



Labor market differentials estimated with researcher-inferred and self-identified sexual orientation

Michael E. Martell¹

Bard College, 30 Campus Road, Annandale-on-Hudson, NY 12504, USA

ARTICLE INFO

Article history:

Received 30 April 2021

Received in revised form 3 June 2021

Accepted 8 June 2021

Available online 10 June 2021

JEL classification:

J1

J2

J7

Keywords:

Sexual orientation

Same-sex households

Discrimination

Labor market outcomes

ABSTRACT

The impact of the common practice of inferring sexual orientation via cohabitation status on estimated labor market differentials for sexual minorities is understudied. Using the 2013–2018 National Health Interview Survey, I show that inferring sexual orientation via cohabitation status leads to similar estimated differentials for gay men but inflates outcomes for lesbian women. Estimates for all bisexual individuals are biased upwards, because bisexual individuals are less likely to cohabit and comprise less than ten percent of the same-sex cohabiting sample. Estimates of outcomes for sexual minority members of same-sex households are largely unaffected by the sample contamination resulting from potentially erroneous inclusion of heterosexual individuals. However, cohabitation based researcher inference of sexual orientation masks important heterogeneity in self-identified sexual orientation based labor market differentials. Results highlight the need for inclusion of sexual orientation identity on more large scale surveys.

© 2021 Elsevier B.V. All rights reserved.

1. Introduction

Over 25 years of research in economics has built on [Badgett's \(1995\)](#) seminal investigation into sexual orientation based labor market differentials. Most, but not all, research documents more favorable outcomes among lesbian women and less favorable outcomes among gay men relative to their heterosexual counterparts. However, these estimates span a wide range ([Klawitter, 2015](#)) and are often based on samples that require researchers to infer, rather than allowing individuals to self-identify, sexual orientation.

Sexual orientation is typically inferred by cohabitation status. Individuals who cohabit with a member of the same-sex are classified as lesbian/gay/bisexual. This method allows for much larger samples sizes (typically in government surveys) but involves three shortcomings. Researchers cannot investigate outcomes for single individuals,² distinguish bisexual from heterosexual or gay/lesbian individuals, and avoid contaminated samples. Contamination arises due to misreporting or incorrect researcher inference. Misreporting occurs from errors in recording sex (own or partner), relationship/marital status, or the incorrect

allocation of these characteristics by data administrators. Mistakes in recording an individual's sexual orientation identity are also possible but they appear to be rare in part because identity is not typically allocated ([Saewyc et al., 2004](#); [Gates and Steinberger, 2015](#); [Black et al., 2007](#)). Incorrect researcher inference occurs, because behavior does not always imply identity. Some individuals who cohabit with a same-sex romantic partner may not identify as lesbian, gay, or bisexual ([Laumann et al., 1994](#)).

I compare differentials for self-identified sexual minorities to researcher inferred sexual minorities. Similar to patterns in the UK ([Aksoy et al., 2018](#)), inferring sexual orientation in the NHIS performs reasonably well for gay men who are less likely to be employed but earn more than heterosexual men. However, inferring sexual orientation leads to larger employment and earnings premia for lesbian and bisexual women and smaller penalties for bisexual men.

A small amount of contamination can lead to large biases in measured outcomes for small populations such as sexual minorities ([Black et al., 2007](#); [Gates and Steinberger, 2015](#)). I build on the literature by combining information on self-identified sexual orientation and the sex composition of partnerships to assess the widely acknowledged but under-investigated ([Klawitter, 2015](#); [Antecol et al., 2008](#); [Martell and Hansen, 2017](#)) impact of contamination bias. I also investigate the role of family structure for bisexual individuals. Contamination does not bias results for cohabiting gay and lesbian individuals. However, inferring sexual orientation via same-sex cohabitation masks important differentials experienced by bisexual individuals who are less likely

E-mail address: mmartell@bard.edu.

