The Role of Work Values and Characteristics in the Human Capital Investment by Gays and Lesbians

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Abstract

We show that educational outcomes of sexual minorities are consistent with efforts to mediate future discrimination. Gay men and lesbians obtain more years of schooling than heterosexual men and women, between 0.6 and 1.2 years. This difference is robust to controlling for observable characteristics for men but not women. Gay men and lesbian women also complete different college majors. Gay men are more likely to choose majors with lower levels of prejudice, higher levels of workplace independence, and occupations that emphasize relationships even though they pay less. Similarly, lesbian women choose majors with less prejudice and more workplace independence.

JEL Codes: J1, I21, I23
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1 Introduction

Research in the United States has documented that sexual minorities complete more schooling than their heterosexual counterparts. These systematic differences in human capital investments are persistent across many nationally representative samples. In the American Community Survey (ACS), gay men complete 14.3 years of schooling on average, which is 1.23 years more than heterosexual men. Lesbian women received 14.1 years of schooling, which is 1.07 years more than heterosexual women. The main driver of these differences is the higher rates of college and graduate school attendance by gay men and lesbian women. Similar differences exist in the General Social Survey (GSS), the National Health Interview Survey (NHIS), and the National Longitudinal Study of Adolescent to Adult Health (AddHealth).

While many researchers have noted these differences in empirical analyses, little work has investigated the source of differences in educational attainment by sexual orientation (Black, Gates, Sanders and Taylor 2000, Klawitter 2015). In this paper, we provide novel evidence that gays and lesbians are not only obtaining more years of schooling, but they are also sorting into different college majors. In the ACS, gay men are more likely to complete majors in the arts/humanities and the social sciences and less likely to complete majors in computer sciences or engineering than heterosexual men. There are fewer differences in the college majors of lesbian and heterosexual women. Lesbians are slightly less likely to complete majors in biology and life sciences or business/economics than heterosexual women.

This paper contributes to a more nuanced understanding of the human capital attainment of sexual minorities by making two important contributions. First, we document the differences in years of schooling remain significant in the most recently available data. We show that data limitations in the Census data and the GSS data used by earlier researchers do not explain these schooling gaps. By comparing the gaps in the ACS and the NHIS, we show that the differences in education seen in the Census data are not unique to the subset of the gay and lesbian population that cohabits, which the Census data captures. Moreover, we find that the gaps in schooling are similar in size across the two sources. Using a rich data set on personality and family background from the AddHealth, we show that the differences in years of schooling between gay men and heterosexual men remain significant even after controlling for demographics, family background, and personality characteristics. The difference in the AddHealth between lesbian women and heterosexual women shrinks considerably conditional on these controls, suggesting that unobservable

personality differences may play a role in the differences among women.

Our second contribution is showing that the college major choices of gay men and lesbian women are consistent with efforts to avoid the negative effects of social stigma. For gay men, this takes the form of compensating wage differentials, while there is no robust trade-off between income and prejudice for lesbian women. Using data from the GSS, the National Survey of College Graduates, and the Occupational Information Network (O*NET), we investigate how differences in pecuniary and non-pecuniary major characteristics influence the choice of a college major and whether these factors potentially explain the differences in college majors by sexual orientation. We find that both gay men and lesbian women are attracted to majors that lead to occupations with lower levels of prejudice and higher levels of independence. Higher levels of independence reflect occupations in which workers are able to perform their job without co-worker interactions. Gay men also select majors that lead to occupations with a larger focus on relationship building (such as social sciences or humanities). Conditional on prejudice and independence, the pecuniary rewards for a college major do not appear to influence their choices. Gay men and lesbian women are less likely to select higher-paying majors. In other words, gay men and lesbian women are willing to accept lower levels of earning potential for a more attractive package of non-pecuniary workplace values. This is consistent with the existence of compensating wage differentials for gay men.

Evidence of differences in how LGB individuals select a college majors is important because Hughes (2018) finds a significant "leaky pipeline" in many higher earning fields like STEM for gay men and lesbian women. These differences in college majors are important because the economic returns to higher education depend on one's fields of study (Altonji, Arcidiacono and Maurel 2016) and could contribute to the worse economic outcomes of sexual minorities (Badgett 1995, Klawitter 2015, Elmslie and Tebaldi 2014). Gay and lesbian students who begin with the intention of majoring in a relatively high-paying STEM field are more likely to change their majors to the lower-paying humanities and social sciences than their heterosexual classmates (Hughes 2018). Understanding the determinants of the choice of major is, therefore, important as it contributes to an understanding of the source of earnings differentials that persist, and sometimes grow, over the life cycle.

These results highlight the impact of social stigma on the economic experiences of sexual minorities. Building on Carpenter (2009) and Hughes (2018) who find that the college experience differs by sexual orientation by showing that differential experiences lead to differential college outcomes, our results suggest these differences may arise in

part due to efforts by gay men and lesbian women to mediate the effects of social stigma. These effects suggest that equating human capital investment with degree attainment, as typically implemented in empirical research, masks meaningful heterogeneity in the educational experience and attainment of gay men and lesbian women.

2 Educational Differences and their Source

Black et al. (2000) showed that in the 1990 Census, the General Social Survey, and the NHSLS gay men and lesbian women were much more likely to attend college and graduate school than heterosexual men and women. In the GSS-NHSLS data, 24% of gay men have earned college degrees and, 13.0% of gay men have gone to graduate school.[1] The college graduation rates of gay men are 7 percentage points higher than married heterosexual men, and the graduate school attendance rate is 3 percentage points higher. Among lesbian women, 25% attended college and 14% went to graduate school. This is 8 percentage points and 9 percentage points higher than married heterosexual women. The differences in educational obtainment by sexual orientation are larger in the 1990 Census.[2]

The significant differences in the educational attainment of gays and lesbians could result from the differential experiences of gays and lesbians in higher education. Carpenter (2009) uses data from the Harvard College Alcohol Study and finds that gay men have higher GPAs than their heterosexual counterparts in college, while lesbians did not achieve meaningfully different GPAs from heterosexual women. Gay men and lesbian women select different extracurricular activities than heterosexual students (Carpenter 2009), and are more likely to participate in research with faculty than heterosexual students (Hughes 2018). Thus, gay and lesbian students seem to be more engaged in their human capital investments than their heterosexual counterparts during college. One explanation of this greater engagement among gay and lesbian students is that this observed behavior reflects preferences that differ by sexual orientation.

Indeed, the selection of college majors is often driven by tastes and preferences for a field of study. After conditioning on academic performance, individual preferences have been found to be the largest determinant of a college major choice in many studies (see, for example, Altonji et al. (2016), Arcidiacono (2004), Wiswall and Zafar (2015), and Zafar (2013)). Zafar (2013) finds that preferences for a major explain 86% of the choice of a

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[1]Black et al. (2000) utilize the 1998 through 1996 GSS-NSLS data to calculate educational obtainment.

[2]Gay men are 11 percentage points more likely to have gone to college than married men and lesbian women are also 11 percentage points more likely to have attended college.

college major for women, but only 54% of the choice for men. Preferences may also be shaped by student perceptions of ability. Students are more likely to select a major when they have previously excelled in related coursework (Arcidiacono 2004, Butcher, McEwan and Weerapana 2014, Ost 2010).[3]

Of course, tastes and preferences for a field of study may also reflect considerations of future household dynamics. The lack of sex asymmetry in same-sex households implies that gay men are less likely (and lesbian women more likely) to be primary earners in the household (Antecol, Jong and Steinberger 2008, Blandford 2003, Martell and Roncolato 2016). Therefore gay men may have a lower incentive to invest in higher education than their heterosexual peers. Similarly, lesbian women may have a higher incentive to invest in their human capital relative to heterosexual women. Lesbian women are simultaneously more likely to be a primary earner in their household and may expect lower future household income arising to the gender wage gap that may disproportionately affect their households. The lower incentive to invest in human capital among gay men is reinforced by the lower incidence of children in same-sex male households (Black, Makar, Sanders and Taylor 2003, Black et al. 2000). Since gay men are less likely to have children on average, they may invest in less human capital as expected future investments in children are lower. The same lower incentive to invest in human capital in anticipation of lower expected future investments in children runs contrary to the effect of the higher likelihood of being a primary earner among lesbian women.

Social institutions within educational institutions may also influence college major choices. Social psychologists argue that preferences of minority individuals are influenced by social stereotypes (Singh, Allen, Scheckler and Darlington 2007, Gunderson, Ramirez, Levine and Beilock 2012, Nosek, Banaji and Greenwald 2002). These stereotypes discourage minority students from exploring fields when teachers do not associate successful students with the minority (e.g., women in math) (Hughes 2018, Gunderson et al. 2012, Steele 1997). The stereotyping of minority students may also lower their academic performance because it discourages them from engaging more with the class material and the professor (Adams, Garcia, Purdie-Vaughns and Steele 2006, Spencer, Steele, and Quinn 1999).

Social institutions in labor markets may also influence human capital investments, in-

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[3]The feedback between performance in previous coursework and major choice implies that grade inflation may induce students to select into less rigorous majors, even if they are more adept at the more rigorous major (Butcher et al. 2014, Ost 2010, Sjoquist and Winters 2015, Stinebrickner and Stinebrickner 2014). Equalizing the grading across majors has been shown to increase female participation in STEM fields, where grades are curved, at the expense of the Arts and Humanities, where there are no curves (Butcher et al. 2014).

cluding college major choices. A growing literature has documented worse labor market outcomes for sexual minorities than heterosexual individuals despite higher levels of human capital. Gay men and lesbian women face discrimination in hiring (Ahmed, Andersson and Hammarstedt 2013, Drydakis 2019, Weichselbaumer 2003). Once hired, gay men earn significantly less than similarly situated heterosexual men in many countries (Drydakis 2009, Carpenter 2008, Arabsheibani, Marin and Wadsworth 2005).[4] While most research finds that lesbians earn more than heterosexual women (for exceptions, see: (Badgett 1995, Carpenter 2008, Martell and Eschelbach Hansen 2017, Martell 2019), much of the observed lesbian earnings premium is due to differences in occupational and educational attainment (Antecol et al. 2008). Differences in the human capital attainment of gay men and lesbian women may, therefore, reflect investment decisions as a response to perceptions of future social stigma and prejudice against sexual minorities in the labor market. College major choices may reflect the efforts of gay men and lesbian women to mitigate future discrimination they may experience within occupations that are associated with completed college majors.

