, we run OLS. samesex_{icb} is an indicator variable that equals 1 if person i 's younger sibling is of the same sex. ϕ_c and ψ_b are county and birthyear fixed effects, respectively. All standard errors are clustered at the birth county level.

First, we run this specification separately by the sex of our person of interest: the first-born sibling. In our specification for men, we compare men with a younger brother ($\text{samesex}_{icb} = 1$) to men with a younger sister ($\text{samesex}_{icb} = 0$). For women, we compare women with a younger sister ($\text{samesex}_{icb} = 1$) to women with a younger brother ($\text{samesex}_{icb} = 0$). Then, for each sex, we run specifications separately for our three racial groups: non-Hispanic Whites, non-Hispanic Blacks, and Hispanics.

Next, we extend our analysis to twins, estimating the effect of a twin's sex on the marriage outcomes of the other twin. A key limitation of our dataset, and consequently this methodology, is the inability to distinguish between monozygotic (identical) and dizygotic (fraternal) twin pairs. Since all monozygotic twins are of the same sex, any observed differences between same-sex and opposite-sex twins may be driven by a combination of factors: (a) the sex composition of the twin pair, (b) whether they are identical or fraternal, or (c) both. Our specification remains unchanged for this analysis, with samesex_{icb} now defined as an indicator variable equal to 1 if individual i 's twin (rather than younger sibling) is of the same sex. However, the estimated coefficient on samesex_{icb} , β_1 , may capture not only the effect of having a same-sex sibling but also differences in zygosity. As a result, we caution

the reader that our estimates may conflate these factors, and interpretations should account for this limitation.

Finally, we estimate the heterogeneous effects of wealth using the following specification:

$$Y_{icb} = \alpha + \beta_1 \text{same}sex_{icb} + \beta_2 \text{high}income_{ic} + \beta_3 (\text{same}sex_{icb} \times \text{wealthy}_{ic}) + \phi_c + \psi_b + \epsilon_{icb} \quad (2)$$

where $\text{high}income_{ic}$ is an indicator variable that equals 1 if individual i was born in a county c with a median income in the top 50% of Texas counties in 2001, and 0 if born in a county c in the bottom 50%. We interact this term with $\text{same}sex_{icb}$, allowing β_3 to capture the additional effect of having a same-sex sibling on family formation outcomes for individuals born in wealthier counties.

6 Results

6.1 Singleton Analysis

Table 7 presents our results on how the sex of the second-born sibling influences the family formation outcomes of the first-born sibling. Column 1 reports the likelihood of marriage (logit), Column 2 shows age at marriage (OLS), and Column 3 presents the likelihood of divorce (logit). Panel 1 focuses on men, showing that first-born men with a younger brother (same-sex sibling) are 2.7% more likely to marry, marry approximately one month younger, and are 2.4% less likely to divorce compared to men with a younger sister (opposite-sex sibling). Panel 2 addresses women, finding that first-born women with a younger sister are 1.8% more likely to marry and similarly marry about one month younger than women with a younger brother.

6.1.1 Singletons: Heterogeneity by Race

Table 8 disaggregates the results for singleton men by race. The positive effect of having a younger brother on the likelihood of marriage is only statistically significant for White men, who are 3.5% more likely to marry compared to White men with a younger sister. Although Black men exhibit a similar magnitude in effect size, it is not statistically significant. The effect for Hispanic men is negative and also insignificant. Regarding the timing of marriage, both White and Black men with younger brothers marry slightly earlier—approximately one month younger—compared to their counterparts

with younger sisters.

Table 9 presents the racial breakdown for singleton women. White and Hispanic women both exhibit a statistically significant 1.7% increase in the likelihood of marriage when they have a younger sister. However, only White women show a statistically significant effect in terms of timing, marrying about one month earlier than White women with a younger brother.

6.2 Twin Analysis

Table 10 reports our findings regarding how a twin’s sex influences the family formation outcomes of their co-twin. Results indicate that both men and women with a same-sex twin exhibit a significantly increased propensity for marriage—6% higher for men and 3.2% higher for women. These effects are nearly double the magnitude observed in our singleton (first-born) analysis. As a reminder, this could either mean that twin sex composition has a stronger influence on family formation or that the zygosity of a twin plays a role in marriage decisions.

6.2.1 Twins: Heterogeneity by Race

Table 11 explores these twin effects among men, stratified by race. We find that the increased likelihood of marriage due to having a same-sex twin brother is statistically significant only for White men, who are 7.2% more likely to marry compared to White men with an opposite-sex twin. While the coefficient for Black men is similar in magnitude, it is not statistically significant. However, Black men show a substantial reduction in divorce likelihood—those with a same-sex twin are 67% less likely to divorce, a notably large and statistically significant effect. Hispanic men, while not significantly more likely to marry, do exhibit significantly earlier marriage timing, marrying approximately three months younger when paired with a same-sex twin.

