Gender Minority Status and Family Inequality in the United States

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We provide new evidence on marital status and family outcomes of transgender and other gender minority populations in the United States using more than fifteen thousand non-cisgender adults in the Census Bureau's 2021–2023 Household Pulse, the only nationally representative survey in the United States with information on sex at birth and current gender. These data indicate that non-cisgender individuals—those whose sex at birth does not align with their current gender—are significantly less likely to be married and more likely to have a spouse who has passed away than their cisgender counterparts. Non-cisgender individuals are also significantly less likely than otherwise similar cisgender women to have children in the household. Non-cisgender individuals live in households with significantly more adults than otherwise similar cisgender adults.

Keywords: transgender, gender minority, marital status, family outcomes, Household Pulse

Gender minorities—individuals whose current gender does not align with their sex assigned at birth (SAAB), including transgender, nonbinary, and intersex individuals—are a sizable and increasing share of the U.S. population. Gallup data from 2021 indicate that 2.1 percent of Generation Z individuals, those born between 1997 and 2012, identify as transgender (Jones 2022).[1] Andrew Flores and his colleagues (2016) estimate the number of transgender

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1. Transgender and gender nonconforming individuals may include transsexuals, androgynous people, cross-dressers, genderqueers, and other gender nonconforming people who identify as transgender. Some but not all

adults in the United States at about 1.4 million; and a recent population-based study estimated that 1.2 million adults in the United States identify as nonbinary, with increasing shares of LGBTQ+ youth—one in four LGBTQ+ Generation Z individuals—embracing a nonbinary identity (Wilson and Meyer 2021).[2] Related to this is increasing attention to transgender rights and policies in the United States and internationally with respect to medical care, bathroom access, sports participation, conversion therapy, and a range of related issues that could affect the ability of gender minorities to thrive.

Relatively little is known about this increasingly relevant population, mainly because of the lack of high-quality representative surveys and administrative datasets in the United States that permit identification of gender-diverse populations (for recent reviews of what is known, see Badgett, Carpenter, and Sansone 2021; Badgett et al. 2024; Stacey, Reczek, and Spiker 2022). Other work relies on nonrepresentative samples such as the U.S. Transgender Survey (Shannon 2021).[3]

Only one nationally representative survey in the United States allows identification of non-cisgender people: the Census Bureau's Household Pulse Survey (2024). These data were designed to measure experiences with the COVID-19 pandemic. In the summer of 2021, the Household Pulse introduced a two-part question that asked survey respondents about their sex assigned at birth and their current gender identity. We leverage this survey instrument to identify our sample of non-cisgender individuals, which likely includes transgender men, transgender women, nonbinary individuals, and other gender minorities.

We use these data to present new evidence on family inequality as measured by marital status, family structure, household size, and the presence of children. Understanding family outcomes of transgender and gender-diverse people in the United States is important for several reasons. First, as noted, the size of the gender-diverse population in the United States is substantial and fast growing. Second, romantic unions and marriages are the primary sources of social, emotional, and financial support for most adults. It is well documented that gender-diverse people face significant social stigma, discrimination, harassment, and violence, and that they have lower employment rates and lower incomes than cisgender people. Partnerships and marriages provide insurance against such economic and social shocks that differentially affect non-cisgender people. Third, com-

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of these individuals may desire to undergo medical or legal sex changes or both. Transgender individuals whose gender identity does not match their sex assigned at birth and who desire to change from one sex to another are sometimes referred to as MTF (individuals who transition from male to female) or FTM (individuals who transition from female to male). Variance is wide in the use of these labels; for example, MTF can be used by individuals who are assigned male at birth and identify as a woman but have not taken steps to change their gender expression.

2. Sexual orientation and gender identity are distinct concepts; all individuals have one or more sexual orientations and one or more gender identities. Sexual minorities include individuals who are attracted to or have sex with individuals of the same gender; these individuals are generally referred to as lesbians, gay men, and bisexual individuals. Gender identity refers to one's sense of being male, female, both, or neither. Gender minorities are individuals whose current gender does not match their sex assigned at birth. Gender minorities can have any sexual orientation, and indeed most surveys, including the Household Pulse, show that most gender minorities identify as heterosexual. Similarly, sexual minorities can have any gender identity, and the vast majority of sexual minorities identify as cisgender. This article is primarily about gender identity and gender minority status, though we control for sexual orientation and sexual minority status in our empirical models.

3. With respect to population-representative data on gender minorities, the United States is behind other developed countries. For example, Canada's 2021 Census includes a two-part question to assess both sex at birth and current gender, allowing identification of the country's gender minority population. The United Kingdom's 2021 Census also includes a direct question about whether the respondent's current gender aligns with their sex at birth, and the 2023 New Zealand Census will ask not only about sexual orientation and gender identity but also about variations in sex characteristics to identify intersex individuals.

ing out as transgender can be disruptive to existing romantic relationships, making it important to understand whether gender minorities are differentially likely to be separated or divorced. Because gender minorities are more likely to partner with sexual minorities, a group that faces additional health risks (White, Sepúlveda, and Patterson 2020), it is important to assess whether gender minorities are more likely than cisgender people to experience the loss of a spouse. Fourth, spouses, kin, and chosen families are the primary sources of caregiving for most older adults. Thus, understanding whether gender minorities have differential access to these family networks has important implications for understanding healthy aging. Fifth, much of the social and policy debate over transgender rights concerns health-care access, including care that could be relevant for reproduction or family formation. Finally, economically vulnerable people may choose to coreside with other adults because of financial constraints rather than preferences. Documenting household structure and size is important to understanding the social position of gender minorities.

We report several key findings using the Household Pulse data. First, we find that among adults aged eighteen to sixty-four, non-cisgender individuals are much less likely to be married than their cisgender counterparts, a difference on the order of 15 to 25 percentage points. For example, 33 percent of non-cisgender individuals age eighteen to sixty-four who were assigned male at birth (AMAB) are married, versus 56 percent of cisgender men. For individuals assigned female at birth (AFAB), 25 percent of non-cisgender individuals are married, versus 52 percent of cisgender women. These raw differences are smaller but remain statistically significant when we include detailed controls: even after accounting for age, sexual orientation, education, and race-ethnicity, we estimate that non-cisgender individuals in the Household Pulse are 3 to 6 percentage points less likely to be married than comparable cisgender individuals, and these differences are statistically significant.

Turning to other marital outcomes, the most robust result we document is that gender minority individuals in the Household Pulse are significantly more likely to have a spouse that has passed away than otherwise similar cisgender individuals. These relative differences are quite large in magnitude, generally 50 percent or more. We also find that gender minorities are more likely than cisgender men, but not cisgender women, to be divorced. When we move beyond marital outcomes and examine household composition, we find other differences. Specifically, we find that although non-cisgender people are less likely to be married, they have significantly larger household sizes on average than cisgender people. Together with the marital status finding, we also show that non-cisgender people are significantly less likely to be in traditional married households; that is, they are significantly less likely than comparable cisgender individuals to report being married and have exactly two adults in the household. Finally, we find that non-cisgender individuals are significantly less likely to have any young children and any children at all in the household than comparable cisgender women.