¹ The author thanks Leanne Roncolato and Melissa Thomas for useful comments and suggestions.

² Register data allows researchers to observe single members of same-sex couples before they cohabit ([Ahmed and Hammarstedt, 2010](#)) but does not include self-identified orientation.

to cohabit, particularly in same-sex partnerships. Moreover, the effect of same-sex cohabitation appears to vary by sex.³

2. Data: National health interview survey

I arrive at these results using the 2013–2018 NHIS, an annual nationally representative survey of approximately 35,000 Americans (Blewett et al., 2019). The NHIS includes three labor market outcomes that are of particular interest to the well-being of sexual minorities and the subject of existing research (Carpenter and Eppink, 2017; Badgett, 1995; Antecol and Steinberger, 2013): employment status (working for pay), working full-time (usually 34 h or more per week), and annual income (before taxes).⁴ I limit the sample to those between 25 and 64 years old (inclusive) to focus on those who are of prime working age and less likely to be considering full-time schooling or retirement and, for the income margin, those who are employed full-time. I weight all calculations using NHIS sample weights.

Respondents aged 18 and older are asked “Which of the following best represents how you think of yourself?” Response options for women include: (i) Lesbian or gay, (ii) Straight, that is, not lesbian or gay, (iii) Bisexual, (iv) Something else, (v) I don’t know the answer, and (vi) Refused. Response options for men are identical except for they exclude “Lesbian.”⁵ Table 1 shows that after sample restrictions described above, approximately 3.2% of women (393 bisexual and 619 lesbian) and 2.8% of men (185 bisexual and 854 gay) identify as lesbian, gay, or bisexual. This is consistent with other representative samples in the United States and previous analyses of the NHIS (Carpenter and Eppink, 2017; Sabia, 2015).

Table 1 shows that demographic characteristics meaningfully vary by sexual orientation. Bisexual men and women are approximately three (men) to five (women) years younger than their gay/lesbian and heterosexual counterparts. Lesbian, gay, and bisexual men, but not women, are all more likely to have completed higher education (bachelor’s degree or higher) and are less likely to have children than their heterosexual counterparts. Given these characteristics it not surprising that, on average, gay men and lesbian women earn approximately 10% more than their heterosexual counterparts. Bisexual men earn approximately 13% and bisexual women earn approximately 7% less than their heterosexual counterparts.

Tables 1 and 2 highlight two shortcomings of cohabitation based data. First, the differences in the likelihoods of cohabiting, particularly among gay and bisexual men, are consistent with selection into cohabitation varying by sexual orientation thereby limiting generalizability of this sample (Martell and Hansen, 2017; Klawitter, 2015; Jepsen and Jepsen, 2002). Second, Table 2 shows that even though approximately 90% of same-sex cohabitants identify as lesbian, gay or bisexual, contamination is nontrivial. Heterosexual individuals comprise a nearly as large (among women) if not larger than (among men) portion of the sample of same-sex cohabitants than do bisexual individuals.

Bias from selection depends, in part, on the extent of assortative mating, which appears to vary by sexual orientation

³ Badgett (2018), who focuses on the incidence of poverty, finds that the effect of marriage and cohabitation varies by sex as well.

⁴ I do not estimate hourly wages due to missing hours data (Carpenter and Eppink, 2017). The NHIS top-coded income at \$120,000 in 2013, \$125,000 in 2014, \$130,000 in 2015, \$133,000 in 2016, \$142,000 in 2017 and \$149,000 in 2018. I replace top-coded values, separately by sex, with the median income above the top code in the American Community Survey. Income is reported in 2017 dollars (adjusted for inflation with the CPI-U.)

⁵ The NHIS provides no information on responses (iv)–(vi), so I do not focus on them. It is worth noting that response (v) reduces misreporting, because many who do not understand the question select this response (Badgett, 2009).