Table 12 provides a racial breakdown for twin women. Once again, a statistically significant increase in marriage propensity emerges exclusively among White women, who are 5% more likely to marry if their twin is of the same sex. The effects for Black and Hispanic women, though suggestive, do not reach statistical significance, underscoring racial heterogeneity in how sibling sex composition affects family formation outcomes.

6.3 Heterogeneity by County Median Income

For the analysis examining heterogeneity by wealth, we utilize our singleton analysis to leverage the larger sample size, which is particularly beneficial given the extent of dataset stratification. An analogous analysis focusing on twins can be found in Appendix [wealth twins]. Table 13 presents our findings regarding the interaction between sibling sex and our proxy for wealth, defined as the median income of the county of birth. We compare individuals born in Texas counties in the top 50% of median income in 2001 ($highincome_{ic} = 1$) with those born in counties in the bottom 50% ($highincome_{ic} = 0$). Our results indicate that, for both men and women born in poorer counties, having a same-sex younger sibling does not significantly affect the likelihood of marriage. In contrast, individuals from wealthier counties exhibit clear effects: men and women from affluent counties with a same-sex younger sibling are 3.4% and 2.8% more likely to marry, respectively. Furthermore, men born in rich counties with a same-sex sibling marry approximately one month earlier than their counterparts from poorer counties. Interestingly, having a same-sex sibling reduces divorce rates similarly across men from both wealthy and poor counties, with an approximate decrease of 8.3%.

Table 14 provides a racial breakdown of these wealth-based sibling effects for men. The analysis reveals that the overall effect observed is predominantly driven by White men. Specifically, White men born in poor counties with a same-sex younger sibling are, notably, 6.1% less likely to marry. In sharp contrast, White men born in wealthy counties with a same-sex sibling are 10.5% more likely to marry than those from poorer counties. The estimates for Black and Hispanic men do not exhibit statistically significant patterns.

Table 15 presents the racial heterogeneity for women. Here, the effects are primarily driven by Hispanic women. Hispanic women born in poorer counties show no significant effect of sibling sex on marriage propensity. However, Hispanic women from richer counties who have a same-sex younger sibling are significantly more likely—by 3.6%—to marry than their counterparts from poorer counties.

7 Discussion

In both our singleton and twin analyses, we find that men and women with a same-sex sibling are more likely to marry compared to those with an opposite-sex sibling. This result is consistent with potential mechanisms involving sibling competition, differential parental investment, and peer effects. Competition between same-sex siblings might encourage individuals to pursue earlier or more desirable

marriage outcomes to differentiate themselves or achieve traditional milestones sooner. Additionally, same-sex siblings may facilitate information sharing and provide social validation, thus enhancing marriage prospects.

The observed effects are predominantly driven by White families, aligning with prior research highlighting greater sibling competition and individualistic family dynamics in White households compared to other racial groups. White families typically emphasize individual achievement and autonomy, potentially intensifying competitive dynamics that prompt earlier marriage. In contrast, Black and Hispanic families, which often emphasize communal family structures and intergenerational support, may experience weaker sibling competition effects in marital decision-making.

Furthermore, the positive effect of having a same-sex sibling on marriage is notably concentrated in wealthier counties. This pattern suggests wealth amplifies sibling competition through greater parental resource allocation. Wealthier parents likely have more discretionary resources to differentiate their investments strategically among their children, possibly intensifying sibling rivalry and enhancing marriage outcomes for those deemed more promising or aligned with parental expectations. Additionally, cultural attitudes toward marriage differ substantially by socioeconomic status, with wealthier individuals potentially viewing marriage as an economic and social milestone more clearly linked to personal success and stability.

Our findings also indicate that individuals with a same-sex sibling tend to marry earlier. Marrying at a younger age could reflect competitive pressures to reach adult milestones sooner or parental strategies that encourage early marriage for older children to ensure adequate time and resources for younger siblings. Early marriage can carry economic advantages, such as combined resources, shared household responsibilities, and earlier establishment of family stability, which are particularly beneficial in affluent settings where marriage is closely tied to socioeconomic status.

Lastly, we find little evidence that sibling sex composition significantly influences divorce rates overall, suggesting sibling sex may impact marriage initiation and timing more strongly than marital stability. This absence of a strong divorce effect implies that the mechanisms driving marriage formation, such as sibling competition and parental investment strategies, might not extend significantly into marital stability or quality. Future research could further investigate the long-term marital outcomes beyond initiation to better understand the comprehensive effects of sibling dynamics on family formation.

8 Conclusion

This paper contributes to the existing literature by examining how sibling sex composition influences family formation outcomes, leveraging a newly constructed dataset from Texas covering individuals born between 1976 and 1997. We extend previous research by exploring this phenomenon in the U.S., a unique setting characterized by diverse cultural, economic, and demographic contexts. Our comprehensive analysis provides novel evidence on the significant role siblings play, particularly highlighting variations by race and socioeconomic status.

By stratifying our analysis by race, we shed light on nuanced cultural differences, revealing stronger sibling effects in White families and some distinct patterns among Hispanic and Black populations. Our exploration of heterogeneity by wealth reveals how economic context shapes the intensity and direction of sibling influences, pointing to the critical role of parental resource allocation in family outcomes.