Gays and lesbians may choose college majors that lead to future occupations with lower levels of prejudice. Avoiding prejudice can be important for gay men and lesbian women as higher levels of prejudice result in higher wage penalties for gay men (Burn 2019). Therefore gay men may select majors where the students and faculty are less prejudiced because they believe the economic and social returns to these majors will be higher. Even if more prejudiced majors may pay more on average, the wage penalties associated with prejudice for gay men may offset any difference in average earnings resulting in an outcome similar to a compensating differential (Martell 2013a). These efforts to avoid prejudice via human capital investments can explain why occupational attainment varies by sexual orientation (Tilcsik, Anteby and Knight 2015).

Gays and lesbians may also mitigate future discrimination by choosing college majors associated with occupations that facilitate the ability to avoid discrimination through selective disclosure of sexual orientation. Selective disclosure of sexual orientation is more easily managed in occupations with higher levels of worker independence, such as truck drivers or appliance repairers, because decreases in the frequency of co-worker interactions reduce the probability of unintentional disclosure. Indeed, higher levels of worker independence lead to lower wage gaps for gay men (Martell 2018). This may explain why gay men sort towards occupations with higher levels of independence (Tilcsik et al. 2015). This pattern

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[4]See Klawitter (2015) and Valfort (2017) for an overview of the literature on LGBT discrimination.

of wage differentials and occupational sorting may also reflect underlying differences in the college major choices of gays and lesbians.

3 Description of Data Sources

To understand the relationship between human capital investment and sexual orientation, an ideal dataset would contain a large number of gays and lesbians, as well as a rich source of covariates and controls. Because data on sexual minorities is imperfect and rare, there is no single source of data on the lesbian, gay and bisexual (LGB) population we can utilize for our purpose. Therefore, we utilize multiple sources of data: the ACS, AddHealth, and the NHIS. Examining the correlation between human capital and sexual orientation in multiple sources of data allows for an investigation of the entire LGB population (single as well as cohabiting), whereas research utilizing a single source typically has limited generalizability (Klawitter 2015). To provide a richer understanding of human capital than simple educational obtainment, we supplement data on sexual minorities and educational attainment with data on workplace and major characteristics in the GSS and O*NET. The GSS contains information on college major and prejudice, while the O*NET data covers occupations. We match each major to its distribution of occupations to construct the average for each college major.

3.1 Data on Gays and Lesbians

To address the strengths and limitations of existing data sources, we investigate the educational attainment and major choices of gays and lesbians using the American Community Survey (ACS), AddHealth, and the National Health Interview Survey. Utilizing the ACS allows us to utilize a larger sample size, but the ACS has limited sexual orientation information. The NHIS and AddHealth contain smaller sample sizes of gays and lesbians but provide researchers with a richer set of covariates on individual characteristics and sexual orientation.

While the ACS is the largest (it is a 1% sample of the US population every year), researchers are only able to identify gays and lesbians based on their cohabitation status. The ACS does not allow individuals to self-report their sexual orientation; gay men and lesbian women are identified on the basis of family interrelationships. A same-sex couple is identified when the sex of the householder and the sex of the unmarried partner (or spouse)

of the householder are the same.[5] We identify approximately 60,000 cohabiting gay men and lesbian women in the 2011 through 2015 ACS. This classification excludes single gay men and lesbian women. Therefore, the large sample size in the ACS comes with a more limited ability to investigate the full population of gays and lesbians. Many researchers have used the ACS to investigate labor market outcomes of gays and lesbians (Klawitter 2015), even though it is unclear if results based on samples of cohabiting gays and lesbians can be generalized to the population of individuals who do not cohabit (Martell 2018).

We supplement our analysis of the ACS with the NHIS and AddHealth to show that the limitation of the ACS does not lead to substantively different human capital patterns for gays and lesbians. In the NHIS, we observe individual self-reported sexual orientation. Self-reported sexual orientation includes both single and cohabiting gays and lesbians. However, the sample of the NHIS is smaller and contains approximately 50,000 responses each year. Using the 2013 through 2016 surveys, during which sexual orientation information is available, we identify approximately 3,200 gays and lesbians. Like the ACS, the NHIS does not contain individual information related to personality characteristics or preferences that may affect the choice of college major.

The AddHealth data contain a rich set of variables related to individual preferences and scholastic achievement that are likely related to college major choices. The AddHealth also contains individual self-reported sexual orientation.[6] However, the sample of gays and lesbians in AddHealth is smaller than the NHIS and the ACS. The AddHealth Survey is a longitudinal survey of a single cohort of approximately 5,000 young individuals with four waves over the past 20 years, rather than a repeated cross-section like the NHIS and ACS. We observe 99 gay men and 278 lesbian women. While the AddHealth sample is small, it provides the richest set of controls possible. It includes data on many personal and family characteristics that would otherwise not be observable.

3.2 Data on Prejudice

Data on prejudice is taken from attitudinal data in the General Social Survey. In 2012 and 2014, respondents were asked which college major they had completed. We calculate prej-

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[5]Unmarried partners exclude roommates, renters, and other household members who are not in a romantic relationship. We exclude respondents whose sex or relationship status was allocated by data administrators to avoid contaminating the sample, and any bias such contamination, would impose (Gates and Steinberger 2015). We refer to this sample as 'gay' and 'lesbian' but acknowledge it includes people who identify as bisexual as well.

[6]In the model that we estimate for the main results, homosexuals and bisexuals are combined into a single group. Individuals who are mostly heterosexual are coded as heterosexual.

udice as the percent of individuals in each major who report that "sexual relations between two adults of the same-sex" are "always wrong."[7] This measure follows the approach of previous research on the impact of prejudice on sexual orientation differentials in the labor market (Burn 2019, Martell 2013a, Martell 2013b).[8]

3.3 Data on Workplace Values

We supplement the data on prejudice with occupational characteristics, because major choices are often made with occupations and future work styles in mind. Data on workplace characteristics come from the Occupational Information Network (O*NET) (National Center for O*Net Development 2015). O*NET provides a wide variety of occupational characteristics.[9] These occupational characteristics are averages based on a survey-based occupation rating system (see for a fuller discussion see Martell (2018) and Tilcsik et al. (2015)). We utilize the O*NET data on work values. Work values correspond to characteristics of work that are important to individuals' satisfaction with their work and should correspond to individual preferences for college majors and future careers. O*NET creates the rankings by surveying workers about their jobs, asking questions such as "How much contact with others does your current job require." The respondents answer on a 1 to 5 scale. Each work value combines several different workplace characteristics and aggregates them together to construct the work value. The final work value ratings range from one to seven.

In this paper, we focus on independence, relationships, and support.[10] Occupations with higher levels of independence at work allow employees to work on their own and make decisions. Workers in jobs with high levels of independence often try out their own

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[7]Respondents are asked "What about sexual relations between two adults of the same sex–do you think it is always wrong, almost always wrong, wrong only sometimes, or not wrong at all?"

[8]The results are robust to utilizing a broader definition by counting respondents who answer "always wrong" and "almost always wrong" as prejudiced. These results are presented in Tables A14 and A15.

[9]See National Center for O*NET Development for full details (National Center for O*Net Development 2015).

[10]In preliminary analysis, we also investigated achievement, recognition, and working conditions. However, as Table 2 shows, these values exhibit significant correlation. We find that achievement, recognition, and working conditions are highly correlated with independence (Table A10). This is due in part to how O*NET calculates work values. Some of the components of one work value are highly related (but not always identical) to components of another work value. For example, autonomy is a component in the score for working conditions and authority in the workplace is a component of recognition. Of the four values that were highly collinear, we keep independence because there is a significant previous literature highlighting the role of independence in the wage gap for gay men (i.e., Martell (2018), Tilcsik et al. (2015)).

ideas, make decisions on their own, and plan their work with little supervision (National Center for O*Net Development 2015). Due to the autonomy that comes with independence, jobs with high levels of independence may be attractive for individuals who want to avoid prejudice from employers and co-workers or unfriendly interactions in the workplace (Martell 2018, Tilcsik et al. 2015). The relationships workplace value focuses on how employees provide service to others and work with co-workers in a friendly environment that does not emphasize competition. Occupations with high scores for relationships feature co-workers who are easy to get along with, work where they do things for other people, and are never pressured to do things that go against their sense of right and wrong (National Center for O*Net Development 2015). Occupations with high levels of support offer "supportive management that stands behind employees" (National Center for O*Net Development 2015). These jobs treat their workers fairly, have supervisors who back up their workers with management, and have supervisors who train their workers well. Support and relationships characteristics may reflect preferences for occupations with varying levels of competition, levels of work intensity, and flexibility in working schedules. Preferences for occupations with varying degrees of support and relationship may result from considerations of anticipated contributions to household production and child-rearing.

When calculating the average work value for a college major, we merge occupational characteristics available in O*NET with the ACS data. Within each major in the ACS, we calculate the average work characteristic using the distribution of occupations that a college graduate with that major are employed in. The averages are weighted by the share of each major in each occupation defined at the detailed SOC level.[11]

3.4 Data on Average Incomes by Major

Because income may play an important role in determining which major to pursue, we use data from the National Surveys of College Graduates (NSCG) obtained from IPUMS (Minnesota Population Center 2016). The income of a college major depends on the year that an individual enters college. As seen in Figure 1, the relative ranking in the income of majors changes over time. Arts and Humanities, which was once a high paying major, has seen stagnant wages. Other majors experienced high levels of wage growth and overtook it. Within each year of the NSCG, we calculate average income for each major separately

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[11]It is important to note that the O*NET data does not vary over time and therefore reflects a current view of work values by occupation. The levels of independence, support, and relationships in an occupation currently may be difference from the levels when an individual choose a college major.

by sex. We match the income from the NSCG to the year that an individual was 18 years old[12] to provide the best match between income by major and the college major decision. The NSCG is not an annual survey, (it has been collected every two to three years since 1993). Surveys were conducted in 1993, 1995, 1997, 1999, 2003, 2006, 2008, 2010, and 2013. Therefore, we interpolate average major income in missing years using the adjacent years' averages.[13]

– Figure 1 about here –

4 Descriptive Statistics

The characteristics of the individuals in our samples of the ACS, NHIS, and AddHealth are similar to those in the literature on the economic outcomes of sexual minorities (Black et al. 2000, Carpenter 2009, Sabia 2015). We focus on individuals who are over 25 years old and are less likely to be engaged in full-time education. In the ACS, gay men and lesbian women are more likely to be white than heterosexual couples. They are slightly younger, more likely to live in a metropolitan area, and less likely to have children. See Table A1 for a more detailed comparison of the gays and lesbian couples and the heterosexual couples in the ACS. The NHIS sample is similar in demographics to the ACS. Again, we find that gay men and lesbian women are more likely to be white and younger.[14] The AddHealth sample exhibits different characteristics from the NHIS and the ACS because it is a small sample of a single cohort of young Americans. In the AddHealth sample, lesbian women are more likely to be white than heterosexual women, but we do not observe a meaningful difference among men. Similarly, there is no meaningful difference in the age of gay men and lesbian women relative to their counterparts in the AddHealth, which is not surprising since the sample is a single cohort.