Taken together, our results provide the most timely evidence using population-based nationally representative data on the nature and extent of family inequality that gender minority individuals experience. These results also highlight the need for large population representative data in the United States that would allow for identification of gender minorities and relationships of individuals to others in the household, for example using a household roster such as in the American Community Survey (ACS) or the Current Population Survey (CPS).

DATA DESCRIPTION

Our data come from waves 3.2 to 3.7 of the Census Bureau's Household Pulse Survey (2024), collected between July 2021 and February 2023. The Household Pulse is an online survey of Americans designed to capture the impact of the COVID-19 pandemic.[4] It has been used to answer diverse research questions related to

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4. The Household Pulse contacts respondents by email and/or text message using information from the Census Master Address File and other supplemental sources. The Household Pulse records responses if the respondent

COVID-19, including food and housing insecurity (Bitler, Hoynes, and Schanzenbach 2020), education supply (Bansak and Starr 2021), and mental health (Huato and Chavez 2021). It has also been used to study the economic conditions of transgender and other gender minorities (Carpenter, Lee, and Nettuno 2022) thanks to the questions on sex assigned at birth and gender identity first included in wave 3.2.

The Household Pulse asks for respondents' gender identity using a two-step approach.[5] In the first question, respondents are asked, "What sex were you assigned at birth, on your original birth certificate?" with female or male as response options. In the second question, respondents are asked, "Do you currently describe yourself as male, female, or transgender?" with female, male, transgender, and none-of-these as response options. To reduce the miscoding of gender identity, those whose answer to the first question does not exactly match their answer to the second question are asked a follow-up question: "Just to confirm, you were assigned _____ at birth and now you describe yourself as _____. Is that correct?" If the respondent answers no, they are asked to confirm or correct their previous answers to the SAAB and gender identity questions.[6]

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answers the first set of questions on demographics. During waves 3.2 to 3.7, the response rate ranged between 3.9 and 7.9 percent. To adjust for the non-response bias, the Census Bureau weights each individual based on the sampling area's demographic characteristics from the American Community Survey. The weights do not consider the bias from mid-survey attrition, missing demographics in the Census Master Address File, or respondents' skipping a specific question, but they account for the imbalances in response rates by gender, race, or age. Regarding midsurvey attrition, most of the variables we use in this article come from the demographics section, which is not subject to significant attrition.

5. We discuss a range of advantages and disadvantages of eliciting gender identity using one-step methods versus step-step methods in online appendix A (https://www.rsfjournal.org/content/11/2/65/tab-supplemental). In the one-step method, individuals are typically asked a question that includes transgender as a response option alongside male and female (and sometimes other options). This conflates sex and gender and potentially fails to capture non-cisgender individuals who do not identify as transgender. The two-step method also has limitations. For example, in Household Pulse none-of-these as a response option to the question about current gender likely fails to capture the full range of diversity within the gender diverse and transgender population (though the same limitation is also true for the one-step method). Similar to how sexual orientation response options have increased over time as recognition of other identities such as bisexual, pansexual, and asexual grows, greater recognition of diverse gender identities may follow. Best practices for asking about gender identity are therefore also likely to change as these cultural norms and social acceptance of LGBTQ+ identities change, and these norms are themselves likely related to legal and social recognition of a variety of groups, including intersex people. For a more detailed discussion, see online appendix A.

6. The sex at birth question is the sixth question in the Household Pulse survey, and the gender question is the seventh question in the survey. Although one may worry about backlash, irritation, or protest responses in the Household Pulse survey, we do not think this issue is likely to be significant. This is because the transgender response options are not primary; no cisgender person is being asked "Are you transgender?", for example, as they would be in other datasets such as the Behavioral Risk Factor Surveillance System. This means that as long as cisgender people report their correct sex at birth and current gender, they are never directly asked about not being cisgender. Yes, individuals see transgender or none of these as possible response options to the gender question, and some people may also feel confused about why they are being asked about gender so soon after they were just asked about sex at birth (people may not understand that sex and gender are different concepts, for example). We do not have any way to know how this might affect their later responses to questions about marital and family outcomes, nor to questions about demographics. We also note that the Household Pulse approach to identifying non-cisgender individuals requires double-confirmation that sex at birth does not equal current gender. Only non-cisgender individuals are asked to double confirm; cisgender individuals are not asked to double confirm their cisgender status. There is no way for us to know how these survey design features may have affected individuals' responses to the outcomes under study. This is a limitation of the Household Pulse data.

We group individuals by their responses to these questions and identify each group based on their SAAB and gender identity. This convention creates eight groups: AMAB now male (that is, cisgender men), AMAB now female, AMAB now transgender, AMAB now none-of-these, AFAB now female (that is, cisgender women), AFAB now male, AFAB now transgender, and AFAB now none-of-these.

Of these groups, we suspect that those who responded male to the SAAB question but female to the gender identity question, that is, AMAB now female, as those who are perhaps most advanced in their social and medical transition. Although the Household Pulse does not ask the respondents about their transition progress or when they started transitioning, individuals who chose AMAB now female explicitly stated that female fits their identity better than transgender or none-of-these, which could indicate that they may have taken social, medical, or legal steps to affirm their gender and thus feel more comfortable identifying as female. Hence these individuals may also identify with the term transgender woman. Similarly, we suspect that those who responded female to the SAAB question but male to the gender identity question, that is, AFAB now male, have taken social, medical, or legal steps to affirm their gender and are more likely to identify with the term transgender man.

It is possible that those who responded male to the SAAB question and transgender to the gender identity question, that is, AMAB now transgender, have taken fewer social, medical, or legal steps to affirm their gender. It is also possible that these individuals' gender identity falls outside the traditional gender binary, or that they consciously chose transgender rather than female to reject the notion that all transgender people strive to pass as their gender. These individuals may be less likely to conform to the gender normative definition of woman than AMAB now female individuals. We suspect that the analog holds for AFAB now transgender individuals who chose transgender over male or none-of-these as their current gender.

Those who responded none-of-these to the gender identity question, that is, AMAB now none-of-these or AFAB now none-of-these, have explicitly rejected the labels of female, male, or transgender and confirmed their choice in the follow-up question. Thus we are confident these individuals are not cisgender. Those who answered none-of-these may include nonbinary, genderqueer, agender individuals, and those with nonbinary genders with cultural or historical context, such as third-gender Native Americans or third-gender individuals in Hindu society. It is also possible that those who want to transition but do not feel comfortable using either binary genders or transgender to describe themselves choose none-of-these (for more detail on economic outcomes for gender minority people, see Carpenter, Lee, and Nettuno 2022). In our analyses, we compare non-cisgender individuals with cisgender individuals of the same sex assigned at birth. We define non-cisgender to include those who responded none-of-these along with transgender women (AMAB now female), transgender men (AFAB now male), and those who reported transgender as their gender identity, but we also report the sample means and regression estimates separately for each group.