Future research should further investigate the long-term impacts of sibling sex composition on broader economic outcomes, including employment trajectories and wealth accumulation. Additionally, understanding how sibling dynamics intersect with evolving social norms around marriage and family formation remains an important area for further inquiry.

From a policy perspective, our findings suggest targeted interventions recognizing the complexity of family dynamics may be necessary. Policies aimed at promoting marriage stability and family economic security should account for variations in family structures and resource availability, particularly among economically disadvantaged communities and racial minorities. This nuanced understanding can enhance the effectiveness of policies intended to strengthen families and reduce socioeconomic disparities.

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Table 1: Sibling Identification by Condition on Parents names

Category	Condition of Sibling Identification	Freq	Percent
Both Parents			
	No Name Correction w Middle Name	2,101,299	91.26
	Nickname Corrected w Middle Name	21,631	0.94
	Phonetic Correction w Middle Name	46,466	2.02
	No Name Correction wo Middle Name	64,155	2.79
	Nickname Corrected wo Middle Name	2,540	0.11
	Phonetic Correction wo Middle Name	17,082	0.74
Total (Both Parents)		2,253,173	97.86
Mother Only			
	No Name Correction w Middle Name	30,919	1.35
	Nickname Corrected w Middle Name	2,076	0.09
	Phonetic Correction w Middle Name	4,383	0.19
	No Name Correction wo Middle Name	1,308	0.06
	Nickname Corrected wo Middle Name	224	0.01
	Phonetic Correction wo Middle Name	10,354	0.45
Total (Mother Only)		49,264	2.15

Note: This table summarizes the conditions under which siblings are identified using parents' names in the Texas Birth Index. The identification process includes methods such as phonetic corrections and nickname adjustments. Percentages indicate the proportion of each condition relative to total observations.

Table 2: Racial Composition Comparisons

Race/Ethnicity	TBI (%)	1990 Texas Census (%)	1990 U.S. Census (%)
White (Non-Hispanic)	60.21%	60.8%	75.6%
Hispanic (Any Race)	32.18%	25.5%	9.0%
Black (Non-Hispanic)	6.36%	11.7%	11.7%
Other	1.31%	2.0%	3.7%

Note This table compares the racial composition of our TBI sample (1976-1997), the 1990 Texas Census, and the 1990 US Census.

Table 3: Summary Statistics of Family Formation for Men by Race

	Marriage		Age at Marriage		Divorce	
	Mean	N	Mean	N	Mean	N
First Born Singletons						
All	0.43	659,119	25.44	283,192	0.06	283,192
White	0.45	404,524	25.65	181,599	0.07	181,599
Black	0.38	35,126	25.93	13,313	0.07	13,313
Hispanic	0.41	210,413	24.86	85,460	0.04	85,460
Twins	Mean	N	Mean	N	Mean	N
All	0.35	58,960	25.00	20,761	0.05	20,761
White	0.36	36,914	25.22	13,217	0.06	13,217
Black	0.27	4,439	25.32	1,197	0.08	1,197
Hispanic	0.37	16,758	24.39	6,142	0.03	6,142

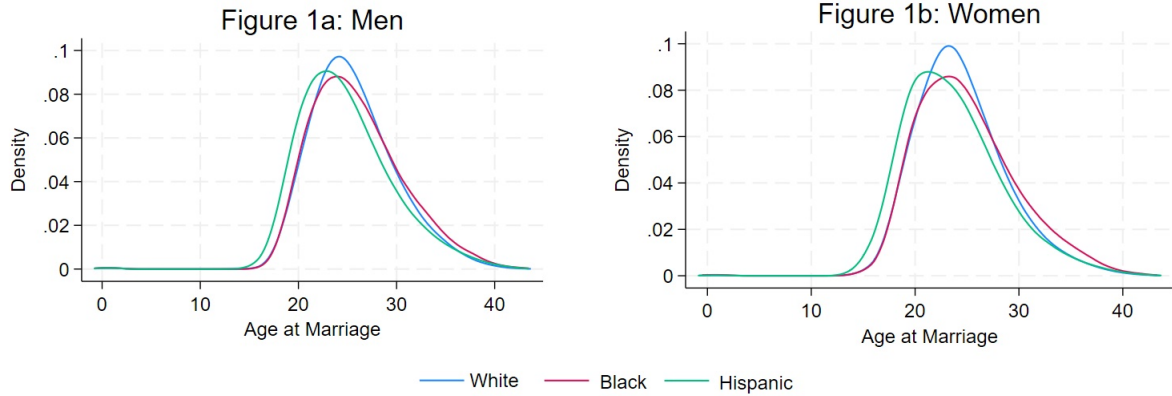
Note Marriage rates, age at marriage, and divorce rates are reported for first-born singletons and twins, disaggregated by race. Women consistently exhibit higher marriage rates than men across all groups.