Within the ACS sample, gay men and lesbians have more years of education than their heterosexual counterparts. These gaps in education, shown in Table A1, are similar to those previously observed in Census data (Black et al. 2000, Black, Makar, Sanders and

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[12]The age of 18 is selected since this is the median age that most students enter college in the United States.

[13]Specifically, we estimate the following regression. $Y_{gmt} = \alpha + \beta_1 t + \beta_2(I_g \times t) + \beta_3(I_m \times t) + \beta_4(I_m \times I_g \times t) + \theta_m I_m + \theta_F I_g + \epsilon_{gmt}$ Y is the average income of a graduate in major m in year t by sex. We express income in constant 1999 dollars. We include separate time trends for women ($I_g = 1$) and major ($I_m = 1$ if major graduated with a degree in major m). We predict the average income of male and female graduates with a degree in major m for each year between 1993 and 2015. Linear time trends interpolate averages for missing years.

[14]See Table A2 for a more detailed comparison of LGB individuals and heterosexuals in the NHIS.

Taylor 2007). Gay men complete 14.3 years of schooling on average, which is a year more than heterosexual men. Lesbian women obtain 14.1 years of schooling, which is nearly a year more than heterosexual women. These difference in years of schooling between gay men and heterosexual men is mainly due to the higher rate of gay men attending college. Table 1 shows that 77% of gay men choose to go to college compared to only 59% of heterosexual men. Approximately half of gay men will graduate from college, with 23% going on to graduate school. In columns 3 and 4 of Table A1, we see the patterns for women appear very similar to the pattern for men. Approximately 74% of lesbian women go to college, and 24% of them go to graduate school. While heterosexual women are more likely to go to college than heterosexual men, they are less likely to obtain a doctoral or professional degree (Table 1).

– Table 1 about here –

The differences in educational attainment among men have been relatively stable. The average years of schooling completed for gays and lesbians do not change much as we compare cohorts in Figure 2. Gay men and lesbian women in their 50s and 60s have similar levels of schooling to gays and lesbians in their 30s. The gap among men has remained fairly constant over time, but the gap between lesbian women and heterosexual women has shrunk rapidly as heterosexual women obtain more schooling.

– Figure 2 about here –

In addition to differences in the years of education completed, there are meaningful differences in the content of educational investments, measured by college major choice, by sexual orientation. These differences are most notable among men. Table 2 details the college major completed by sexual orientation and sex. Heterosexual men are most likely to complete majors in business/economics as well as computer sciences or engineering. Gay men are more likely to complete majors in the arts/humanities as well as social sciences than heterosexual men. Gay men are less likely to complete majors in computer sciences or engineering than heterosexual men.[15]

There are fewer differences in the major choices of lesbian and heterosexual women. All women are equally likely to choose majors in the arts and humanities, which is the most common major. Lesbians, however, are more likely to complete majors in the social sciences than heterosexual women. Lesbians are slightly less likely to complete majors in biology and life sciences or business/economics than heterosexual women.

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[15]Hughes (2018) documented that there was a significant movement of gay men and lesbian women from STEM towards other majors during college. The data from the ACS reports completed majors. Therefore we cannot observe what major individuals started with.

– Table 2 about here –

These different college major choices, as discussed above, may reflect varying preferences and educational interests, as well as sexual minority workers choosing educational investments to avoid the impact of prejudice. Table 2 shows that the shares of individuals who are prejudiced vary meaningfully by major. Social sciences is the least prejudiced major with only 19% of respondents. More technical majors (STEM and Business and Economics) are more prejudiced than the less technical majors (Arts and Humanities and the Social Sciences). While the source of the higher level of prejudice in more technical majors is not well-understood, the higher level of prejudice in the more technical majors may arise from the high concentration of men in these majors. Men exhibit higher levels of prejudice against homosexuals than women, see for example Herek (2000), Nagoshi, Adams, Terrell, Hill, Brzuzy and Nagoshi (2008), and Worthen (2012). Further, the high concentration of men contributes to the association of success in "hard" sciences with masculinity and the perception of homosexuality as a violation of appropriate gender-typed behavior. The continued under-representation of women in STEM combined with the perception that STEM research and skills are apolitical may contribute to the persistence of these beliefs (Cech and Pham 2017).

In addition to different levels of prejudice, different college majors map into future occupations with different working characteristics. Figure 2 highlights how each major scores on the six O*NET workplace values. Not surprisingly, computer science and engineering majors have the highest independence rating (4.9). The lowest independence is in arts/humanities as well as social sciences (4.6). Simultaneously, computer science and engineering majors exhibit the lowest level of relations (4.4). The highest level of relations is in biology and life sciences (5.5) where collaboration is common. Biology and life sciences also exhibit the highest degree of support (4.9) compared to the lowest level in arts and humanities (4.3).

Table 2 also shows that gay men are more likely to complete majors with less prejudice such as social sciences as well as arts and humanities and less likely to complete majors with more prejudice such as computer science/engineering. These differences are less pronounced among lesbians. We also find that gay men sort towards occupations with high levels of relationships. The desire for independence is less apparent in this table because there is a correlation between high levels of prejudice and high levels of independence. This highlights the importance of considering work values in conjunction with prejudice as we do below, because preferences for these working characteristics may vary by sexual orien-

tation for two reasons. First, these characteristics, primarily independence, may mitigate the effects of stigma (Tilcsik et al. 2015, Martell 2018). Second, these characteristics (primarily relations and support) may also capture preferences for occupational characteristics such as competition work intensity, which is likely linked to household and child-rearing considerations.

5   Empirical Approach

The goal of this paper is to provide a better understanding of the differences in human capital between heterosexuals and the LGB community. To do this, we first test whether there are significant differences in the human capital investment of LGB individuals after controlling for relevant demographic characteristics. As our second step, we explore the mechanisms behind the difference in human capital investment patterns we observe. We focus on the role of prejudice and workplace values in the selection of a college major, using a mixed multinomial logit to explore the link between sexual orientation and college major choices.

To test whether the differences in Tables 1 and 2 documented in the ACS, the NHIS, and the AddHealth are robust to including available controls for observable differences, we begin by conditioning our sample on the respondent being over the age of 25 to avoid individuals who have still not completed their schooling. To account for the fact that we have individuals still pursuing their Ph.D. or medical school, we assume that individuals with postgraduate education all receive the same years of additional schooling.[16]

$$S_{ist} = \alpha + \beta LGB_{ist} + \mathbf{X}'_{ist}\delta + \theta_s + \theta_t + \epsilon_{ist} \tag{1}$$

We test the significance of the gaps in years of schooling using linear regressions with robust standard errors to correct for heteroscedasticity. The outcome variable is defined as the years of schooling (S_{ist}) for individual i in state s and time t, which is determined by the highest level of schooling that individuals reported obtaining. The coefficient of interest is β, which tests whether the years of schooling of LGB individuals are significantly different from the years of schooling in the heterosexual sample. The controls in the vector $\mathbf{X}$ vary for each data source. Within the ACS, we control for marriage and cohabitation status, age and its square as well as indicators for the presence of children in the household,

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[16]From Table 1, we can see that top coding years of schooling shrinks the differences in years of schooling by sexual orientation. This may biases the estimates towards zero, meaning our results are a lower-bound.

race, ethnicity, residence in an urban area, year, and census division. The controls for estimation in the NHIS sample are the same, except we lack an indicator for an urban residence. In the AddHealth, we are able to include more controls. We control for all of the indicators available in the ACS except census division and an urban residence. Instead of the presence of children, we control for whether respondents intend to have children (since the sample is young). In addition, we are able to control, in step-wise fashion as discussed below, for immigrant status, English proficiency, characteristics of the respondent's residence (unemployment and poverty rate of zip code), family characteristics (father and mother's education), and a vector of 28 personality characteristics.[17]

To explore the link between college major choice and workplace characteristics, we utilize data from the ACS. We predict major choice (arts/humanities, social sciences, business and economics, physical sciences, computer sciences and engineering, as well as biology and life sciences) for individuals using the following mixed multinomial logit.

$$Prob(Major_i = j) = \frac{e^{\mathbf{X}'_{ij}\beta + \mathbf{W}'_i \gamma_j}}{\sum_{j=1}^{m} e^{\mathbf{W}'_{ij}\beta + \mathbf{W}'_i \gamma_j}}, \quad j = 1, ..., m \tag{2}$$

The empirical model predicts the likelihood of choosing major j for individual i. The mixed multinomial logit allows us to test for associations between major choices of individuals and both characteristics of major alternatives, $\mathbf{X}'_{ij}$, as well as characteristics of individuals, $\mathbf{W}'_i$, that do not vary over major alternatives.

We include as individual characteristics within $\mathbf{W}'_i$ controls that should be related to the choice of college major for individuals when the individuals were students, even though the characteristics are recorded after individuals within the data completed their education. We include age and its square to control for generational differences in preferences as well as labor market conditions. We include indicator variables for a non-white race and Hispanic ethnicity to control for opportunities that vary by race and ethnicity. We include the number of children individuals currently have because the choice of a college major may have been made with future parenthood in mind. Finally, we also control for whether or not respondents live in urban areas as choice of major is likely correlated with future

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[17]These characteristics include responses to the following questions. "How often is the following statement is true of you? I am": affectionate, conscientious, independent, sympathetic, moody, assertive, sensitive to the needs of others, reliable, understanding, jealous, forceful, compassionate, truthful, eager to soothe hurt feelings, secretive, willing to take risks, warm, adaptable, dominant, tender, conceited, willing to take a stand, am tactful, aggressive, gentle, conventional. "How often is the following statement is true of you? I": am sensitive to the needs of others, have a strong personality, have leadership abilities, and love children.

lifestyle preferences. In our baseline specifications, we also include indicator variables for respondents living in a same-sex household. We predict major choices separately for men and women.