(Table A.1.) Cohabiting gay, lesbian and heterosexual (but not bisexual) individuals are slightly older, have more children, are more educated, more likely to be white, and earn more than their single counterparts. Cohabiting lesbian women also earn more than single lesbians. Assortative mating may also depend on the sex of one’s partner. The small sample size makes such a comparison difficult (see Table A.2), though age, educational attainment, and parental status appear to vary by household structure.

3. Empirical approach

I begin by estimating differentials using self-identified sexual orientation following the approach of Carpenter and Eppink (2017)⁶ and predict outcomes, Y_i , using linear probability models and least squares of:

$$Y_i = \beta_0 + \beta_1 LG_i + \beta_2 Bi_i + \beta X_i + \epsilon_i \quad (1)$$

where LG is an indicator for a gay or lesbian identity and Bi is an indicator for a bisexual identity. In all specifications, X_i includes indicators for a sexual orientation of “something else,” “don’t know,” “refuse to answer,” and “no response” as well as interview month and year effects. I also include an indicator for income being top-coded when predicting earnings. I introduce controls sequentially. Demographic characteristics include age and age squared, educational attainment (bachelor’s degree or higher, associates degree, some college; reference group is high school or less), race (Black, other; reference group is white), a Hispanic ethnicity, relationship status (widowed, divorced, separated, cohabiting, missing cohabitation status), presence of children and region of residence (midwest, south, west). In some income specifications, I also include job tenure (in years) and its square, occupation and industry indicators, an indicator for employment in the public sector (as well as indicators for do not know sector, refused to answer sector and missing sector information), and number of employees at current employer site.

4. Results

Tables 3 and 4 present coefficients of interest for estimates of the likelihood of being employed (Columns 1–2), working full-time (columns 3–4) and annual income (Columns 5–7). (Table A.3 presents the full set of demographic characteristic coefficients.) The first column of the first panel shows that gay men are 4 percentage points (10 percent) and bisexual men 8 percentage points (20 percent) less likely to be employed than heterosexual men. However, the differential becomes insignificant (and decreases by nearly half) when controlling for demographic characteristics among bisexual men but only shrinks slightly for gay men. The pattern is similar on the likelihood of working full-time, though differentials are larger. These lower likelihoods of employment translate into an insignificant earnings differential for bisexual men and a 5% earnings premium among gay men. Comparing the results from Panels A and B (B–E exclude single individuals) shows that differentials in employment and working full time are remarkably similar in size, though less precisely estimated, when based on researcher inferred orientation (Panel B) for gay men but not bisexual men.

Among women, a different pattern emerges. Lesbian women are 8 percentage points (or 12 percent) more likely to be employed than heterosexual women but this difference shrinks by half when controlling for demographic characteristics (Table 4).

⁶ There are two minor differences. I include broader controls for education and race, because there is too little variation when investigating cohabitation status.

Table 1

Descriptive statistics for heterosexual, bisexual, gay, and lesbian individuals.

Source: Author's calculations from 2013 to 2018 National Health Interview Survey data.