Table 4: Summary Statistics of Family Formation for Women by Race

	Marriage		Age at Marriage		Divorce	
	Mean	N	Mean	N	Mean	N
First Born Singletons						
All	0.49	624,116	24.33	304,123	0.07	304,123
White	0.51	376,366	24.51	192,610	0.08	192,610
Black	0.44	47,765	24.99	20,793	0.09	20,793
Hispanic	0.46	191,258	23.72	87,470	0.04	87,470
Twins	Mean	N	Mean	N	Mean	N
All	0.40	57,752	24.10	23,243	0.05	23,243
White	0.42	35,269	24.34	14,659	0.06	14,659
Black	0.33	5,338	24.79	1,736	0.06	1,736
Hispanic	0.41	16,309	23.35	6,613	0.03	6,613

Note: Marriage rates, age at marriage, and divorce rates are reported for women, disaggregated by race.

Figure 1: Distribution of Age at Time of Marriage



Note: The left panel of this figure shows the distribution of marriage age for White, Hispanic, and Black men. The left panel of this figure shows the distribution of marriage age for White, Hispanic, and Black women.

Table 5: Summary Statistics of Other for Men by Race

	Share Same Sex		Median Income (CoB)		Number of Siblings	
	Mean	N	Mean	N	Mean	N
First Born Singletons						
All	0.51	659,119	39,061	654,768	2.31	659,119
White	0.51	404,524	40,903	402,636	2.27	404,524
Black	0.51	35,126	40,469	34,915	2.29	35,126
Hispanic	0.51	210,413	35,102	208,203	2.34	210,413
Twins						
All	0.71	58,960	39,740	57,728	2.69	58,960
White	0.71	36,914	41,408	36,079	2.67	36,914
Black	0.69	4,439	41,161	4,274	2.62	4,439
Hispanic	0.71	16,758	35,545	16,532	2.76	16,758

Note This table presents the share of same sex siblings, median income of the county of birth, and number of siblings for women, disaggregated by race.

Table 6: Summary Statistics of Other for Women by Race

	Share Same Sex		Median Income (CoB)		Number of Siblings	
	Mean	N	Mean	N	Mean	N
First Born Singletons						
All	0.49	624,116	39,008	620,087	2.32	624,116
White	0.49	376,366	40,730	374,576	2.28	376,366
Black	0.49	47,765	40,382	47,495	2.29	47,765
Hispanic	0.49	191,258	35,098	189,323	2.40	191,258
Twins	Mean	N	Mean	N	Mean	N
All	0.71	57,752	39,594	57,268	2.69	57,752
White	0.70	35,269	41,241	35,045	2.67	35,269
Black	0.69	5,338	40,672	4,295	2.61	5,338
Hispanic	0.72	16,309	35,465	16,096	2.78	16,309

Note: This table presents the share of same sex siblings, median income of the county of birth, and number of siblings for women, disaggregated by race.

Table 7: The effect of same sex younger sibling on oldest sibling

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	0.027*** (0.005)	-0.061*** (0.011)	-0.024* (0.013)
Observations	654,768	281,458	281,166
DV mean	[0.43]	[25.44]	[0.06]
<u>Panel 2: Women</u>			
Same Sex Sibling	0.018*** (0.004)	-0.079*** (0.018)	0.002 (0.016)
Observations	620,067	302,354	302,192
DV mean	[0.49]	[24.33]	[0.07]

Note Regression results for first-born singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit). Panel 1 shows results for first-born men and Panel 2 shows results for first-born women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Men: Heterogeneity by Race

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.035*** (0.006)	-0.076*** (0.015)	-0.011 (0.014)
Observations	402,620	180,819	180,584
DV mean	[0.45]	[25.65]	[0.07]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.030 (0.027)	-0.101* (0.058)	-0.005 (0.071)
Observations	34,863	13,245	12,542
Outcome mean	[0.38]	[25.93]	[0.07]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	-0.011 (0.010)	-0.028 (0.026)	-0.068 (0.034)
Observations	208,185	84,587	83,849
DV mean	[0.41]	[24.86]	[0.04]

Note Regression results for male, first-born singletons show the effects of having a same-sex sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit). Results are stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 9: Women: Heterogeneity by Race

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.017*** (0.006)	-0.094*** (0.023)	0.009 (0.019)
Observations	374,559	191,773	191,666
DV mean	[0.51]	[24.51]	[0.08]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.017 (0.017)	-0.039 (0.051)	-0.003 (0.033)
Observations	47,463	20,691	20,235
Outcome mean	[0.44]	[24.99]	[0.09]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.017** (0.009)	-0.048 (0.031)	-0.003 (0.031)
Observations	189,291	86,648	86,099
DV mean	[0.46]	[23.72]	[0.04]

Note: Regression results for female first-born singletons show the effects of having a same-sex sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit). Results are stratified by race. Statistically significant findings suggest sibling competition or parental investment dynamics. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 10: The effect of same sex twin