We include as major characteristics within $\mathbf{X}'_{ij}$ the percent of each major that is prejudiced and the average occupational ratings of independence, relationships, and support of workers within each major. Our ability to control for major characteristics (in addition to the characteristics of individuals) allows us to identify the effect of each major characteristic conditional on the full portfolio of characteristics of majors available. Considering the covariance of all the major characteristics is important. As Table 2 shows, a change in one major characteristic (for example, prejudice) is accompanied by a change in the others (for example, income). Our ability to incorporate this important variation in our empirical approach represents an important benefit relative to alternative approaches (such as OLS). We enter major characteristics separately by sexual orientation to investigate how gay men and lesbian women have differential responses to these major characteristics in their choice of college major. Under this framework, the differential effects of major characteristics on gays and lesbian college major choices would be causal under two scenarios. The first scenario is that completing a particular college major does not make one more likely to be gay or lesbian. We are unaware of no such causal mechanism here. The second scenario is that the differential response to these major characteristics cannot be spuriously capturing the effect of important but unobserved factors. Given current data limitations such as the lack of pure experimental variation limit our ability to definitively rule out omitted variable bias. However, we believe that the construction of our controls that proxy for work-life balance, flexibility, income, and measures of social distance in addition to tolerance lend credibility to our results.

6 Results

6.1 Years of Schooling

We begin by presenting our results for educational obtainment before moving to the results for college major choice. Table 3 shows results from estimation based on Equation 1 to explore the impact of demographic characteristics on years of schooling completed. Columns 1 and 2 report the results from the ACS, columns 3 and 4 report the results from the NHIS, and columns 5 through 7 report the results from the AddHealth. For each source of data, we first report the unconditional difference in years of schooling, before adding in controls

for individual and family characteristics. Panel A presents the results for men, and Panel B presents the results for women.

In each data source, we find there are unconditional differences in years of schooling, with gay men obtaining more years of schooling than heterosexual men. In the ACS, the unconditional average years of schooling for gay men is 1.23 years higher than heterosexual men (column 1). This runs counter to the predictions of a household model where the presence of two men would reduce the need for both men to invest as heavily in market production. When we add in additional controls from the ACS, this difference shrinks to just under one year (column 2).[18]

–Table 3 about here –

We find that the impact of conditioning on demographics is much larger among women. Lesbian women, on average, complete 1.07 more years of education than heterosexual women, as shown in column 1. In contrast to the results for gay men, this pattern of human capital accumulation is in line with the predictions of a household model where the lack of a male primary earner would induce both lesbian partners to invest more heavily in market production than heterosexual women. However, controlling for demographic characteristics reduces the schooling advantage exhibited by lesbians to 0.6 years (column 2).

The NHIS includes similar controls to those in the ACS but includes LGB individuals who are single as well as cohabiting.[19] Therefore, the NHIS sample is representative of the full LGB population. The unconditional gap between gay men and heterosexual men is approximately the same size as found in the ACS (1.24 years). This gap shrinks to 1.04 years but remains significant at the 1% level when we condition on demographics and census division. We find a similar trend among women, even though the difference in years of education completed is smaller in the NHIS than in the ACS. After including controls, the gap falls by over half (from 0.82 to 0.30 years) but remains statistically significant.

AddHealth data provides more detailed individual characteristics to investigate the impact of characteristics that may contribute to educational attainment but are unobserved within the limited information in the NHIS and ACS data. Contrary to the NHIS and ACS results, Table 3 shows that among the AddHealth sample, gay men complete a similar number of years of education as heterosexual men on average (column 5). However,

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[18]We present coefficient estimates for full demographic characteristics in Table A4.

[19]In Appendix Table A9, we show the years of schooling do not vary by cohabitation status for gay men and lesbian women after conditioning on demographics. We find no differences in schooling between LGB individuals who were married, living with a partner, or never married. LGB individuals who are separated, divorced, or widowed have education levels more similar to heterosexuals.

the introduction of controls demographics and family background characteristics (column 6) causes the educational advantage of gay men to increase to 0.70 years, which suggests that excluding demographic and family characteristics leads to an under-estimate of the educational attainment of gay men. This difference modestly increases in size to 0.82 years (column 7) when we introduce controls for personality characteristics (e.g., how independent a respondent is, how adaptable, how reliable, how aggressive, etc.). For lesbian women, an opposite pattern emerges from the Addhealth data. Lesbian and bisexual women complete approximately one year less education than heterosexual women on average (column 5). This difference decreases to approximately 0.76 fewer years of education when we introduce demographic and family background controls (column 6). Controlling for personality characteristics leads to a similar size reduction in the years of education gap for lesbian women (column 7).

Since the NHIS and AddHealth (but not ACS) record self-reported sexual orientation, we are able to investigate the role of sexual identity in more detail by distinguishing between gay/lesbian individuals and their bisexual counterparts. We caution, however, that this requires partitioning the already small sample - particularly in the AddHealth - into very small groups. Among women, the differences in years of schooling are most pronounced among lesbians in both the NHIS and the AddHealth samples (see Table A6). In each case, the difference in years schooling is smaller among bisexual women. A similar pattern holds among men in the NHIS (columns 1 and 2). However, this pattern does not carry over into the AddHealth, where there is no years of schooling difference for gay or bisexual men conditional on observed characteristics. The diverging results between the NHIS and the AddHealth samples is likely due to differences in sample size and composition. Recall that the AddHealth is a smaller sample of a single cohort of young Americans. Therefore, on the whole, educational differences appear to be smaller for bisexual individuals than their gay/lesbian counterparts.

These results suggest that sexual identity among gay men, but not lesbian women, appears to lead to differential levels of human capital. Recall that educational investments for sexual minorities may reflect efforts to mitigate the impacts of stigma or varying investments due to expectations of future parenting. Indeed, the path to parenthood may vary by sexual orientation. The higher level of schooling among gay men is inconsistent with lower preferences over income due to lower expectations of children as well as the increased likelihood that they will be a secondary earner in the household. Further, we note that the pattern of results in Table 3 is robust to alternative specifications that allow differential

effects of parenthood for sexual minorities by including an additional interaction term between the lesbian/gay indicator and the presence of children (Table A5). Thus, while we cannot rule out the role of household structure, the persistence of the educational difference between gay men and heterosexual men suggests that the educational gap they experience is due to their sexual identity independent of individual and background characteristics that are often unobserved by researchers. The lack of stability among women suggests that the lesbian educational difference may be explained by characteristics. However, this pattern is only suggestive as the AddHealth is a small sample of a single cohort of Americans.

6.2 College Major Completed

We investigate the impact of college major characteristics on the likelihood of completing majors for gay men and lesbian women by interacting major characteristics with sexual orientation within a mixed multinomial logit. The results, shown in Table 4, provide evidence that gay men and lesbian women choose majors to avoid the negative effects of stigma.[20] Consistent with Zafar (2013), heterosexual men value the potential income of a major, but gay men are less likely to select majors that pay more. For every $10,000 increase in average income of a business and economics major, gay men are approximately 1% less likely to select it.[21]

– Table 4 about here –

Heterosexual men have a marginally significant preference for majors that are more prejudiced towards gay men. Gay men appear to have stronger preferences and are less likely to choose majors with a higher share of individuals that are prejudiced against homosexuality and or majors that lead to occupations that emphasize developing relationships. If social science majors had the same level of prejudice as business and economics majors, the percent of gay men who completed social science majors would fall from 14% to 9.4%.[22]

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[20]Results shown are for full-time workers. This pattern is robust to including part-time workers in the estimation sample. We also note that these significant estimates are present in our specification that may over control for preferences that may vary by sexual orientation by including controls for parenthood and current residence in urban areas. Thus, these estimates may be conservative.

[21]The marginal effect combines the marginal effects of income and LGB*income. There is a positive effect of income for all men, but the effect is more negative for gay men. The net effect is a small, negative coefficient of -0.05. In addition to the potential income of a major, gay men and lesbians may have preferences over the safety or security of the income associated with a major. In additional results, available upon request, we find that the pattern of results discussed here is robust to specifications that also control for a proxy of the riskiness of potential income: the standard deviation of income within each major.

[22]Throughout marginal effects calculated as $p_j(1-p_j)\beta_p$, where p_j is the percent of gay men in a major.

If the percent of prejudiced individuals in business and economics (29%) were the same as that of social sciences (19%), the percent of gay men completing a business and economics major would increase from 24% to approximately just over 30%.

Workplace values do not appear to influence the choice of a college major for heterosexual men; the predominant factor for these men is potential income. Gay men are more likely to choose majors that lead to occupations that value worker independence and cultivating relationships. Majors with higher levels of workplace independence also have lower levels of support from management. The negative coefficient on the interaction of LG× support is a reflection of this trade-off between having a manager providing more oversight with a manager who is helpful and supportive. Gay men are also more likely to choose majors that map into occupations that value work relationships.

The effect of these workplace characteristics can be larger than the effect of prejudice, though interpretation is less straightforward due to the ordinal nature of the O*NET coding. Increasing independence from the lowest value of 4.6 (social sciences) to 4.9 (computer sciences and engineering) leads to a 2 percentage point increase in the probability of gay men choosing social sciences (from 14% to 16%). In terms of magnitude, increasing relationships from the lowest value of 4.4 (computer science and engineering) to 5.5 (biology and life sciences) leads to a 2.5 percentage point increase in the probability of gay men choosing computer science and engineering (from 12% to 14.5%).

Taken altogether, the results in Table 4 highlight an important trade-off among the combined effects for income, prejudice, relationships, and independence. Gay men are more likely to select majors that pay less, but only if these majors are less prejudiced and have more desirable workplace values. For every $10,000 increase in average income of a business and economics major, gay men are 1% less likely to select it.[23] A 2.5% increase in prejudice in computer science and engineering would induce the same sized decline in selection as a $10,000 increase in income. Using those two numbers, we can calculate that gay men are willing to give up $4,000 dollars in potential income for a 1% decline in prejudice.