	Men			Women		
	Heterosexual	Bisexual	Gay	Heterosexual	Bisexual	Lesbian
Age	43.17 (11.04)	40.31*** (11.89)	43.00 (11.09)	43.50 (11.12)	36.81*** (10.04)	42.66* (10.47)
Bachelor's or Higher	0.385 (0.487)	0.449* (0.499)	0.575*** (0.495)	0.445 (0.497)	0.478 (0.500)	0.530*** (0.500)
Associate's Degree	0.124 (0.330)	0.141 (0.348)	0.0867*** (0.281)	0.144 (0.351)	0.130 (0.336)	0.110** (0.313)
Some College	0.166 (0.372)	0.238*** (0.427)	0.181 (0.386)	0.176 (0.381)	0.193 (0.395)	0.171 (0.377)
White	0.809 (0.393)	0.843 (0.365)	0.841** (0.366)	0.768 (0.422)	0.822** (0.383)	0.796* (0.403)
Hispanic	0.158 (0.365)	0.157 (0.365)	0.148 (0.355)	0.145 (0.352)	0.142 (0.350)	0.129 (0.336)
Black/African American	0.0964 (0.295)	0.0703 (0.256)	0.0808 (0.273)	0.146 (0.354)	0.0992*** (0.299)	0.123* (0.328)
Other Race	0.0947 (0.293)	0.0865 (0.282)	0.0785 (0.269)	0.0860 (0.280)	0.0789 (0.270)	0.0808 (0.273)
Cohabiting	0.623 (0.485)	0.330*** (0.471)	0.365*** (0.482)	0.521 (0.500)	0.382*** (0.486)	0.506 (0.500)
Children	0.428 (0.495)	0.205*** (0.405)	0.0445*** (0.206)	0.472 (0.499)	0.369*** (0.483)	0.234*** (0.424)
Northeast	0.157 (0.363)	0.178 (0.384)	0.176 (0.381)	0.160 (0.366)	0.153 (0.360)	0.192** (0.394)
North Central/Midwest	0.232 (0.422)	0.216 (0.413)	0.153*** (0.361)	0.225 (0.417)	0.193 (0.395)	0.183** (0.387)
South	0.339 (0.473)	0.314 (0.465)	0.390*** (0.488)	0.367 (0.482)	0.344 (0.475)	0.339 (0.474)
West	0.273 (0.445)	0.292 (0.456)	0.281 (0.450)	0.248 (0.432)	0.310*** (0.463)	0.286** (0.452)
Income	55068.1 (41566.4)	48231.7** (35880.1)	61352.0*** (44323.6)	41642.2 (31559.4)	38051.3** (33311.9)	46072.3*** (33027.0)
Observations	33736	185	854	29617	393	619

Notes: Mean values with standard deviations in parentheses. Differences relative to heterosexual counterparts * Significant at 10% ** Significant at 5% *** Significant at 1%.

Table 2

Patterns of cohabitation status and household structure by sexual orientation.

Source: Author's calculations from 2013 to 2018 National Health Interview Survey data.

MEN	Not cohabiting	Cohabiting with a member of a		Total
		Different-sex	Same-sex	
Gay	542	37	275	854
Straight	12718	21002	16	33736
Bisexual	124	54	7	185
Something else	53	23	2	78
Do not Know	90	54	3	147
Refuse to answer	80	51	2	133
No response	282	347	2	631
Total	13889	21568	307	35764
WOMEN	Not cohabiting	Cohabiting with a member of a		Total
		Different-sex	Same-sex	
Lesbian or gay	306	32	281	619
Straight	14194	15402	21	29617
Bisexual	243	124	26	393
Something else	68	21	2	91
Do not Know	99	48	3	150
Refuse to answer	88	28	4	120
No Response	357	256	5	618
Total	15355	15911	342	31608

Table 3

Researcher inference and contamination bias minimally affect estimated differentials for gay men but bias those for bisexual men.

Source: Author's calculations from 2013 to 2018 National Health Interview Survey data.