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	0.060*** (0.019)	0.108 (0.068)	-0.105 (0.087)
Observations	57,695	20,385	19,571
DV mean	[0.36]	[25.05]	[0.05]
<u>Panel 2: Women</u>			
Same Sex Sibling	0.032* (0.018)	0.024 (0.059)	-0.123 (0.075)
Observations	57,234	23,065	22,590
DV mean	[0.41]	[24.14]	[0.05]

Note Regression results for first-born singletons show the effects of having a same-sex twin on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit). Panel 1 shows results for men and Panel 2 shows results for women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 11: Men: Heterogeneity by Race (twins)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.072*** (0.025)	0.003 (0.073)	-0.073 (0.083)
Observations	36,067	12,952	12,409
DV mean	[0.37]	[25.26]	[0.06]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.081 (0.092)	0.159 (0.329)	-0.670*** (0.167)
Observations	4,192	1,157	781
Outcome mean	[0.27]	[25.36]	[0.07]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.003 (0.033)	0.259** (0.119)	-0.001 (0.134)
Observations	16,491	6,072	4,868
DV mean	[0.37]	[24.45]	[0.03]

Note Regression results for male twins show the effects of having a same-sex sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit). Results are stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 12: Women: Heterogeneity by Race (twins)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.050* (0.026)	0.018 (0.060)	-0.103 (0.076)
Observations	34,998	14,581	14,135
DV mean	[0.42]	[24.39]	[0.06]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.032 (0.055)	-0.008 (0.196)	-0.081 (0.212)
Observations	5,203	1,726	1,172
Outcome mean	[0.33]	[24.81]	[0.06]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	-0.041 (0.033)	-0.003 (0.116)	-0.240 (0.163)
Observations	16,044	6,524	5,282
DV mean	[0.40]	[23.35]	[0.03]

Note: Regression results for female twins show the effects of having a same-sex sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit). Results are stratified by race. Statistically significant findings suggest sibling competition or parental investment dynamics. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 13: The Effect of a Same-Sex Sibling Interacted with County Income

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	-0.000 (0.018)	0.010 (0.045)	-0.083* (0.047)
Same Sex Sibling X Highincome	0.034* (0.019)	-0.080* (0.046)	0.059 (0.049)
Observations	479,239	202,750	202,616
DV mean	[0.42]	[25.47]	[0.06]
<u>Panel 2: Women</u>			
Same Sex Sibling	-0.011 (0.007)	-0.092 (0.067)	0.024 (0.050)
Same Sex Sibling X Highincome	0.028*** (0.008)	0.000 (0.071)	-0.007 (0.055)
Observations	453,778	218,565	218,536
DV mean	[0.48]	[24.41]	[0.06]

Note Regression results for the interaction of being born in a high income county (top 50%) and having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit). We compare individuals born in counties within the top or bottom 50% of county median income in Texas. Panel 1 shows results for men and Panel 2 shows results for women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 14: Men: Heterogeneity by Race and County Income

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	-0.061* (0.036)	0.061 (0.142)	-0.073 (0.105)
Same Sex Sibling X Highincome	0.105** (0.036)	-0.132 (0.143)	0.068 (0.106)
Observations	291,748	128,602	128,510
DV mean	[0.44]	[25.65]	[0.07]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.059 (0.134)	-0.471 (0.762)	-0.490 (0.614)
Same Sex Sibling X Highincome	-0.037 (0.137)	0.339 (0.766)	0.434 (0.619)
Observations	25,542	9,486	9,099
DV mean	[0.37]	[26.06]	[0.07]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.010 (0.024)	0.009 (0.046)	-0.083 (0.062)
Same Sex Sibling X Highincome	-0.007 (0.026)	-0.076 (0.058)	-0.018 (0.084)
Observations	154,084	62,257	61,513
DV mean	[0.40]	[24.82]	[0.04]

Note Regression results for the interaction of being born in a high income county (top 50%) and having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit) for men of different races. We compare individuals born in counties within the top or bottom 50% of county median income in Texas. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 15: Women: Heterogeneity by Race and County Income

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	-0.015 (0.025)	-0.060 (0.164)	0.118 (0.113)
Same Sex Sibling X Highincome	0.029 (0.026)	-0.042 (0.166)	-0.092 (0.116)
Observations	270,840	136,493	136,460
DV mean	[0.50]	[24.67]	[0.07]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.056 (0.142)	-0.585 (0.208)	0.066 (0.105)
Same Sex Sibling X Highincome	-0.040 (0.144)	0.477 (0.403)	-0.059 (0.212)
Observations	34,410	14,770	14,402
DV mean	[0.43]	[25.13]	[0.08]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	-0.011 (0.012)	-0.084 (0.053)	-0.018 (0.053)
Same Sex Sibling X Highincome	0.036** (0.017)	0.040 (0.069)	0.001 (0.064)
Observations	141,010	64,543	64,295
DV mean	[0.46]	[23.65]	[0.04]

Note: Regression results for the interaction of being born in a high income county (top 50%) and having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit) for women of different races. We compare individuals born in counties within the top or bottom 50% of county median income in Texas. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Online Appendix