We find a similar pattern of results among women. Lesbians are less likely than heterosexual women to choose majors with higher shares of prejudiced individuals, more likely to complete majors associated with occupations that have higher levels of independence and less likely to choose majors associated with occupations that value support from manage-

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[23]The marginal effect combines the marginal effects of income and LG*income. There is a positive effect of income for all men, but the effect is more negative for gay men. The net effect is a small, negative coefficient of -0.05.

ment and supervisors. The impact of independence for lesbians is similar to that of gay men. Increasing independence from the lowest value of 4.6 (social sciences) to 4.9 (computer sciences and engineering) leads to approximately a 2 percentage point increase in the probability of lesbian women choosing social sciences.

Again, prejudice appears to decrease the likelihood that lesbians will complete a major. If those social science majors had the same prejudice level as business and economics majors, the percent of lesbian women who completed social science majors would fall from 22% to approximately 11%. If the percent of prejudiced individuals in business and economics were the same as social sciences, the percent of lesbians in business and economics would increase from 14% to approximately 22%.

We do not find any evidence of a compensating wage differential for lesbian women. While potential income matters for all women, lesbian women are less responsive. The lack of evidence of a compensating differential is not surprising as lesbians who may anticipate lower household earnings due to the gender wage gap may be less sensitive to potential income than gay men (Allegretto and Arthur 2001).

Because major choices can be made with both occupations and industries in mind, we verify that our primary pattern of results when we include controls for industry. Table A12 shows that gay and lesbian individuals choosing majors with less prejudice persists when we control for this vector of likely endogenous controls. The only substantive difference is that heterosexual men are no longer responsive to income associated with each major. This is not surprising given the relationship between industry of work and earnings. However, the income-prejudice trade-off is still significant and meaningful among gay men.

We also note that our primary pattern of results, the prejudice-income trade-off, is also robust to a simpler empirical approach: separately estimating via OLS each major characteristic on demographic characteristics included as controls (see Table A13).[24]

7   Conclusion

Our results indicate there are persistent differences in human capital attainment by sexual orientation. The robustness of predicted differences in educational attainment to controlling for a wide set of characteristics associated with individual preferences highlights that sexual

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[24]There are two differences in the two approaches, which is to be expected since the OLS framework does not consider the covariance of major characteristics. In OLS specifications, the effect of relationships is no longer robust to the inclusion potentially endogenous industry controls and gays and lesbians are less likely to choose majors with higher levels of independence.

orientation in and of itself leads to systematically different levels and types of human capital for sexual minorities. The results provide more evidence that minorities actively respond to prejudice in making important investments in their earnings capacity, making empirical estimation of wage gaps difficult.

The occupational sorting of gay and lesbian individuals into occupations with higher levels of independence found in Tilcsik et al. (2015) is an important mediating factor in discrimination in the labor market against LGB individuals. Gay men select into occupations with higher levels of independence, and these occupations have lower wage gaps for gay men (Martell 2018). Our results suggest that this occupational sorting is the result of decisions made in young adulthood about the types of human capital to invest in. Lesbian women are less responsive to income than heterosexual women. Their decisions are also differentially impacted by prejudice and independence. Among gay men, where the relationship between independence and wage gaps has been found (Martell 2018), we find that gay men are less sensitive to income when making decisions about college majors than heterosexual men. Heterosexual men may be more sensitive to income, in part, because they are more likely to raise children and be primary earners than gay men and lesbians. However, our pattern of results where gay me and lesbian women are selecting majors with lower levels of prejudice and higher levels of independence, even if these majors pay less, suggests that something more is at play. Gay and lesbian individuals appear to be sorting into college majors that mitigate the costs of stigma. This separation of prejudiced individuals and sexual minorities potentially has beneficial effects on the mental health of sexual minorities through reduced minority stress.

The impact of prejudice on college major choice highlights a formative role that educational institutions can play in promoting parity for sexual minorities. Institutions interested in promoting disciplinary inclusion for sexual minorities can promote tolerance among students through curricular offerings and requirements (for example, courses with an emphasis on valuing and rethinking differences) as well as student groups to offer support. Publicizing efforts to promote under-represented students may also encourage students to take up majors they have historically avoided. Educational institutions can also promote the transmission of tolerance through increased recruitment and retention of sexual minorities among the faculty. Lastly, educational institutions can promote partnerships with employers who actively recruit sexual minorities to increase information among students of tolerant future employers within traditionally stigmatized majors (Hughes 2018).

Our results provide important evidence that prejudice towards sexual minorities influ-

ences their pre-labor market decisions. Policymakers interested in reducing labor market discrimination against LGBT individuals need to carefully consider how the laws and regulations they promote impact the stigma towards the LGBT community. Since stigma affects pre-market behavior and investments in human capital, it is unlikely that anti-discrimination laws are sufficient to remove sexual orientation based differences in labor market outcomes. While previous work shows that state anti-discrimination laws decrease earnings differentials for gay men (Burn 2018, Martell 2013b), these laws may not affect human capital differences unless they affect prejudice against sexual minorities (which is unlikely as they primarily provide punishment for acting on prejudice instead of targeting prejudice). Therefore, policymakers and advocates should devote attention to promoting increased tolerance of homosexuality in addition to efforts to promote inclusion in educational institutions as a complement to the implementation and enforcement of anti-discrimination laws.

The results also highlight important areas for future research. Of primary importance is a better understanding of the causal link between prejudice and college major choice, which can only be uncovered with experimental manipulation. But there is also a need for future research on the earnings effects of college major choices for sexual minorities. Because earnings affect household dynamics, future research should investigate the nexus of college major choices and household bargaining. For a broader understanding of the impacts of stigma, future work should also investigate the impact of stigma on other important margins, such as relationship formation and stability. Like education, these characteristics also play a central role in empirical work on a variety of important endeavors.

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Table 1: Distribution of Degree Obtainment in ACS

	Men			Women		
	Heterosexual	Gay	Difference	Heterosexual	Lesbian	Difference
High school dropout	14%	6%	8%***	13%	7%	6%***
High school graduate	29%	17%	12%***	29%	19%	10%***
Some college	20%	20%	-0%	21%	20%	1%***
Associate's degree	7%	8%	-1%***	9%	9%	0%
Bachelor's degree	18%	27%	-8%***	18%	22%	-4%***
Master's degree	8%	14%	-6%***	9%	16%	-6%***
Professional degree	3%	5%	-2%***	2%	4%	-2%***
Doctoral degree	2%	3%	-1%***	1%	3%	-2%***
Total	3,772,788	29,488		4,178,885	30,235	

Note: Data comes from the 2011 through 2015 ACS 5 Year Sample. All adults are cohabiting or married. Gay and lesbians are identified using cohabitation status. Sample is restricted to individuals over the age of 25.

Table 2: College Major Characteristics and Popularity

	Avg Income	Prej Share	Ind	Relations	Support	Hetero M	Gay	Hetero F	Lesbian
Arts/Humanities	57,499	23%	4.6	5.1	4.3	27%	36% ***	43%	42% **
Social Sciences	44,714	19%	4.6	5.0	4.4	11%	14% ***	18%	22% ***
Business/Economics	63,893	29%	4.7	4.8	4.5	27%	23% ***	18%	14% ***
Physical Sciences	54,988	24%	4.8	4.7	4.5	6%	4% ***	3%	3%
Computer Science/Engineering	62,016	28%	4.9	4.4	4.6	21%	12% ***	4%	5% ***
Biology and Life Sciences	57,057	25%	4.8	5.5	4.9	8%	11% ***	15%	14% ***

Note: Data on average income come from the National Surveys of College Graduates (NSCG) obtained from IPUMS (Ruggles, Alexander, Gendadek, Goeken, Schroeder and Sobek 2010). Average income averages data across all years of the survey and is in constant 1990 dollars. Prejudice shares come from the 2012 and 2014 General Social Surveys. Respondents were asked how they viewed consensual homosexual sex. Prejudiced individuals felt it was always wrong. Independence (IND), Relationships (Relations), and Support (Support) are drawn from O*NET. For each major in the ACS, we calculated the average of these characteristics based on the occupations graduates were employed in. The college major choices of gays and lesbians are conditional on going to college. We do not include majors from 2-year degrees. Differences relative to heterosexual individuals significant at $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Effect of Demographics on Education Gap

	(1) ACS	(2) ACS	(3) NHIS	(4) NHIS	(5) AddHealth	(6) AddHealth	(7) AddHealth
Panel A. Men							
LG	1.231***	0.972***	1.242***	1.041***	0.111	0.700*	0.816*
	(0.015)	(0.016)	(0.063)	(0.063)	(0.494)	(0.407)	(0.423)
N	3878395	3213101	173705	173705	22233	1855	1855
R^2	0.001	0.102	0.002	0.159	0.000	0.272	0.360
Demographics		X		X	X	X	X
Year		X		X		X	X
Census division		X		X			
Family background						X	X
Personality characteristics							X
Panel B. Women							
LG	1.074***	0.648***	0.818***	0.300***	-1.054***	-0.763***	-0.536**
	(0.015)	(0.016)	(0.062)	(0.060)	(0.328)	(0.233)	(0.249)
N	4248961	3547151	195750	195750	2585	2309	2308
R^2	0.001	0.134	0.001	0.174	0.004	0.278	0.362
Demographics		X		X	X	X	X
Year		X		X		X	X
Census division		X		X			
Family background						X	X
Personality characteristics							X

Note: The ACS data uses the 2011 through 2015 samples. It is restricted to cohabiting adults over the age of 25. The NHIS data uses the 2013 through 2016 samples. It is restricted to adults over the age of 25. The AddHealth data uses the wave IV data and does not place any restrictions on the sample. Heteroscedasticity robust standard errors are reported in parentheses. See the text for a detailed description of the controls used in columns 2, 4, and 6.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Effect of Major Characteristics on Major Attainment

	Men	Women
Income (thousands)	0.015**	0.013***
	(0.005)	(0.004)
LGxIncome (thousands)	-0.020**	-0.015*
	(0.008)	(0.007)
Prejudice Share	5.699	1.862
	(6.087)	(6.334)
LGxPrejudice Share	-3.788*	-6.406***
	(1.529)	(1.544)
Independence	-0.988	-1.376
	(5.751)	(5.421)
LGxIndependence	5.807***	5.119***
	(1.029)	(1.289)
Support	0.550	-1.241
	(3.091)	(2.658)
LGxSupport	-3.652***	-2.703***
	(0.593)	(0.729)
Relationships	0.528	2.149
	(1.437)	(1.115)
LGxRelationships	2.102***	0.842**
	(0.248)	(0.313)
N	784722	956748
χ^2	36980.1	75679.0