Regarding family characteristics, the Household Pulse asks for respondents' marital status, the number of adults in the household, and the numbers of children under age five and under age eighteen in the household. The possible responses to the marital status question are now married, widowed, divorced, separated, and never married. For marital outcomes, we create separate indicator outcomes for currently married, ever married (that is, now married, divorced, separated, or having a spouse who has passed away), divorced, separated, and having a spouse who has passed away. When we analyze the indicators for divorced, separated, and having a spouse who has passed away, we exclude never married individuals because they are not at risk for those outcomes. For family outcomes, we consider an indicator for being in a traditional married household, defined as being now married and having exactly two adults in the household. We also consider an outcome equal to the total number of adults in the household, an indicator for any children under age eighteen in the household, and an indicator for any children under age five in the household. The Household Pulse also includes

a number of demographic characteristics, such as race, age, and education, which we report in descriptive statistics and use in the regression analysis as control variables.[7]

In the context of studying family outcomes specifically, several notes and limitations of the Household Pulse data merit mention. First, the question about marital status does not explicitly refer to legal marital status. Thus we cannot be sure that individuals responding to that question are referencing legal marriage. Many individuals in long-term committed romantic relationships who are not legally married may consider themselves effectively married, for example. Second, the Household Pulse data do not ascertain the gender of other individuals in the household. That is, although we know how many total adults are in the household and how many children under age eighteen and under age five are in the household, we observe only the gender of the Household Pulse respondent. Information on the gender of the other adults in the household would be especially helpful for seeing whether, for example, transgender men who report being married and gay are living with another adult who is a man. This is unlike other surveys such as the ACS or CPS, which contain household rosters with information on the demographic characteristics of the other individuals in the household as well as their relationship to the householder. Third, the Household Pulse does not include detailed instructions to the respondent on whom to consider as part of the household when reporting the total number of adults and children. One issue is that if gender minorities cohabit with other individuals because of limited resources (as opposed to preferences for cohabitation, including romantic relationships), gender minorities may be more

likely than cisgender people to have other unrelated individuals included as part of their household even if they are not part of their family unit. Fourth, and related, because the Household Pulse does not include a household roster, we cannot know in these data how the children are related to the respondent (for example, whether they are biological children, adopted or foster children, or children of other individuals in the household). Fifth, the Household Pulse does not include information on the nature or timing of gender transition, if any, for non-cisgender individuals. Despite these limitations—which are shared by many large population surveys—the Household Pulse data provide a unique opportunity to learn new facts about the marital and family outcomes of gender minorities in the United States.

EMPIRICAL APPROACH

To estimate the association between gender minority status and marital and family outcomes, we estimate multiple specifications in the Household Pulse, separately for individuals assigned male at birth and individuals assigned female at birth. The first model takes the following form:

$$Y_i = \beta_0 + \beta_1 X_i + \beta_2 (\textit{Not Cisgender})_i + \varepsilon_i \quad (1)$$

where Y_i are the various family outcomes for individual i and X_i is a vector of individual characteristics. We begin by pooling all noncisgender individuals into a *Not Cisgender* dummy variable that equals one for individuals who were assigned male at birth but who do not currently identify as male and zero otherwise. The excluded category is cisgender men.[8] We do so analogously for individuals assigned

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7. We drop a very small share of individuals with missing data on the demographic characteristics.

8. For dichotomous outcomes, we estimate linear probability models. Probit and logit models returned very similar results and are reported in online appendix B. For the total number of adults in the household we estimate OLS regressions. The demographic controls include survey week dummies, sexual orientation (indicators for each of the following response options to the question about sexual orientation: gay or lesbian, bisexual, something-else, and "I don't know," with the omitted category being heterosexual), age, age squared, race-ethnicity (indicators for White Hispanic, Black non-Hispanic, Black Hispanic, Asian, mixed or other race, with the omitted category being White non-Hispanic), educational attainment (indicators for less than high school, some college, bachelor's degree, and graduate degree, with the omitted category being high school degree), an indicator for living in a large MSA, and state dummies.

female at birth where the excluded category is cisgender women.

In the second model, we separate the single *Not Cisgender* indicator into three dummies for the three response options that allow us to separately identify non-cisgender people.[9] Again, we estimate separate models for AMAB and AFAB individuals. This model takes the following form:

$$
\begin{aligned}
Y_i = \beta_0 + \beta_1 X_i + \beta_2 (AMAB\ now\ female)_i \\
+ \beta_3 (AMAB\ now\ transgender)_i \\
+ \beta_4 (AMAB\ now\ none\text{-}of\text{-}these)_i + \varepsilon_i \quad (1),
\end{aligned}
$$

where all variables are as described.[10] Throughout, we use the Household Pulse person weights and estimate White standard errors robust to heteroskedasticity (White 1980).[11]

We clarify here that our intent with the empirical approach is not to isolate the causal effect of non-cisgender status on marital and family outcomes, an exercise we think is far beyond the scope of this article. Instead, we choose to control for demographic characteristics to follow prior work and to account for the large structural differences across the cisgender and non-cisgender samples, especially related to the non-cisgender sample being much younger and less likely to be heterosexual than the cisgender sample. Because age and sexual orientation are strongly linked to life-course patterns of marital and family outcomes, it is important to account for these differences across the cisgender and non-cisgender groups. In the appendix, we present evidence on how inclusion of these control variables changes the conclusions of the article, and the main pattern is that once we control for age and sexual orientation the coefficients on non-cisgender status are quite stable. We recognize that there may be good arguments not to control for certain covariates, as these may be mechanisms through which non-cisgender status is related to marital and family outcomes.

RESULTS

We begin by presenting descriptive statistics from the Household Pulse data separately by gender identity in tables 1 and 2 for individuals assigned female at birth and individuals assigned male at birth, respectively. The format of table 1 is as follows (and updates our prior work in Carpenter, Lee, and Nettuno 2022): column 1 reports weighted means for cisgender women, column 2 reports weighted means for individuals AFAB who are not cisgender, column 3 reports weighted means for individuals AFAB who identify as male (that is, transgender men), column 4 reports weighted means for individuals AFAB who identify as transgender, and column 5 reports weighted means for individuals AFAB who describe their current gender as none-of-these. Column 2 of table 1 includes individuals in columns 3, 4, and 5 of the same table. The format of table 2 is analogous to that of table 1 except the columns are cisgender men, individuals AMAB who are not cisgender, individuals AMAB who identify as female (that is, transgender women), individuals AMAB who identify as transgender, and individuals AMAB who describe their current gender as none-of-these.

Most of the patterns of demographic characteristics mirror those we reported earlier (Carpenter, Lee, and Nettuno 2022), though we have more than doubled our sample size of gender minorities by adding more waves of Household Pulse data. Among AFAB individuals, non-cisgender individuals are significantly younger, more likely to be sexual minorities, and less likely to have a bachelor's degree than cisgender women. Regarding family outcomes, table

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9. In all models, we include separate indicators for individuals who report that they don't know, refused to provide, or were missing a response to the question about current gender. We do the same for similar responses to the sexual orientation question. We exclude individuals for whom sex at birth was allocated to increase our confidence that the individuals we identify as non-cisgender have explicitly twice affirmed that their sex at birth does not match their current gender (for more detail, see Carpenter, Lee, and Nettuno 2022).

10. Online appendix B shows that a model where we combine AMAB now female and AMAB now transgender into a single category (and analogously for AFAB individuals) returned similar results.