Sex of Sibling and Marriage

A Number of Siblings

This section explores the number of siblings an individual may have, a possible confounding factor in the effect of having a same-sex sibling on marriage propensity. To reiterate, because parents of two same-sex siblings are significantly more likely to have additional children than parents of two opposite-sex siblings as mentioned above, the total number of siblings may differ between families with same-sex siblings and those with opposite-sex siblings (Angrist & Evans, 1998). Table A-1 confirms that this is indeed the case. Families where the first- and second-born child are of the same sex (*SameSexSibling* = 1) have more children. But, since the number of siblings is endogenously determined by the sex composition of the first two children, our main independent variable, controlling for it directly would introduce bad control bias (Angrist & Pischke, 2009). For this reason, our main analysis does not include the number of siblings as a control. Nonetheless, in this section we will demonstrate that our results remain robust even when we account for family size, suggesting that our findings are not simply driven by differences in the number of siblings.

Table A-1: The effect of same sex younger sibling on family size

	Family Size
<u>Panel 1: Men</u>	
Same Sex Sibling	0.052*** (0.002)
Observations	654,768
DV mean	[2.31]
<u>Panel 2: Women</u>	
Same Sex Sibling	0.064*** (0.002)
Observations	620,087
DV mean	[2.32]

Notes:

Results for the effect of the second-born sibling's sex on family size. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A-2 presents our estimates of having a same-sex sibling on family formation outcomes while controlling for the number of siblings. As mentioned, while these specifications are susceptible to bad control bias, the directional consistency and statistical significance of the Same Sex Sibling coefficient suggests that our results are not driven by the number of siblings. Tables A-3 and A-4 show these results broken down by race.

Table A-2: The effect of same sex of younger sibling on family size and oldest sibling outcomes

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	0.026*** (0.005)	-0.051*** (0.011)	-0.003* (0.001)
Number of Siblings	0.018*** (0.007)	-0.075 (0.021)	-0.093* (0.055)
Observations	654,751	281,458	26,892
DV mean	[0.43]	[25.44]	[0.06]
<u>Panel 2: Women</u>			
Same Sex Sibling	0.016*** (0.004)	-0.065*** (0.018)	0.012 (0.016)
Number of Siblings	0.025*** (0.006)	-0.202*** (0.014)	-0.069*** (0.011)
Observations	620,067	302,354	302,177
DV mean	[0.49]	[24.33]	[0.07]

Note: Regression results for first-born singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit), controlling for the number of siblings. Panel 1 shows results for first-born men and Panel 2 shows results for first-born women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

In Table A-5, we present our estimates of having a same-sex sibling on family formation outcomes for first-born individuals with only one sibling while in Table A-6 we present these estimates for first-born individuals with more than one sibling. We show that the effect having a same-sex sibling on marriage (Column 1) remains robust to this sample split. Interestingly, for individuals with more than one sibling, this effect is stronger and unlike those with only one sibling, the sex of the sibling has no effect on the age at which they are married.

Table A-3: Men: Heterogeneity by Race controlling for number of siblings

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.032*** (0.006)	-0.067*** (0.013)	-0.011 (0.014)
Number of Siblings	0.055*** (0.006)	-0.128*** (0.023)	0.003 (0.015)
Observations	402,620	180,819	180,584
DV mean	[0.45]	[25.65]	[0.07]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	-0.027 (0.027)	-0.094 (0.059)	-0.000 (0.070)
Number of Siblings	0.039** (0.019)	-0.082 (0.052)	-0.058 (0.045)
Observations	34,863	13,245	12,542
Outcome mean	[0.38]	[25.93]	[0.07]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.011 (0.010)	-0.019 (0.026)	-0.065* (0.035)
Number of Siblings	-0.004 (0.006)	-0.189*** (0.024)	-0.066*** (0.023)
Observations	208,185	84,587	83,849
DV mean	[0.41]	[24.86]	[0.04]

Note: Regression results for first-born, male singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit), controlling for the number of siblings. Results are stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A-4: Women: Heterogeneity by Race controlling for number of siblings

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.013** (0.006)	-0.082*** (0.023)	0.013 (0.019)
Number of Siblings	0.065*** (0.007)	-0.169*** (0.020)	-0.052*** (0.013)
Observations	374,559	191,773	191,666
DV mean	[0.51]	[24.51]	[0.08]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.013 (0.017)	-0.034 (0.050)	0.004 (0.032)
Number of Siblings	0.057*** (0.011)	-0.079 (0.058)	-0.097** (0.046)
Observations	47,463	20,691	20,235
Outcome mean	[0.44]	[24.99]	[0.09]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.017* (0.008)	-0.034 (0.032)	0.002 (0.030)
Number of Siblings	-0.001 (0.006)	-0.209*** (0.020)	-0.069*** (0.023)
Observations	189,291	86,648	86,099
DV mean	[0.46]	[23.72]	[0.04]