Note: Authors' calculations based on ACS data 2011 through 2015 samples restricted to cohabiting adults over the age of 25. Data on average income come from the National Surveys of College Graduates (NSCG) obtained from IPUMS (Ruggles et al. 2010). Average income averages data across all years of the survey and is in constant 1990 dollars. Prejudice shares come from the 2012 and 2014 General Social Surveys. Respondents were asked how they viewed consensual homosexual sex. Prejudiced individuals felt it was always wrong. Independence (IND), Relationships (Relations), and Support (Support) are drawn from O*NET. For each major in the ACS, we calculated the average of these characteristics based on the occupations graduates were employed in.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 1: Average Annual Income by College Major
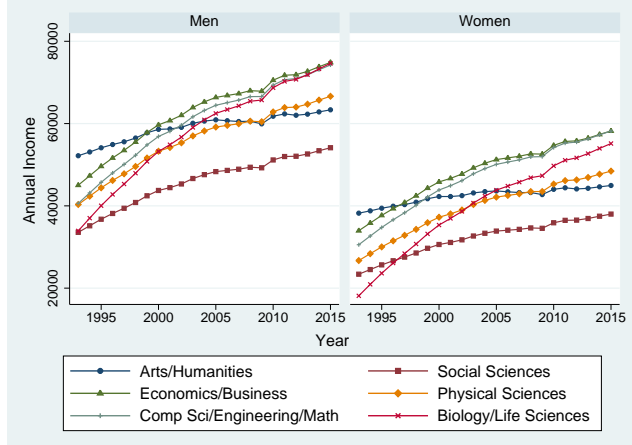
Note: Data comes from the National Surveys of College Graduates (NSCG) obtained from IPUMS (Minnesota Population Center 2016). The NSCG is conducted every two to three years. Linear time paths are estimated by gender and college major, and the results are plotted here.

Figure 2: Average Years of Schooling by Age and Sexual Orientation
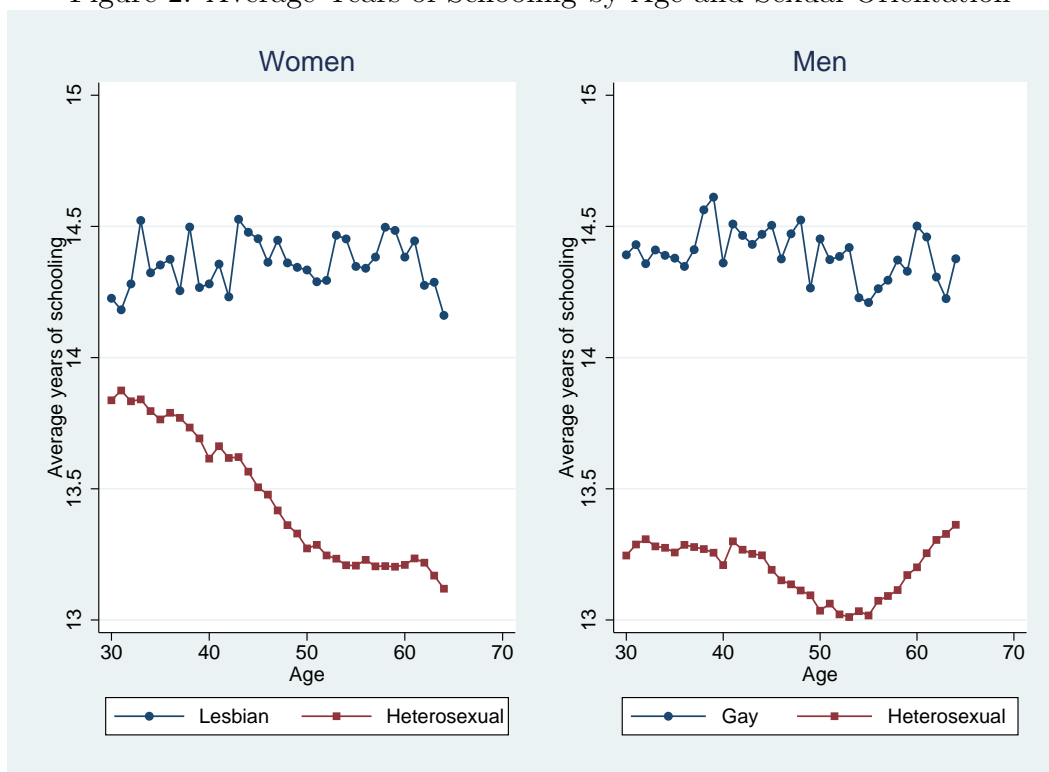
Note: Average years of schooling comes from the American Community Survey. Sample is restricted to individuals 30 to 65 to illustrate how this gap has evolved over time.

8 Appendix Tables and Figures

Table A1: Observable Characteristics by Sexual Orientation and Gender: ACS

Variable	Gay men		Heterosexual men		Lesbian women		Heterosexual women	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Years of schooling	14.26	2.64	13.12	2.93	14.12	2.68	13.17	2.89
Age	50.53	13.95	52.57	15.87	50.51	14.82	54.30	16.70
Hispanic	11%	0.31	12%	0.32	10%	0.30	11%	0.32
Nonwhite	15%	0.35	20%	0.40	15%	0.36	21%	0.41
Metro area	94%	0.24	86%	0.34	91%	0.28	87%	0.34
No of Kids	0.23	0.69	0.66	1.06	0.47	0.90	0.74	1.08
New England	6%	0.24	5%	0.21	8%	0.26	5%	0.21
Middle Atlantic	14%	0.34	13%	0.34	13%	0.34	13%	0.34
Central North East	11%	0.32	15%	0.36	13%	0.33	15%	0.36
Central North West	4%	0.20	7%	0.25	5%	0.22	7%	0.25
South Atlantic	22%	0.42	20%	0.40	20%	0.40	20%	0.40
Central South East	4%	0.20	6%	0.24	5%	0.22	6%	0.24
Central South West	9%	0.29	11%	0.32	10%	0.30	11%	0.32
Mountain	7%	0.25	7%	0.26	8%	0.27	7%	0.25
Pacific	22%	0.42	16%	0.37	19%	0.39	16%	0.36
2012	20%	0.40	25%	0.43	21%	0.41	25%	0.43
2013	25%	0.43	25%	0.43	25%	0.43	25%	0.43
2014	26%	0.44	25%	0.43	26%	0.44	25%	0.43
2015	29%	0.45	25%	0.43	28%	0.45	25%	0.43
Observations	31329		4060850		32504		4463721	

Table A2: Observable Characteristics by Sexual Orientation and Gender: NHIS

Variable	Gay men		Heterosexual men		Lesbian women		Heterosexual women	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Schooling	14.68	2.82	13.35	3.22	14.28	2.86	13.35	3.15
Age	48.14	14.24	50.94	15.57	45.13	14.36	51.77	16.08
White	83%	0.38	80%	0.40	79%	0.41	77%	0.42
African-American	11%	0.31	12%	0.32	15%	0.36	14%	0.35
Native American	1%	0.10	1%	0.12	2%	0.15	1%	0.11
Chinese	1%	0.10	1%	0.11	0%	0.07	1%	0.12
Filipino	1%	0.11	2%	0.12	1%	0.10	2%	0.13
Indian	1%	0.09	1%	0.12	0%	0.07	1%	0.11
Other Asian	2%	0.12	2%	0.15	1%	0.08	3%	0.16
Other Asian	0%	0.06	0%	0.06	1%	0.08	0%	0.06
Multiple Races	0%	0.06	0%	0.05	1%	0.09	0%	0.05
Not Hispanic	86%	0.34	83%	0.38	88%	0.33	83%	0.38
Mexican	3%	0.18	7%	0.26	4%	0.20	7%	0.25
Mexican-American	2%	0.15	3%	0.18	3%	0.17	4%	0.19
Puerto Rican	2%	0.15	1%	0.11	2%	0.14	2%	0.12
Cuban-American	1%	0.11	1%	0.09	1%	0.08	1%	0.09
Dominican	0%	0.06	0%	0.07	0%	0.05	1%	0.08
Central or South American	3%	0.17	3%	0.17	1%	0.12	3%	0.17
Other Latin	0%	0.03	0%	0.02	.		0%	0.02
Other Spanish	1%	0.09	0%	0.07	1%	0.08	0%	0.07
Multiple Hispanic	0%	0.06	0%	0.04	0%	0.05	0%	0.05
Northeast	18%	0.39	17%	0.37	19%	0.39	17%	0.38
Midwest	15%	0.35	20%	0.40	19%	0.39	20%	0.40
South	35%	0.48	35%	0.48	33%	0.47	36%	0.48
West	31%	0.46	28%	0.45	30%	0.46	27%	0.45
2013	26%	0.44	25%	0.43	22%	0.42	25%	0.43
2014	26%	0.44	27%	0.44	27%	0.45	27%	0.44
2015	24%	0.43	25%	0.43	25%	0.43	25%	0.43
2016	25%	0.43	24%	0.43	25%	0.43	24%	0.42
Observations	1305		126774		1414		143191	

Table A3: Observable Characteristics by Sexual Orientation and Gender: AddHealth

	Heterosexual		Homosexual	
	Men	Women	Men	Women
Years of School	14.02	14.67	14.45	14.29
	(2.23)	(2.31)	(2.61)	(2.19)
Age	29.07	28.84	28.70	28.85
	(1.80)	(1.78)	(1.69)	(1.70)
White	0.76	0.74	0.77	0.84
	(0.78)	(0.81)	(1.04)	(0.68)
Black	0.23	0.27	0.26	0.17
	(0.42)	(0.45)	(0.44)	(0.38)
Hispanic	0.11	0.10	0.15	0.12
	(0.31)	(0.31)	(0.36)	(0.32)
Asian	0.05	0.05	0.05	0.03
	(0.22)	(0.21)	(0.23)	(0.16)
Immigrant	0.05	0.05	0.08	0.05
	(0.23)	(0.22)	(0.27)	(0.21)
English	0.94	0.93	0.93	0.98
	(0.24)	(0.25)	(0.26)	(0.15)
Observations	1777	2054	99	278