11. Online appendix B shows that unweighted models returned similar results.

Table 1. Descriptive Statistics, Individuals Assigned Female at Birth

Variable	Cisgender Women	AFAB, Not Cisgender	AFAB, Now Male	AFAB, Now Transgender	AFAB, Now None of These
Age	42.06	32.60***	27.92***	27.92***	35.22***
	(12.95)	(12.45)	(10.38)	(9.24)	(13.12)
Black	0.14	0.14	0.07***	0.07***	0.18***
	(0.35)	(0.35)	(0.26)	(0.26)	(0.38)
Hispanic	0.19	0.22***	0.23	0.22	0.22***
	(0.39)	(0.42)	(0.42)	(0.42)	(0.42)
White	0.73	0.66***	0.71	0.72	0.63***
	(0.44)	(0.47)	(0.45)	(0.45)	(0.48)
Gay or lesbian	0.02	0.13***	0.24***	0.20***	0.09***
	(0.15)	(0.34)	(0.43)	(0.40)	(0.29)
Bisexual	0.07	0.25***	0.36***	0.36***	0.19***
	(0.26)	(0.43)	(0.48)	(0.48)	(0.39)
Less than high school	0.07	0.12***	0.17**	0.12**	0.12***
	(0.26)	(0.33)	(0.38)	(0.33)	(0.32)
High school diploma	0.26	0.26	0.20*	0.23*	0.28
	(0.44)	(0.44)	(0.40)	(0.42)	(0.45)
Bachelor's or more	0.34	0.26***	0.24***	0.28***	0.26***
	(0.47)	(0.44)	(0.43)	(0.45)	(0.44)
Married	0.52	0.25***	0.19***	0.15***	0.30***
	(0.50)	(0.43)	(0.39)	(0.36)	(0.46)
Divorced	0.18	0.20	0.24	0.18	0.20
	(0.36)	(0.40)	(0.43)	(0.38)	(0.40)
Separated	0.04	0.08***	0.06	0.14**	0.07***
	(0.19)	(0.28)	(0.23)	(0.34)	(0.26)
Spouse deceased	0.03	0.09***	0.07	0.15*	0.08***
	(0.16)	(0.29)	(0.26)	(0.36)	(0.26)
Married, two adults in household	0.30	0.13***	0.08***	0.08***	0.15***
	(0.46)	(0.33)	(0.27)	(0.28)	(0.36)
Number of adults in household	2.64	3.08***	3.50***	3.29***	2.94***
	(1.21)	(1.63)	(2.01)	(1.75)	(1.50)
Any children in household	0.47	0.35***	0.24***	0.26***	0.40***
	(0.50)	(0.48)	(0.43)	(0.44)	(0.49)
Any children under five in household	0.18	0.12***	0.09***	0.09***	0.13***
	(0.38)	(0.32)	(0.28)	(0.29)	(0.34)
N	511,306	9,399	633	2,255	6,511

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. For the divorced, separated, and spouse deceased outcomes, the means are calculated conditional on ever being married.
* *p* < .1; ** *p* < .05; *** *p* < .01

1 shows that non-cisgender AFAB individuals are significantly less likely to be married at all, more likely to be separated, less likely to have a traditional marriage and household structure (that is, married and exactly two adults in the household), more likely to have a spouse that has passed away, less likely to have any children under age eighteen in the household, and less likely to have any children under age five in the household than cisgender women. However, we

see that non-cisgender AFAB individuals live with significantly more adults than cisgender women.

Among AMAB individuals in table 2, we see similar demographic differences: non-cisgender individuals are also significantly younger, more likely to be sexual minorities, and less likely to have a bachelor's degree than cisgender men. The family outcome comparisons also mirror those in table 1 for AFAB individuals; for AMAB individuals in table 2 we see that non-cisgender individuals are significantly less likely to be married, less likely to have a traditional marriage and household structure, more likely to be divorced, more likely to be separated, more likely to have a spouse who has passed away, and less likely to have any children under age eighteen in the household than cisgender men. Moreover, table 2 shows that non-cisgender AMAB individuals live with significantly more adults than cisgender men.

Results on Marital Outcomes

Table 3 presents the regression results from the AFAB individuals in the Household Pulse data for equation (1) for the marital outcomes: whether the individual is currently married, ever married, divorced, separated, or has a spouse who has passed away. This table essentially asks whether individuals AFAB who are not cisgender are differentially likely to be mar-

ried than cisgender individuals with the same sex assigned at birth even after accounting for significantly different observable characteristics (for example, lower levels of education and higher likelihoods of having a minority sexual orientation). The top panel reports results from the model in which we simply control for the single indicator for being AFAB and not cisgender. The bottom panel reports results from the model in which we separate each of those single indicator variables into their three component parts (that is, for individuals AFAB and not cisgender, we separately control for a dummy for being AFAB and male, a dummy for being AFAB and transgender, and a dummy for being AFAB and describing one's gender as none-of-these). Table 4 follows the identical structure and presents results from the AMAB individuals in the Household Pulse.

The results in column 1 of table 3 return strong evidence that non-cisgender AFAB individuals are significantly less likely to be currently married. This is true in the comparison of non-cisgender AFAB individuals with cisgender women (top panel) and separately for those AFAB now transgender (second row of bottom panel) and AFAB now none-of-these (third row of bottom panel).[12] The magnitude of the differences between each group of non-cisgender individuals relative to cisgender women indicates marriage penalties of 6 to 8 percentage

12. Another possibility we have carefully considered is that people who chose none-of-these to describe their current gender are miscoded cisgender people who may be confused why they are being asked about both sex assigned at birth and current gender or who may find the response options objectionable for some reason. Regardless of whether these individuals are miscoded intentionally or unintentionally, it is less likely that miscoded cisgender people would face marriage market discrimination or different family structures in the same way as, for example, nonbinary individuals who chose none-of-these because their preferred gender description was not listed. We experimented with different ways to assess the degree of potential bias from miscoded cisgender people in our none-of-these group. For example, if cisgender people are confused about the response options, it is possible that they also answered the sexual orientation question with "I don't know" as opposed to straight, gay or lesbian, bisexual, or something else. We estimated models in which we separately controlled for none-of-these people who responded to the sexual orientation question with straight, gay or lesbian, bisexual, or something-else versus none-of-these people who chose "I don't know" to the sexual orientation question. Those models showed that the none-of-these differences we document are mainly driven by those who responded to the sexual orientation question with straight, gay or lesbian, bisexual, or something-else as opposed to those who chose "I don't know" for the sexual orientation question (and who therefore may be more likely to be confused or otherwise miscoded cisgender people). This—along with the double confirmation nature regarding the correspondence between sex assigned at birth and current gender—increases our confidence that our patterns for individuals who describe their gender as none-of-these reflect true differences for gender minority individuals.