MEN	Employment	Employment	Full time	Full time	Income	Income	Income
Panel A: Self-identified sexual orientation based differentials							
Gay/Lesbian	−0.04*** (0.02)	−0.03** (0.01)	−0.07*** (0.02)	−0.05*** (0.02)	0.03 (0.03)	0.02 (0.03)	0.05* (0.03)
Bisexual	−0.08** (0.04)	−0.05 (0.03)	−0.12*** (0.04)	−0.08** (0.04)	−0.07 (0.05)	−0.03 (0.05)	−0.04 (0.04)
Adj. R Squared	0.002	0.124	0.003	0.134	0.257	0.349	0.424
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.424
N	57524	57524	56954	56954	35860	35860	35764
Panel B: Researcher-inferred sexual orientation based differentials							
Same-Sex Cohabiting	−0.01 (0.02)	−0.03 (0.02)	−0.02 (0.02)	−0.05* (0.02)	0.02 (0.04)	−0.01 (0.04)	0.02 (0.03)
Adj. R Squared	0.001	0.095	0.002	0.101	0.273	0.361	0.433
P-Value	0.004	0.000	0.000	0.000	0.000	0.000	0.433
N	32042	32042	31710	31710	21935	21935	21875
Panel C: Uncontaminated sexual minority household based differentials							
Same-Sex Cohabiting	−0.01 (0.02)	−0.03 (0.02)	−0.02 (0.03)	−0.04* (0.02)	0.05 (0.04)	0.01 (0.04)	0.04 (0.03)
Adj. R Squared	0.001	0.095	0.002	0.102	0.272	0.360	0.432
P-Value	0.003	0.000	0.000	0.000	0.000	0.000	0.432
N	31942	31942	31610	31610	21873	21873	21813
Panel D: Self-identified sexual orientation based differentials for cohabiting individuals							
Gay/Lesbian	−0.01 (0.02)	−0.03 (0.02)	−0.02 (0.02)	−0.04* (0.02)	0.05 (0.04)	0.01 (0.03)	0.04 (0.03)
Bisexual	−0.08 (0.05)	−0.10* (0.05)	−0.08 (0.06)	−0.10* (0.06)	0.04 (0.08)	0.03 (0.06)	0.01 (0.05)
Adj. R Squared	0.001	0.095	0.002	0.102	0.279	0.365	0.437
P-Value	0.001	0.000	0.000	0.000	0.000	0.000	0.437
N	32042	32042	31710	31710	21935	21935	21875
Panel E: Self-identified sexual orientation based differentials for cohabiting individuals							
Gay/Lesbian	−0.01 (0.02)	−0.03 (0.02)	−0.02 (0.02)	−0.04* (0.02)	0.05 (0.04)	0.01 (0.03)	0.04 (0.03)
Bisexual	−0.10* (0.06)	−0.11* (0.06)	−0.10* (0.06)	−0.11* (0.06)	0.05 (0.08)	0.04 (0.06)	0.02 (0.06)
Bisexual × Same-Sex	0.10*** (0.03)	0.05 (0.03)	0.14*** (0.03)	0.08** (0.04)	−0.05 (0.17)	−0.03 (0.16)	−0.10 (0.15)
Adj. R Squared	0.001	0.095	0.002	0.102	0.279	0.365	0.437
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.437
N	32042	32042	31710	31710	21935	21935	21875
Year and Month	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographics	No	Yes	No	Yes	No	Yes	Yes
Job Chars	No	No	No	No	No	No	Yes

Note: Coefficient and standard errors in parentheses. * Significant at 10% ** Significant at 5% *** Significant at 1%. See Eq. (1) in the text or note to Table A.3 for additional demographic and job characteristic controls. All estimates are weighted. Panels B–E exclude single individuals. Panel E excludes controls for children.

There is no differential for bisexual women. Lesbian women experience similar differentials in working full-time. However, bisexual women are approximately 5 percentage points (9 percent) less likely to work full-time than heterosexual women. These differential likelihoods of employment do not appear to meaningfully affect earnings. Panel B shows that estimated advantages are twice as large for researcher inferred lesbian and bisexual women (who experience a premium not penalty).

Of course, there are many research questions for which household level data represents the population of interest (Giddings et al., 2014; Manning et al., 2016; Dilmaghani, 2019). Removing individuals who potentially contaminate the sample of sexual minorities (members of same(different)-sex households who identify as heterosexual(gay/lesbian)) has no material effect on estimated differentials (Panel C). No point estimate differs by more than one percentage point.