Note: Regression results for first-born, female singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit), controlling for the number of siblings. Results are stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A-5: The effect of same sex younger sibling on oldest sibling (famsize=2)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	0.016*** (0.006)	-0.055*** (0.012)	-0.018 (0.017)
Observations	494,591	207,611	207,357
DV mean	[0.42]	[25.37]	[0.06]
<u>Panel 2: Women</u>			
Same Sex Sibling	0.011* (0.006)	-0.072*** (0.023)	0.013 (0.020)
Observations	465,901	222,469	222,282
DV mean	[0.48]	[24.31]	[0.07]

Note: Regression results for first-born singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit), for families with only 2 children. Panel 1 shows results for first-born men and Panel 2 shows results for first-born women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A-6: The effect of same sex younger sibling on oldest sibling (famsize>2)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	0.049*** (0.011)	-0.040 (0.026)	-0.037 (0.029)
Observations	160,149	73,847	73,490
DV mean	[0.46]	[25.62]	[0.06]
<u>Panel 2: Women</u>			
Same Sex Sibling	0.027*** (0.008)	-0.041 (0.027)	0.006 (0.026)
Observations	154,146	79,885	79,492
DV mean	[0.52]	[24.39]	[0.07]

Note: Regression results for first-born singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit), for families with more than 2 children. Panel 1 shows results for first-born men and Panel 2 shows results for first-born women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

B Probit and LPM Regressions

This section presents two alternative specifications for our regressions using a binary variable (marriage and divorce): probit models and liner probability models. In Table B-1, our models for Marriage and Divorce are linear probability models. The results are consistent with the logit models we show in the paper. Tables B-2 and B-3 show these results broken down by race.

Table B-4 presents the results of our probit model. Again, the results are consistent. Tables B-5 and B-6 show these results broken down by race.

Table B-1: The effect of same sex younger sibling on oldest sibling: LPM

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	0.006*** (0.001)	-0.061*** (0.011)	-0.001* (0.001)
Observations	654,768	281,458	281,458
DV mean	[0.43]	[25.44]	[0.06]
<u>Panel 2: Women</u>			
Same Sex Sibling	0.004*** (0.001)	-0.079*** (0.018)	0.000 (0.001)
Observations	620,087	302,354	302,354
DV mean	[0.49]	[24.33]	[0.07]

Note: Regression results for first-born singletons show the effects of having a same-sex younger sibling on marriage likelihood (LPM), age at marriage (OLS), and divorce rates (LPM), for families with more than 2 children. Panel 1 shows results for first-born men and Panel 2 shows results for first-born women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B-2: Men: Heterogeneity by Race (LPM)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.008*** (0.002)	-0.076*** (0.015)	-0.001 (0.001)
Observations	402,636	180,819	180,819
DV mean	[0.45]	[25.65]	[0.07]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.007 (0.006)	-0.101* (0.058)	-0.000 (0.005)
Observations	34,915	13,245	13,245
Outcome mean	[0.38]	[25.93]	[0.07]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.003 (0.002)	-0.028 (0.026)	-0.003** (0.001)
Observations	208,203	84,587	84,587
DV mean	[0.41]	[24.86]	[0.04]

Note: Regression results for first-born, male singletons show the effects of having a same-sex younger sibling on marriage likelihood (LPM), age at marriage (OLS), and divorce rates (LPM), for families with more than 2 children. Analysis is stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B-3: Women: Heterogeneity by Race (LPM)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.004*** (0.001)	-0.094*** (0.023)	0.001 (0.001)
Observations	374,576	191,773	191,773
DV mean	[0.51]	[24.51]	[0.08]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.004 (0.004)	-0.039 (0.051)	-0.000 (0.002)
Observations	47,495	20,691	20,691
Outcome mean	[0.44]	[24.99]	[0.09]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.004** (0.002)	-0.048 (0.031)	-0.000 (0.001)
Observations	189,323	86,648	86,648
DV mean	[0.48]	[23.72]	[0.04]

Note: Regression results for first-born, female singletons show the effects of having a same-sex younger sibling on marriage likelihood (LPM), age at marriage (OLS), and divorce rates (LPM), for families with more than 2 children. Analysis is stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B-4: The effect of same sex younger sibling on oldest sibling: Probit Model

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	0.017*** (0.003)	-0.061*** (0.011)	-0.012** (0.006)
Observations	654,751	281,458	281,166
DV mean	[0.43]	[25.44]	[0.06]
<u>Panel 2: Women</u>			
Same Sex Sibling	0.011*** (0.002)	-0.079*** (0.018)	0.004 (0.008)
Observations	620,067	302,354	302,177
DV mean	[0.49]	[24.33]	[0.07]