Table 2. Descriptive Statistics, Individuals Assigned Male at Birth

Variable	Cisgender Men	AMAB, Not Cisgender	AMAB, Now Female	AMAB, Now Transgender	AMAB, Now None of These
Age	41.84	35.82***	32.64***	33.07***	37.58***
	(13.18)	(13.15)	(11.50)	(12.47)	(13.38)
Black	0.12	0.12	0.11	0.12	0.12
	(0.32)	(0.32)	(0.37)	(0.33)	(0.32)
Hispanic	0.19	0.25***	0.22	0.28***	0.25***
	(0.40)	(0.44)	(0.42)	(0.45)	(0.43)
White	0.75	0.67***	0.71	0.71	0.64***
	(0.44)	(0.47)	(0.45)	(0.45)	(0.48)
Gay or lesbian	0.05	0.15***	0.29***	0.23***	0.08***
	(0.21)	(0.35)	(0.46)	(0.42)	(0.28)
Bisexual	0.03	0.17***	0.32***	0.30***	0.09***
	(0.17)	(0.38)	(0.47)	(0.46)	(0.29)
Less than high school	0.08	0.17***	0.18**	0.18***	0.17***
	(0.26)	(0.38)	(0.39)	(0.38)	(0.37)
High school diploma	0.33	0.30	0.22***	0.31	0.31
	(0.47)	(0.46)	(0.42)	(0.46)	(0.46)
Bachelor's or more	0.30	0.21***	0.17***	0.18***	0.23***
	(0.46)	(0.41)	(0.38)	(0.38)	(0.42)
Married	0.56	0.33***	0.26***	0.18***	0.41***
	(0.50)	(0.47)	(0.44)	(0.38)	(0.49)
Divorced	0.13	0.17***	0.20*	0.21***	0.16*
	(0.36)	(0.38)	(0.40)	(0.41)	(0.37)
Separated	0.03	0.06***	0.08	0.14***	0.04*
	(0.19)	(0.25)	(0.28)	(0.35)	(0.20)
Spouse deceased	0.03	0.09***	0.11**	0.10***	0.08***
	(0.16)	(0.28)	(0.32)	(0.30)	(0.27)
Married, two adults in household	0.33	0.14***	0.11***	0.08***	0.18***
	(0.47)	(0.35)	(0.32)	(0.28)	(0.38)
Number of adults in household	2.69	3.45***	3.12**	3.56***	3.44***
	(1.28)	(1.98)	(1.58)	(2.17)	(1.94)
Any children in household	0.41	0.38**	0.34*	0.32***	0.42
	(0.49)	(0.49)	(0.47)	(0.47)	(0.49)
Any children under five in	0.14	0.17**	0.13	0.12	0.19***
household	(0.35)	(0.37)	(0.34)	(0.33)	(0.40)
N	336,750	5,657	633	1,440	3,584

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. For the divorced, separated, and spouse deceased outcomes, the means are calculated conditional on ever being married.
* *p* < .1; ** *p* < .05; *** *p* < .01

points. This is notably smaller than the raw difference in marriage likelihood from table 1.

The results in columns 2, 3, 4, and 5 provide some evidence that the marriage penalty is due to both the lower likelihood of being ever married and the higher likelihood of marriage dissolution among non-cisgender individuals. Specifically, non-cisgender AFAB individuals are 4 percentage points less likely to have ever been married. Among those who have ever

Table 3. Marital Outcomes and Gender Minority Status, Individuals Assigned Female at Birth

	Currently Married	Ever Married	Divorced	Separated	Spouse Deceased
Model 1 (excluded category is AFAB cisgender individuals)					
AFAB not cisgender	–0.06***	–0.04***	0.01	0.02**	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
N	514,656	514,656	390,805	390,805	390,805
Model 2 (excluded category is AFAB cisgender individuals)					
AFAB now male	–0.04	–0.01	0.09*	–0.01	0.05
	(.03)	(0.04)	(0.05)	(0.02)	(0.03)
AFAB now transgender	–0.08***	–0.04**	0.01	0.07*	0.13**
	(0.01)	(0.02)	(0.03)	(0.04)	(0.06)
AFAB now none of these	–0.06***	–0.04***	0.01	0.01	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
N	514,656	514,656	390,805	390,805	390,805

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. Linear probability models. Models control for survey week dummies, age and its square, race-ethnicity, sexual orientation, education, urban status, and state dummies as described in the text. Models in columns 3–5 restrict attention to individuals who were ever married. Results use Household Pulse person weights, and standard errors are robust to heteroscedasticity.
* $p < .1$; ** $p < .05$; *** $p < .01$

been married, non-cisgender AFAB individuals are 5 percentage points more likely to have a spouse who has passed away. This pattern holds for all three subgroups of non-cisgender AFAB individuals, although the estimates become insignificant for those AFAB and male. We also estimate that non-cisgender AFAB individuals are 2 percentage points more likely than similarly situated cisgender women to be separated. When the three groups of non-cisgender individuals are each compared with cisgender women, we find that AFAB now male individuals are significantly more likely to divorce than separate, and that AFAB now transgender are significantly more likely to separate than divorce, revealing important heterogeneities among these groups in how marriages dissolve.

The results presented in column 1 of table 4 similarly return strong evidence that non-cisgender AMAB individuals are less likely to be currently married than otherwise similar cisgender men. Non-cisgender individuals are also more likely to have ever been married than otherwise similar cisgender men. These differences indicate that non-cisgender individuals more often experience marriage dissolution, which is consistent with the results in columns 3 through 5 that non-cisgender AMAB individuals are significantly more likely to be divorced, separated, and have a spouse who has passed away than otherwise similar cisgender men.

The results in the bottom panel indicate that all three groups of non-cisgender individuals experience marriage dissolution more often than otherwise similar cisgender men. The bottom panel of table 4 also shows that AMAB now female and AMAB now none-of-these individuals are significantly more likely to have ever been married but are as likely to be currently married as otherwise similar cisgender men, whereas AMAB now transgender individuals are much less likely to be currently married than otherwise comparable cisgender men. Looking at the types of marriage dissolution in columns 3 through 5, we see that AMAB now transgender individuals are significantly

Table 4. Marital Outcomes and Gender Minority Status, Individuals Assigned Male at Birth

	Currently Married	Ever Married	Divorced	Separated	Spouse Deceased
Model 1 (excluded category is AMAB cisgender individuals)					
AMAB not cisgender	−0.03*	0.03**	0.04***	0.02*	0.06***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
N	339,004	339,004	250,881	250,881	250,881
Model 2 (excluded category is AMAB cisgender individuals)					
AMAB now female	0.00	0.09**	0.05	0.03	0.09**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
AMAB now transgender	−0.08***	−0.03	0.06*	0.09**	0.07***
	(0.02)	(0.03)	(0.03)	(0.04)	(0.02)
AMAB now none of these	−0.00	0.05***	0.03*	−0.00	0.05***
	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)
N	339,004	339,004	250,881	250,881	250,881

Source: Authors' calculations.

Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. Linear probability models. Models control for survey week dummies, age and its square, race-ethnicity, sexual orientation, education, urban status, and state dummies as described in the text. Models in columns 3–5 restrict attention to individuals who were ever married. Results use Household Pulse person weights, and standard errors are robust to heteroscedasticity.

* $p < .1$; ** $p < .05$; *** $p < .01$

more likely than comparable cisgender men to be separated, and this differential is larger than the associated differential for being divorced. All three groups of non-cisgender individuals are significantly more likely to have a spouse who has passed away than cisgender men.