Table A4: Full Results for Effect of Demographics on Education Gap

ACS

	Men	Women
LG	0.972***	0.648***
	(0.016)	(0.016)
Children	0.122***	-0.329***
	(0.003)	(0.003)
Age	0.016***	0.002***
	(0.001)	(0.001)
Age Squared	-0.000***	-0.000***
	(0.000)	(0.000)
Hispanic	-2.464***	-2.290***
	(0.006)	(0.006)
Non-white	-0.750***	-0.724***
	(0.004)	(0.004)
Metro Residence	0.983***	0.716***
	(0.004)	(0.004)
N	3213101	3547151
R^2	0.102	0.132

NHIS

	Men	Women
LG	1.041***	0.300***
	(0.063)	(0.060)
Children	-0.017	-0.437***
	(0.015)	(0.014)
Age	0.022***	0.039***
	(0.003)	(0.003)
Age Squared	-0.000***	-0.001***
	(0.000)	(0.000)
Black/AA	-0.954***	-0.817***
	(0.021)	(0.019)
Alaskan/American Indian	-1.199***	-1.234***
	(0.062)	(0.059)
Chinese	0.695***	0.002
	(0.086)	(0.080)
Filipino	-0.122**	0.015
	(0.056)	(0.050)
Asian Indian	2.040***	1.168***
	(0.058)	(0.068)
Other Asian	-0.005	-0.812***
	(0.060)	(0.058)
Other Race	-1.208***	-1.287***
	(0.103)	(0.056)
Multiple Race	-0.028	-0.057
	(0.142)	(0.101)
Mexican	-4.416***	-4.248***
	(0.039)	(0.037)
Mexican-Mexicano	-1.846***	-1.830***
	(0.040)	(0.037)
Puerto Rican	-1.605***	-1.516***
	(0.064)	(0.056)
Cuban/Cuban American	-1.074***	-1.217***
	(0.090)	(0.085)
Dominican (Republic)	-2.097***	-2.306***
	(0.141)	(0.107)
Central or South American	-2.461***	-2.397***
	(0.062)	(0.058)
Other Latin American	-2.426***	-2.488***
	(0.392)	(0.339)
Other Spanish	-0.702***	-0.802***
	(0.104)	(0.088)
Multiple Hispanic	-1.363***	-0.906***
	(0.174)	(0.151)
N	173705	195750
R^2	0.159	0.178

AddHealth

	Men	Women
LG	0.816*	-0.536**
	(0.423)	(0.249)
Children	0.251	0.141
	(0.170)	(0.194)
Age	-0.337	-0.233
	(0.793)	(0.722)
Age Squared	0.007	0.005
	(0.014)	(0.013)
Black	-0.156	0.262**
	(0.143)	(0.120)
Native American	-0.344	-0.300
	(0.235)	(0.212)
Asian	0.401*	0.015
	(0.229)	(0.242)
Immigrant	0.522*	-0.359
	(0.281)	(0.282)
English Proficient	0.192	-1.110***
	(0.288)	(0.292)
N	1855	2308
R^2	0.360	0.362

Note: The ACS data uses the 2011 through 2015 samples. It is restricted to cohabiting adults over the age of 25. The NHIS data uses the 2013 through 2016 samples. It is restricted to adults over the age of 25. The AddHealth data uses the wave IV data and does not place any restrictions on the sample. Heteroscedasticity robust standard errors are reported in parentheses. See the text for a detailed description of the controls used in columns 2, 4, and 6. For the AddHealth results, we have chosen not to report the effect of the family and personality controls due to space. These results are available upon request.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Table A5: Effect of Demographics on Education Gap Including LG*Children Control

Panel A. Men	(1) ACS	(2) NHIS	(3) AddHealth
LG	1.056***	1.077***	1.233*
	(0.016)	(0.065)	(0.649)
N	3213101	173705	1855
R^2	0.103	0.159	0.360
Demographics	X	X	X
Year	X	X	X
Census division	X	X	X
Family background			X
Personality characteristics			X

Panel B. Womn	(1) ACS	(2) NHIS	(3) AddHealth
LG	0.729***	0.469***	0.302
	(0.018)	(0.070)	(0.567)
N	3547151	195750	2308
R^2	0.134	0.178	0.363
Demographics	X	X	X
Year	X	X	X
Census division	X	X	X
Family background			X
Personality characteristics			X

Note: The ACS data uses the 2011 through 2015 samples. It is restricted to cohabiting adults over the age of 25. The NHIS data uses the 2013 through 2016 samples. It is restricted to adults over the age of 25. The AddHealth data uses the wave IV data and does not place any restrictions on the sample. Heteroscedasticity robust standard errors are reported in parentheses. See the text for a detailed description of the controls used in columns 2, 4, and 6.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Effect of Demographics on Education Gap Separating Bisexuals

Panel A. Men	(1) NHIS	(2) NHIS	(3) AddHealth	(4) AddHealth	(5) AddHealth
Gay	1.381***	1.184***	0.146	1.303**	1.323**
	(0.069)	(0.070)	(0.806)	(0.624)	(0.664)
Bisexual	0.671***	0.457***	0.807**	0.294	0.365
	(0.150)	(0.143)	(0.333)	(0.225)	(0.241)
N	173705	173705	2235	1862	1862
R^2	0.002	0.159	0.003	0.273	0.361
Demographics		X		X	X
Year		X		X	X
Census division		X			
Family background				X	X
Personality characteristics					X

Panel B. Women	(1) NHIS	(2) NHIS	(3) AddHealth	(4) AddHealth	(5) AddHealth
Lesbian	1.030***	0.574***	-0.309	0.744	0.620
	(0.080)	(0.077)	(1.196)	(0.929)	(0.962)
Bisexual	0.514***	-0.091	-0.292*	-0.309**	-0.219*
	(0.096)	(0.093)	(0.175)	(0.122)	(0.130)
N	195750	195750	2598	2316	2315
R^2	0.001	0.174	0.001	0.277	0.362
Demographics		X		X	X
Year		X		X	X
Census division		X			
Family background				X	X
Personality characteristics					X

Note: The NHIS data uses the 2013 through 2016 samples. It is restricted to adults over the age of 25. The AddHealth data uses the wave IV data and does not place any restrictions on the sample. Heteroscedasticity robust standard errors are reported in parentheses. See the text for a detailed description of the controls used in columns 2, 4, and 6.

$* p < 0.1$, $** p < 0.05$, $*** p < 0.01$

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Table A7: Effect of Demographics on Education Gap Including LG*Children Control

Panel A. Men	(1) NHIS	(2) AddHealth
Gay	1.192***	2.152**
	(0.071)	(0.902)
Bisexual	0.542***	0.024
	(0.158)	(0.537)
N	173705	1862
R^2	0.159	0.362
Demographics	X	X
Year	X	X
Census division	X	X
Family background		X
Personality characteristics		X

Panel B. Women	(1) NHIS	(2) AddHealth
Lesbian	0.582***	2.431***
	(0.085)	(0.366)
Bisexual	0.253**	0.449
	(0.119)	(0.407)
N	195750	2315
R²	0.179	0.364
Demographics	X	X
Year	X	X
Census division	X	X
Family background		X
Personality characteristics		X

Note: The ACS data uses the 2011 through 2015 samples. It is restricted to cohabiting adults over the age of 25. The NHIS data uses the 2013 through 2016 samples. It is restricted to adults over the age of 25. The AddHealth data uses the wave IV data and does not place any restrictions on the sample. Heteroscedasticity robust standard errors are reported in parentheses. See the text for a detailed description of the controls used in columns 2, 4, and 6.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A8: College Attendance by Sexual Orientation: ACS

	(1)	(2)	(3)	(4)
	Men	Men	Women	Women
Gay/Lesbian	0.582***	0.508***	0.464***	0.314***
	(0.008)	(0.009)	(0.008)	(0.009)
N	3878395	3213101	4248961	3547151
Controls		X		X

Note: The ACS data uses the 2011 through 2015 samples. It is restricted to cohabiting adults over the age of 25. Heteroscedasticity robust standard errors are reported in parentheses. See the text for a detailed description of the controls used in columns 2 and 4.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A9: Effect of Cohabitation on Results of LGB Population: NHIS

	(1)	(2)	(3)	(4)
	Men	Men	Women	Women
LGB	1.283***	0.976***	1.043***	0.655***
	(0.161)	(0.158)	(0.135)	(0.125)
LGB × Married, Spouse Absent	0.060	0.097	-0.695	-0.749
	(0.613)	(0.570)	(0.584)	(0.499)
LGB × Separated	-0.430	-0.226	-0.106	-0.334
	(0.591)	(0.522)	(0.363)	(0.326)
LGB × Divorced	-0.308	-0.030	-0.794***	-0.761***
	(0.244)	(0.253)	(0.208)	(0.204)
LGB × Widowed	-0.414	-0.403	-0.767*	-0.653*
	(0.592)	(0.539)	(0.391)	(0.361)
LGB × Living with Partner	0.655***	0.666***	0.102	0.124
	(0.225)	(0.224)	(0.194)	(0.189)
LGB × Never Married	-0.196	0.118	-0.541***	-0.465***
	(0.184)	(0.181)	(0.170)	(0.160)
LGB × Unknown Marital Status	0.777	0.946	0.779	0.865
	(1.201)	(1.565)	(0.888)	(0.953)
N	75658	75658	93954	93954
R^2	0.021	0.154	0.039	0.184
Controls		X		X

Note: The NHIS data uses the 2013 through 2016 samples. It is restricted to adults over the age of 25. Robust standard errors are reported in parentheses. See the text for a detailed description of the controls used in columns 2, 4, and 6. Outcome variable is years of schooling. Omitted category is married, spouse present. Heteroscedasticity robust standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A10: Correlation Between Workplace Values of Majors

	Achievement	Independence	Recognition	Relationships	Work conditions	Support
Achievement	1					
Independence	0.9213	1				
Recognition	0.9872	0.9451	1			
Relationships	-0.0874	-0.404	-0.1152	1		
Work conditions	0.9594	0.9725	0.9638	-0.3324	1	
Support	0.8307	0.6564	0.8493	0.3992	0.7073	1

Note: Data on workplace characteristics comes from the O*NET data. Occupations with high achievement allow employees to use their strongest abilities, giving them a feeling of accomplishment. Independence at work allows employees to work on their own and make decisions. Occupations with high recognition offer advancement, potential for leadership, and prestige. Relationships focuses on how employees provide service to others and work with co-workers in a friendly non-competitive environment. Working conditions measures the job security and good working conditions of an occupation. Occupations with high levels of support offer supportive management that stands behind employees.