Note: Regression results for first-born singletons show the effects of having a same-sex younger sibling on marriage likelihood (probit), age at marriage (OLS), and divorce rates (probit). Panel 1 shows results for first-born men and Panel 2 shows results for first-born women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B-5: Men: Heterogeneity by Race (Probit)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.022*** (0.004)	-0.076*** (0.015)	-0.006 (0.007)
Observations	402,620	180,819	180,584
DV mean	[0.45]	[25.65]	[0.07]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.017 (0.016)	-0.101* (0.058)	-0.000 (0.036)
Observations	34,863	13,245	12,542
Outcome mean	[0.38]	[25.93]	[0.07]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.007 (0.006)	-0.028 (0.026)	-0.032** (0.016)
Observations	208,185	84,587	83,849
DV mean	[0.41]	[24.86]	[0.04]

Note: Regression results for first-born, male singletons show the effects of having a same-sex younger sibling on marriage likelihood (probit), age at marriage (OLS), and divorce rates (probit), for families with more than 2 children. Analysis is stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B-6: Women: Heterogeneity by Race (Probit)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.011*** (0.004)	-0.094*** (0.009)	0.006 (0.010)
Observations	374,559	191,773	191,666
DV mean	[0.51]	[24.51]	[0.08]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.010 (0.011)	-0.039 (0.051)	0.003 (0.016)
Observations	47,463	20,691	20,235
Outcome mean	[0.44]	[24.99]	[0.09]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.011** (0.005)	-0.048 (0.031)	0.000 (0.014)
Observations	189,291	86,648	86,099
DV mean	[0.46]	[23.72]	[0.04]

Note: Regression results for first-born, female singletons show the effects of having a same-sex younger sibling on marriage likelihood (probit), age at marriage (OLS), and divorce rates (probit), for families with more than 2 children. Analysis is stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

C Individuals Born Between 1976–1985

In this section, we examine the effect of having a same-sex sibling on marriage outcomes among older individuals in our sample. We restrict the analysis to those born between 1976 and 1985. By 2019—the most recent year for which we observe marriage and divorce—these individuals are between 34 and 43 years old. We focus on this cohort for two reasons. First, older individuals have had more time to either marry or remain unmarried, making marriage outcomes more stable. Second, we are interested in whether the effects of sibling sex composition vary across cohorts or shift over time.

Table D-1 presents results for older men and women. While the overall patterns mirror those of the full sample, the estimated effects on marriage likelihood are slightly smaller in magnitude. In contrast, the estimated effects on age at first marriage are somewhat larger, suggesting that among this older cohort, those with same-sex siblings tended to marry at younger ages. When we further disaggregate by race in Table D-2 and Table D-3, the results closely resemble our main findings. These similarities suggest that the relationship between sibling sex composition and marriage behavior remains stable across cohorts.

Table D-1: The effect of same sex younger sibling on oldest sibling (Born 1976-1985)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Men</u>			
Same Sex Sibling	0.021*** (0.004)	-0.096*** (0.017)	-0.028** (0.013)
Observations	363,278	175,664	175,430
DV mean	[0.40]	[26.51]	[0.08]
<u>Panel 2: Women</u>			
Same Sex Sibling	0.011** (0.005)	-0.105*** (0.022)	-0.001 (0.017)
Observations	345,438	183,567	183,434
DV mean	[0.53]	[25.07]	[0.09]

Note: Regression results for first-born singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit) for a sample of individuals born between 1976 and 1985. Panel 1 shows results for first-born men and Panel 2 shows results for first-born women. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table D-2: Men: Heterogeneity by Race (Born 1976-1985)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.031*** (0.007)	-0.106*** (0.020)	-0.016 (0.016)
Observations	231,384	118,316	118,104
DV mean	[0.51]	[26.00]	[0.08]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.051 (0.034)	-0.125 (0.083)	-0.055 (0.073)
Observations	19,794	9,135	8,585
Outcome mean	[0.46]	[26.92]	[0.09]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	-0.002 (0.011)	-0.071* (0.042)	-0.061* (0.036)
Observations	107,971	46,622	46,063
DV mean	[0.43]	[26.15]	[0.06]

Note: Regression results for first-born, male singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit) for a sample of individuals born between 1976 and 1985. Analysis is stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table D-3: Women: Heterogeneity by Race (Born between 1976-1985)

	(1) DV: Marriage	(2) DV: Age at Marriage	(3) DV: Divorce
<u>Panel 1: Whites</u>			
Same Sex Sibling	0.015** (0.007)	-0.122*** (0.031)	0.008 (0.021)
Observations	215,423	120,498	120,405
DV mean	[0.56]	[25.15]	[0.10]
<u>Panel 2: Blacks</u>			
Same Sex Sibling	0.010 (0.020)	-0.053 (0.070)	-0.039 (0.046)
Observations	27,924	13,898	13,549
Outcome mean	[0.50]	[25.78]	[0.11]
<u>Panel 3: Hispanics</u>			
Same Sex Sibling	0.001 (0.010)	-0.065 (0.047)	-0.018 (0.033)
Observations	97,961	47,369	46,962
DV mean	[0.48]	[24.61]	[0.06]

Note: Regression results for first-born, female singletons show the effects of having a same-sex younger sibling on marriage likelihood (logit), age at marriage (OLS), and divorce rates (logit) for a sample of individuals born between 1976 and 1985. Analysis is stratified by race. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.