Looking at tables 3 and 4 together, we note several interesting patterns. First, regardless of individuals' sex assigned at birth, we find strong evidence that non-cisgender individuals are more likely to experience marital dissolution and that a substantial share of the dissolution is due to having a spouse who has passed away. Second, we find some evidence that individuals whose gender identity is transgender face greater marriage penalties than non-cisgender individuals whose gender identity is male or female. Third, we find some evidence that non-cisgender individuals whose gender identity is male or female are more likely to be divorced than separated, whereas non-cisgender individuals whose gender identity is transgender are more likely to be separated

than divorced. Although Household Pulse does not ask its respondents about the timing of social, legal, or medical transitions to affirm one's gender, it is possible that these differences reflect the idea that those who chose transgender have more recently begun transitioning; hence they are separated from their partner but have not yet had time to divorce. These results are also largely consistent with the hypothesis proposed earlier that individuals who answered transgender have not taken as many steps to socially, legally, or medically transition or have more recently started the process of affirming their gender than those who answered male or female.

The findings of tables 3 and 4 allude to the importance of both gender transition and gender identity in determining marital outcomes. Specifically, transgender women's gender identity would shift their marital outcomes away from those of cisgender men and closer to those of cisgender women, but the efforts to affirm their gender would lead to greater search

frictions in the marriage market and lower marriage rates. The lack of information about the medical and social transition of the respondents prevents us from ascertaining the extent to which gender affects marital outcomes. However, we are able to further explore the importance of gender by comparing non-cisgender individuals with cisgender people with identical gender rather than with cisgender people with identical sex assigned at birth. Table 5 presents results comparing non-cisgender AFAB individuals with cisgender men (rather than cisgender women), and table 6 presents results comparing non-cisgender AMAB individuals with cisgender women (rather than cisgender men).

The results in table 5 indicate that non-cisgender AFAB individuals are less likely to be currently married but more likely to have ever been married than cisgender men. These patterns largely hold when we divide non-cisgender AFAB individuals into the three component parts and separately compare each group with cisgender men. Those who chose none-of-these when answering the gender question were least likely to be currently married, those who answered male were as likely as cisgender men to be currently married, and those who answered transgender were in the middle. Regarding the marital dissolution outcomes, non-cisgender AFAB individuals are significantly more likely to be divorced, separated, and have a spouse who had passed away than otherwise similar cisgender men, and the patterns observed in table 3 between AFAB now male individuals and AFAB now transgender individuals are again observed in table 5 with the alternative comparison group.

We now turn to the comparison of non-cisgender AMAB individuals and cisgender women in table 6. Surprisingly, the results indicate that non-cisgender AMAB individuals are as likely as cisgender women to be currently married and to have been married. These pat-

Table 5. Marital Outcomes and Gender Minority Status, Alternative Comparison Group, Individuals Assigned Female at Birth

	Currently Married	Ever Married	Divorced	Separated	Spouse Deceased
Model 1 (excluded category is AMAB cisgender individuals)					
AFAB not cisgender	−0.06***	0.02*	0.07***	0.04***	0.07***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
N	342,686	342,686	252,424	252,424	252,424
Model 2 (excluded category is AMAB cisgender individuals)					
AFAB now male	0.01	0.08**	0.13**	0.01	0.06*
	(0.04)	(0.04)	(0.06)	(0.02)	(0.03)
AFAB now transgender	−0.03**	0.05***	0.05*	0.09**	0.13**
	(0.02)	(0.02)	(0.03)	(0.04)	(0.06)
AFAB now none of these	−0.07***	−0.01	0.07***	0.03***	0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
N	342,686	342,686	252,424	252,424	252,424

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. Linear probability models. Models control for survey week dummies, age and its square, race-ethnicity, sexual orientation, education, urban status, and state dummies as described in the text. Models in columns 3 through 5 restrict attention to individuals who were ever married. Results use Household Pulse person weights, and standard errors are robust to heteroscedasticity.
* $p < .1$; ** $p < .05$; *** $p < .01$

Table 6. Marital Outcomes and Gender Minority Status, Alternative Comparison Group, Individuals Assigned Male at Birth

	Currently Married	Ever Married	Divorced	Separated	Spouse Deceased
Model 1 (excluded category is AFAB cisgender individuals)					
AMAB not cisgender	−0.02	−0.02	−0.02	−0.01	0.04***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
N	510,974	510,974	389,262	389,262	389,262
Model 2 (excluded category is AFAB cisgender individuals)					
AMAB now female	−0.04	0.00	0.00	0.01	0.08*
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
AMAB now transgender	−0.11***	−0.10***	−0.00	0.06*	0.06**
	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)
AMAB now none of these	0.03*	0.02	−0.03*	−0.03***	0.03**
	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)
N	510,974	510,974	389,262	389,262	389,262

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. Linear probability models. Models control for survey week dummies, age and its square, race-ethnicity, sexual orientation, education, urban status, and state dummies as described in the text. Models in columns 3–5 restrict attention to individuals who were ever married. Results use Household Pulse person weights, and standard errors are robust to heteroscedasticity.
* *p* < .1; ** *p* < .05; *** *p* < .01

terns hold for AMAB now female individuals and AMAB now none-of-these individuals to an extent, but AMAB now transgender individuals are currently married and ever married at a significantly lower rate than similarly situated cisgender women. AMAB now none-of-these individuals are also less likely to be divorced or separated than cisgender women, perhaps hinting at a difference in the likelihood of getting remarried once divorced or separated. The results regarding the elevated likelihood of having a spouse who has passed away are again observed for non-cisgender AMAB individuals relative to cisgender women and for all three groups separately relative to cisgender women in table 6, similar to the comparison with cisgender men in table 4.

Results on Family Outcomes

Table 7 presents the results of comparing family outcomes of non-cisgender and cisgender AFAB individuals using the same sample and model specification as table 3. The analog

holds for table 8 relative to table 4. The family outcomes are the traditional married household indicator (that is, now married and exactly two adults in the household), the total number of adults in the household, an indicator for any children under age eighteen in the household, and an indicator for any children under age five in the household.

Among AFAB individuals, non-cisgender individuals are significantly less likely to live in a traditional household as a married person with exactly two adults than otherwise similar cisgender women. Non-cisgender AFAB individuals on average live in households with significantly more adults than comparable cisgender women but are also significantly less likely to have children in the household. These results hold when the three groups of non-cisgender AFAB individuals are separately compared with cisgender women, though the size of the gap varies. Specifically, the family outcomes of AFAB now none-of-these individuals tend to be more similar to those of otherwise comparable

Table 7. Family Outcomes and Gender Minority Status, Individuals Assigned Female at Birth

	Married, Two Adults in Household	Total Adults in Household	Any Children Under Eighteen in Household	Any Children Under Five in Household
Model 1 (excluded category is AFAB cisgender individuals)				
AFAB not cisgender	−0.07***	0.29***	−0.07***	−0.06***
	(0.01)	(0.04)	(0.01)	(0.01)
N	514,656	516,180	516,180	516,180
Model 2 (excluded category is AFAB cisgender individuals)				
AFAB now male	−0.09***	0.68***	−0.13***	−0.10***
	(0.01)	(0.21)	(0.03)	(0.02)
AFAB now transgender	−0.09***	0.48***	−0.11***	−0.09***
	(0.01)	(0.11)	(0.02)	(0.01)
AFAB now none of these	−0.06***	0.17***	−0.04***	−0.05***
	(0.01)	(0.04)	(0.01)	(0.01)
N	514,656	516,180	516,180	516,180

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. Linear probability models in columns 1, 3, and 4; OLS regression in column 2. Models control for survey week dummies, age and its square, race-ethnicity, sexual orientation, education, urban status, and state dummies as described in the text. Results use Household Pulse person weights, and standard errors are robust to heteroscedasticity.
* *p* < .1; ** *p* < .05; *** *p* < .01

cisgender women, whereas family outcomes of AFAB now male and AFAB now transgender individuals tend to be more dissimilar.