Table A11: Effect of Major Characteristics on Major Attainment, Full Results

	Men	Women
Income (thousands)	0.015**	0.013***
	(0.005)	(0.004)
LGxIncome (thousands)	-0.020**	-0.015*
	(0.008)	(0.007)
Prejudice Share	5.699	1.862
	(6.087)	(6.334)
LGxPrejudice Share	-3.788*	-6.406***
	(1.529)	(1.544)
Independence	-0.988	-1.376
	(5.751)	(5.421)
LGxIndependence	5.807***	5.119***
	(1.029)	(1.289)
Support	0.550	-1.241
	(3.091)	(2.658)
LGxSupport	-3.652***	-2.703***
	(0.593)	(0.729)
Relationships	0.528	2.149
	(1.437)	(1.115)
LGxRelationships	2.102***	0.842**
	(0.248)	(0.313)
Social Sciences x Age	-0.028	-0.018
	(0.025)	(-0.018)
Social Sciences x Children	0.066*	0.092***
	(0.027)	(0.012)
Social Sciences x Non-White Race	0.347***	0.468***
	(0.023)	(0.016)
Social Sciences x Hispanic	0.114***	0.236***
	(0.031)	(0.022)
Social Sciences x Metro Residence	0.383***	0.119***
	(0.048)	(0.033)
Business/Economics x Age	-0.032	-0.029
	(0.023)	(0.02)
Business/Economics x Children	0.185{***}	0.182{***}
	(0.022)	(0.012)
Business/Economics x Non-White Race	0.319{***}	0.549{***}
	(0.02)	(0.017)
Business/Economics x Hispanic	-0.057{*}	0.177{***}
	(0.028)	(0.023)
Business/Economics x Metro Residence	0.248{***}	0.190{***}
	(0.039)	(0.035)
Physical Sciences x Age	-0.090{***}	-0.082{***}
	(0.019)	(0.019)
Physical Sciences x Children	0.003	-0.026
	(0.042)	(0.028)
Physical Sciences x Non-White Race	0.526{***}	0.515{***}
	(0.032)	(0.033)
Physical Sciences x Hispanic	-0.327{***}	-0.212{***}
	(0.052)	(0.054)
Physical Sciences x Metro Residence	0.066	-0.027
	(0.064)	(0.067)
Computer Science/Engineering x Age	-0.012	-0.055
	(0.023)	(0.03)
Computer Science/Engineering x Children	0.066{**}	-0.073{**}
	(0.024)	(0.023)
Computer Science/Engineering x Non-White Race	0.786{***}	0.993{***}
	(0.019)	(0.025)
Computer Science/Engineering x Hispanic	-0.142{***}	-0.029
	(0.028)	(0.04)
Computer Science/Engineering x Metro Residence	0.201{***}	0.561{***}
	(0.039)	(0.072)
Biology and Life Sciences x Age	-0.118{***}	-0.057{**}
	(0.032)	(0.021)
Biology and Life Sciences x Children	0.100{**}	0.157{***}
	(0.031)	(0.013)
Biology and Life Sciences x Non-White Race	0.795{***}	0.565{***}
	(0.026)	(0.017)
Biology and Life Sciences x Hispanic	-0.194{***}	-0.161{***}
	(0.04)	(0.027)
Biology and Life Sciences x Metro Residence	-0.001	-0.058
	(0.053)	(0.034)
N	784722	956748
Chi^2	36980.1	75679

Note: Authors' calculations based on ACS data 2011 through 2015 samples
restricted to cohabiting adults over the age of 25. Data on average income
come from the National Surveys of College Graduates (NSCG) obtained
from IPUMS (Ruggles et al. 2010). Average income averages data across
all years of the survey and is in constant 1990 dollars. Prejudice shares
come from the 2012 and 2014 General Social Surveys. Respondents were
asked how they viewed consensual homosexual sex. Prejudiced individuals
felt it was always wrong. Independence (IND), Relationships (Relations),
and Support (Support) are drawn from O*NET. For each major in the ACS,
we calculated the average of these characteristics based on the occupations
graduates were employed in.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A12: Effect of Major Characteristics on Major Attainment Conditional on Industry

	Men	Women
Income (thousands)	-0.002	0.012**
	(0.005)	(0.004)
LGxIncome (thousands)	-0.014	-0.015*
	(0.008)	(0.007)
Prejudice Share	11.870	1.477
	(6.437)	(6.757)
LGxPrejudice Share	-3.432*	-6.388***
	(1.560)	(1.572)
Independenece	1.145	5.690
	(6.132)	(5.868)
LGxIndependenece	4.016***	5.150***
	(1.058)	(1.305)
Support	1.448	-3.432
	(3.283)	(2.901)
LGxSupport	-2.583***	-2.681***
	(0.607)	(0.737)
Relationships	0.213	2.678*
	(1.537)	(1.238)
LGxRelationships	1.532***	0.837**
	(0.255)	(0.318)
N	784722	956748
χ^2	64480.8	102943.4

Note: Authors' calculations based on ACS data 2011 through 2015 samples restricted to cohabiting adults over the age of 25. Data on average income come from the National Surveys of College Graduates (NSCG) obtained from IPUMS (Ruggles et al. 2010). Average income averages data across all years of the survey and is in constant 1990 dollars. Prejudice shares come from the 2012 and 2014 General Social Surveys. Respondents were asked how they viewed consensual homosexual sex. Prejudiced individuals felt it was always wrong. Independence (IND), Relationships (Relations), and Support (Support) are drawn from O*NET. For each major in the ACS, we calculated the average of these characteristics based on the occupations graduates were employed in.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A13: OLS on Major Characteristics

	(1)	(2)	(3)	(4)	(5)
Panel A: Men	Income	Prejudice	Independence	Relationships	Support
(1) LGB	-7397.692***	-0.009***	-0.034***	0.094***	-0.017***
	(190.805)	(0.001)	(0.002)	(0.006)	(0.004)
N	130787	130787	130787	130787	130787
$Adj.R^2$	0.057	0.009	0.021	0.008	0.016
Demographics	X	X	X	X	X
Industry					
(2) LGB	-6791.124***	-0.007***	-0.028***	0.072***	-0.016***
	(189.976)	(0.001)	(0.002)	(0.006)	(0.004)
N	130787	130787	130787	130787	130787
$Adj.R^2$	0.055	0.068	0.088	0.107	0.044
Demographics	X	X	X	X	X
Industry	X	X	X	X	X
Panel B: Women	Income	Prejudice	Independence	Relationships	Support
(1) LGB	-7214.955***	-0.004***	-0.009***	-0.005	-0.016***
	(238.868)	(0.001)	(0.002)	(0.005)	(0.004)
N	159458	159458	159458	159458	159458
$Adj.R^2$	0.108	0.007	0.015	0.003	0.011
Demographics	X	X	X	X	X
Industry					
(2) LGB	-6634.530***	-0.004***	-0.008***	-0.006	-0.014***
	(237.557)	(0.001)	(0.002)	(0.005)	(0.004)
N	159458	159458	159458	159458	159458
$Adj.R^2$	0.107	0.058	0.036	0.097	0.036
Demographics	X	X	X	X	X
Industry	X	X	X	X	X

Note: Authors' calculations based on ACS data 2011 through 2015 samples restricted to cohabiting adults over the age of 25. Data on average income come from the National Surveys of College Graduates (NSCG) obtained from IPUMS (Ruggles et al. 2010). Average income averages data across all years of the survey and is in constant 1990 dollars. Prejudice shares come from the 2012 and 2014 General Social Surveys. Respondents were asked how they viewed consensual homosexual sex. Prejudiced individuals felt it was always wrong. Independence (IND), Relationships (Relations), and Support (Support) are drawn from O*NET. For each major in the ACS, we calculated the average of these characteristics based on the occupations graduates were employed in.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A14: OLS on Alternative Measure on Major Prejudice Share

	(1)	(2)
	Men	Women
LGB	-0.008***	-0.005***
	(0.001)	(0.001)
N	130787	159458
Adj. R^2	0.004	0.003

Note: Authors' calculations based on ACS data 2011 through 2015 samples restricted to cohabiting adults over the age of 25. Data on average income come from the National Surveys of College Graduates (NSCG) obtained from IPUMS (Ruggles et al. 2010). Average income averages data across all years of the survey and is in constant 1990 dollars. Prejudice shares come from the 2012 and 2014 General Social Surveys. Respondents were asked how they viewed consensual homosexual sex. Prejudiced individuals felt it was always wrong. Independence (IND), Relationships (Relations), and Support (Support) are drawn from O*NET. For each major in the ACS, we calculated the average of these characteristics based on the occupations graduates were employed in.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A15: Effect of Major Characteristics on Major Attainment: Alternative Measure of Prejudice

	Men	Women
Income (thousands)	0.015**	0.013***
	(0.005)	(0.004)
LGxIncome (thousands)	-0.024**	-0.021**
	(0.007)	(0.007)
Alt Prejudice Share	5.132	1.305
	(5.376)	(5.520)
LGx Alt Prejudice Share	-2.496*	-4.294***
	(1.314)	(1.276)
Independenece	-1.411	-1.228
	(5.953)	(5.511)
LGxIndependenece	5.832***	5.138***
	(1.043)	(1.302)
Support	0.789	-1.304
	(3.208)	(2.748)
LGxSupport	-3.782***	-2.915***
	(0.591)	(0.731)
Relationships	0.329	2.135
	(1.523)	(1.208)
LGxRelationships	2.193***	1.040***
	(0.251)	(0.311)
N	784722	956748
χ^2	36977.6	75672.8

Note: Authors' calculations based on ACS data 2011 through 2015 samples restricted to cohabiting adults over the age of 25. Data on average income come from the National Surveys of College Graduates (NSCG) obtained from IPUMS (Ruggles et al. 2010). Average income averages data across all years of the survey and is in constant 1990 dollars. Prejudice shares come from the 2012 and 2014 General Social Surveys. Respondents were asked how they viewed consensual homosexual sex. Prejudiced individuals felt it was always wrong. Independence (IND), Relationships (Relations), and Support (Support) are drawn from O*NET. For each major in the ACS, we calculated the average of these characteristics based on the occupations graduates were employed in.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$