Non-cisgender AMAB individuals in table 8 are also significantly less likely to live in a traditional married household with exactly two adults and instead on average live in households with significantly more adults than cisgender men. Non-cisgender AMAB individuals are also significantly more likely to live with children under eighteen and children under five than cisgender men. These differences are consistently observed in the bottom panel, which separately compares the three subgroups of non-cisgender AMAB individuals with cisgender men, although the outcomes regarding the probability of living with children are statistically insignificant for AMAB now female and AMAB now transgender individuals.

To explore these dynamics more carefully, we replicate tables 7 and 8 with alternative comparison groups as we did in tables 5 and 6 for marital outcomes. Table 9 compares the family outcomes of non-cisgender AFAB individuals with cisgender men (rather than cisgender women), and table 10 compares the family outcomes of non-cisgender AMAB individuals with cisgender women (rather than cisgender men).

Looking first at table 9, we find that non-cisgender AFAB individuals are significantly less likely to live in a traditional married household with exactly two adults and to live with significantly more adults on average than otherwise similar cisgender men, as observed in the analogous results in table 7. Non-cisgender AFAB individuals are also significantly more likely to have any children under eighteen at home and are as likely to have any children under five at home than cisgender men, but less likely to have children at home than cisgender women. The results regarding the probability of children under eighteen at home are driven

Table 8. Family Outcomes and Gender Minority Status, Individuals Assigned Male at Birth

	Currently Married, Two Adults in Household	Total Adults in Household	Any Children under Eighteen in Household	Any Children Under Five in Household
Model 1 (excluded category is AMAB cisgender individuals)				
AMAB not cisgender	−0.05***	0.51***	0.03**	0.05***
	(0.01)	(0.08)	(0.02)	(0.01)
N	339,004	339,813	339,813	339,813
Model 2 (excluded category is AMAB cisgender individuals)				
AMAB now female	−0.04*	0.26*	0.05	0.03
	(0.02)	(0.16)	(0.03)	(0.03)
AMAB now transgender	−0.06***	0.63***	0.02	0.02
	(0.01)	(0.22)	(0.03)	(0.02)
AMAB now none of these	−0.04***	0.50***	0.04**	0.06***
	(0.01)	(0.08)	(0.02)	(0.02)
N	339,004	339,813	339,813	339,813

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. Linear probability models in columns 1, 3, and 4; OLS regression in column 2. Models control for survey week dummies, age and its square, race-ethnicity, sexual orientation, education, urban status, and state dummies as described in the text. Results use Household Pulse person weights, and standard errors are robust to heteroscedasticity.
* $p < .1$; ** $p < .05$; *** $p < .01$

by individuals who chose none-of-these when asked about their gender, indicating that the gap is largest for individuals who may be least likely among the three groups to share gender identity with cisgender men.

Similarly, non-cisgender AMAB individuals in table 10 are significantly less likely to live in a traditional married household with exactly two adults and are on average living in households with significantly more adults, but significantly less likely to live with children under eighteen at home than cisgender women. These differences are consistently observed in all three groups of non-cisgender AMAB individuals.

Comparing the results in tables 7 and 8 with those in tables 9 and 10, we note several novel patterns. First, these results indicate that transgender, nonbinary, or gender nonconforming Americans are on average more likely to live with children than cisgender men but less likely to live with children than cisgender women. These results again allude to the importance of gender in determining family outcomes, similar to our observation regarding marital outcomes. Further, the difference in sex assigned at birth and the biological differences in the likelihood of bearing a child may play a role in determining the number of children at home—though again we have no information on whether and how the children are related to the respondent. Specifically, we observe that AFAB people who are male or transgender (that is, transgender men) are as likely as cisgender men to have children at home, but that AMAB people who are female or transgender (that is, transgender women) are much less likely to have children at home than cisgender women. Last, we consistently find that non-cisgender individuals live in households with more adults, perhaps indicating that the lower marriage rates affect household structure.

Table 9. Family Outcomes and Gender Minority Status, Alternative Comparison Group, Individuals Assigned Female at Birth

	Currently Married, Two Adults in Household	Total Adults in Household	Any Children Under Eighteen in Household	Any Children Under Five in Household
Model 1 (excluded category is AMAB cisgender individuals)				
AFAB not cisgender	−0.06***	0.18***	0.03***	−0.00
	(0.01)	(0.05)	(0.01)	(0.01)
N	342,686	343,515	343,515	343,515
Model 2 (excluded category is AMAB cisgender individuals)				
AFAB now male	−0.04***	0.55***	−0.00	−0.01
	(0.01)	(0.21)	(0.03)	(0.02)
AFAB now transgender	−0.05***	0.34***	0.01	−0.01
	(0.01)	(0.13)	(0.02)	(0.01)
AFAB now none of these	−0.06***	0.07*	0.05***	0.00
	(0.01)	(0.04)	(0.01)	(0.01)
N	342,686	343,515	343,515	343,515

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. Linear probability models in columns 1, 3, and 4; OLS regression in column 2. Models control for survey week dummies, age and its square, race-ethnicity, sexual orientation, education, urban status, and state dummies as described in the text. Results use Household Pulse person weights, and standard errors are robust to heteroscedasticity.
* $p < .1$; ** $p < .05$; *** $p < .01$

DISCUSSION AND CONCLUSION

We use data from the only large, nationally representative publicly available survey in the United States that includes information on gender minority individuals (Household Pulse) to provide new evidence on marital status, family structure, and family inequality related to gender minority status. These data identify more than fifteen thousand non-cisgender individuals. Our regression models that account for observable demographic characteristics return evidence that—relative to otherwise comparable cisgender individuals—non-cisgender individuals are significantly less likely to be currently married, significantly more likely to have a spouse who has passed away, and live in households with significantly more adults. Non-cisgender individuals are also less likely to have children in the household than demographically similar cisgender women but more likely to have children in the household than comparable cisgender men.[13]

Our results have implications for understanding the well-being of gender minority individuals in the United States. Given that spouses are the primary sources of social, emotional, and financial support in the United States, our results that non-cisgender individuals are less likely to be married provide new evidence of family inequality that may interact

13. Online appendix B includes results from heterogeneity analyses where we examined whether the non-cisgender association with marital and family outcomes systematically varied with race-ethnicity, income, education, urbanicity, region, and age. Most of these investigations did not return meaningful evidence of heterogeneity, with a few exceptions.

Table 10. Family Outcomes and Gender Minority Status, Alternative Comparison Group, Individuals Assigned Male at Birth

	Currently Married, Two Adults in Household	Total Adults in Household	Any Children Under Eighteen in Household	Any Children Under Five in Household
Model 1 (excluded category is AFAB cisgender individuals)				
AMAB not cisgender	−0.05***	0.62***	−0.06***	−0.00
	(0.01)	(0.08)	(0.01)	(0.01)
N	510,974	512,478	512,478	512,478
Model 2 (excluded category is AFAB cisgender individuals)				
AMAB now female	−0.07***	0.33**	−0.09***	−0.04
	(0.02)	(0.15)	(0.03)	(0.03)
AMAB now transgender	−0.09***	0.74***	−0.09***	−0.05**
	(0.01)	(0.21)	(0.03)	(0.02)
AMAB now none of these	−0.03**	0.60***	−0.03*	0.03
	(0.01)	(0.08)	(0.02)	(0.02)
N	510,974	512,478	512,478	512,478

Source: Authors' calculations.
Note: Household Pulse waves 3.2–3.7, eighteen- to sixty-four-year-olds. Linear probability models in columns 1, 3, and 4; OLS regression in column 2. Models control for survey week dummies, age and its square, race-ethnicity, sexual orientation, education, urban status, and state dummies as described in the text. Results use Household Pulse person weights, and standard errors are robust to heteroscedasticity.
* $p < .1$; ** $p < .05$; *** $p < .01$

with other economic and health vulnerabilities facing this community. Increased likelihood of having a spouse who has passed away also suggests that non-cisgender individuals may be disproportionately dealing with trauma from loss of a spouse, which is commonly understood to be one of the most severe adverse life events for an individual's mental and physical health.

The association with having a spouse that has passed away is notable for many reasons. For example, it is very large as a share of its population mean. It is also observed in every subcategory of non-cisgender people. It is also not sensitive to which cisgender comparison group is used. What could explain this effect? There are several possibilities. One is negative health selection. It could be that transgender and other gender minority people choose spouses who are disproportionately likely to have a chronic condition such as HIV, thus exposing them to an increased risk of having a spouse who has passed away. They may have entered into such a relationship precisely for caregiving purposes or to provide access to improved health insurance coverage through marriage, for example. Relatedly, it could be that transgender and other gender minority people have a spouse who has passed away at higher rates because they are more likely to be married to other non-cisgender people, and transgender people are well documented as having a higher risk of mortality from suicide, homicide, and other external causes (de Blok et al. 2021). Another possibility is that having a spouse who has passed away enables people to live their lives openly and come out as non-cisgender later in life after the death of a

spouse. Further work is needed to understand the relative timing of these important life-course transitions.

Our analyses are subject to several limitations, many related to the data. First, our data are all based on self-reports. As noted in prior work, there may be systematic selection associated with disclosing to a government survey about not being cisgender (Carpenter, Eppink, and Gonzales 2020). Second, our sample of adults who are not cisgender only includes non-institutionalized adults. Missing from our analysis were homeless adults; adults residing in institutionalized medical facilities, incarceration facilities, and homeless shelters; and those without email addresses or devices with cellular network support. Data from nonrepresentative samples of transgender individuals suggest that some of these exclusions may disproportionately affect transgender individuals because, for example, transgender individuals report high rates of homelessness and incarceration relative to the general population (Grant, Motter, and Tanis 2011; Burwick et al. 2014; James et al. 2016). Third, the context of the Household Pulse data is important: the survey was explicitly designed to measure responses to the COVID-19 pandemic. It is plausible that non-cisgender individuals were disproportionately affected by COVID-19 with respect to health, employment, and other outcomes, and this may affect the sample of non-cisgender people identified in the Household Pulse as well as their marital and family outcomes. Fourth, as noted, response rates to the Household Pulse survey overall were low, consistently below 10 percent, which may raise questions about representativeness.[14]

Fifth, we cannot know whether the household size differences are related to preferences or constraints of non-cisgender individuals. Prior work has documented lower socioeconomic status and income for gender minorities (Carpenter, Lee, and Nettuno 2022; Carpenter, Eppink, and Gonzales 2020). Non-cisgender individuals may need to live with other individuals due to family rejection or high housing costs or both. Alternatively, it could be that non-cisgender people have strong chosen family networks, including individuals with whom they share housing. That is, the larger household size could be protective for overall well-being if it reflects increased social or financial support. Without information on how individuals determine who counts as a household member and how individuals are or are not related to each other (through a household roster, for example), we are limited in how to interpret these household size differences.[15]

Sixth, and relatedly, we cannot directly measure family rejection of non-cisgender people or access to broader parental and family supports (such as from the presence of older children). This is also related to the Household Pulse dataset lacking questions about relationships with families and lacking a detailed household roster to understand how other people are related to the survey respondent. Family supports clearly matter for emotional, social, and financial reasons, and the inability to directly measure these in the Household Pulse is a significant limitation.

Despite these limitations, this article provides a benchmark for future studies that may make use of more detailed data to understand family structures and family inequality related to gender minority status. For example, if the American Community Survey were to include a two-step process to separately ask for sex assigned at birth and current gender, researchers

14. In online appendix B, we demonstrate that models without the survey weights (which were designed to make the data nationally representative) returned similar patterns, suggesting that these representativeness concerns are unlikely to meaningfully change the results.

15. We did estimate models stratified by education and income, however, and we did not find stark differences in the relative patterns related to gender minority status for less educated versus more educated individuals or for households with lower versus higher income. This is broadly inconsistent with the differences being entirely due to constraints, since in that case we might have expected the differences only to appear in the less educated and lower income samples. For the results of this exercise, see online appendix B.

would be able to identify the share of households headed by a non-cisgender person, the share of households with any non-cisgender person, and—more important—how all other individuals (including children) in households headed by a non-cisgender person are related to that householder.[16] Adding gender identity questions to surveys such as the National Survey of Family Growth would provide detailed fertility and partnership histories for non-cisgender individuals. And adding gender identity questions to long-running panel datasets such as the Survey of Income and Program Participation, the Panel Study of Income Dynamics, the National Longitudinal Survey of Youth, or the Health and Retirement Study would allow researchers to more directly time key life-course transitions with respect to gender identity, romantic unions and dissolutions, cohabitation, and family formation. Until then, these findings using Household Pulse provide a useful first national snapshot of gender minority status and family inequality in the United States as we emerge from the COVID-19 pandemic.

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16. Moreover, in the ACS one could identify the age and current grade of each child in the household, which would potentially be relevant for children's academic achievement outcomes such as age for grade. The ACS includes information on the number of rooms in the living unit, which could also provide useful information on whether gender minorities' larger households are more likely to be due to preferences; for example, non-cisgender people might have larger chosen families) or to constraints (for example, rent is expensive in cities that are accepting to non-cisgender people). Finally, the ACS provides information on the number of times an individual has been married over their lifetime. In the Household Pulse, we only see whether the respondent was ever married, but it is possible that the process of gender dysphoria may result in a series of continued disruptions to romantic relationships, and thus information on the number of lifetime marriages could be informative.

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