However, household data without identity masks variation between sexual orientations, because the same-sex sample excludes most bisexual individuals. Lower likelihoods of being employed

and working full time are twice as large, and more precisely estimated, for bisexual men, who are approximately 10 percentage points less likely to be employed on each margin, than gay men (Panel D).⁷ While lesbian women who cohabit have meaningfully higher propensities to be employed and work full-time relative to heterosexual women, bisexual women have small and statistically insignificant differentials.⁸ Moreover, bisexual individuals who cohabit with a member of the same-sex appear more likely to be employed and work full-time than bisexual individuals who cohabit with a member of a different-sex. Earnings do not meaningfully vary by sex of cohabiting partner (Panel E).

⁷ These specifications do not control for children due to their scarcity in same-sex bisexual households (Table A.2).

⁸ Results, available by request, are unaffected by adjusting for contamination.

Table 4

Researcher inference and contamination bias labor market outcomes upward for lesbian and bisexual women.

Source: Author's calculations from 2013 to 2018 National Health Interview Survey data.

WOMEN	Employment	Employment	Full time	Full time	Income	Income	Income
Panel A: Self-identified sexual orientation based differentials							
Gay/Lesbian	0.08*** (0.02)	0.04** (0.02)	0.10*** (0.02)	0.04** (0.02)	0.07 (0.04)	0.02 (0.04)	0.04 (0.03)
Bisexual	0.01 (0.02)	−0.02 (0.02)	−0.01 (0.02)	−0.04* (0.02)	−0.15*** (0.06)	−0.07 (0.05)	−0.01 (0.05)
Adj. R Squared	0.002	0.077	0.002	0.079	0.148	0.271	0.377
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000
N	67561	67561	66978	66978	31672	31672	31608
Panel B: Researcher-inferred sexual orientation based differentials							
Same-Sex Cohabiting	0.14*** (0.02)	0.08*** (0.02)	0.16*** (0.03)	0.09*** (0.02)	0.13*** (0.05)	0.06 (0.04)	0.09** (0.04)
Adj. R Squared	0.003	0.072	0.004	0.072	0.153	0.261	0.364
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.364
N	36106	36106	35717	35717	16285	16285	16253
Panel C: Uncontaminated sexual minority household based differentials							
Same-Sex Cohabiting	0.15*** (0.02)	0.09*** (0.02)	0.17*** (0.03)	0.10*** (0.03)	0.13** (0.05)	0.06 (0.05)	0.09** (0.04)
Adj. R Squared	0.003	0.072	0.004	0.072	0.153	0.262	0.365
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.365
N	35968	35968	35580	35580	16218	16218	16186
Panel D: Self-identified sexual orientation based differentials for cohabiting individuals							
Gay/Lesbian	0.12*** (0.02)	0.06*** (0.02)	0.14*** (0.03)	0.07*** (0.03)	0.10* (0.05)	0.03 (0.05)	0.04 (0.04)
Bisexual	0.03 (0.03)	0.02 (0.03)	0.03 (0.03)	0.01 (0.03)	−0.21** (0.09)	−0.12 (0.09)	−0.04 (0.08)
Adj. R Squared	0.002	0.072	0.003	0.071	0.155	0.261	0.364
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.364
N	36106	36106	35717	35717	16285	16285	16253
Panel E: Self-identified sexual orientation based differentials for cohabiting individuals							
Gay/Lesbian	0.12*** (0.02)	0.06*** (0.02)	0.14*** (0.03)	0.07*** (0.03)	0.10* (0.05)	0.03 (0.05)	0.04 (0.04)
Bisexual	−0.00 (0.03)	−0.02 (0.03)	0.00 (0.04)	−0.01 (0.04)	−0.25** (0.10)	−0.13 (0.09)	−0.06 (0.08)
Bisexual × Same-Sex	0.22*** (0.04)	0.20*** (0.05)	0.20*** (0.08)	0.17** (0.08)	−0.07 (0.23)	−0.09 (0.23)	0.01 (0.23)
Adj. R Squared	0.002	0.072	0.003	0.072	0.155	0.261	0.364
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.364
N	36106	36106	35717	35717	16285	16285	16253
Year and Month	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographics	No	Yes	No	Yes	No	Yes	Yes
Job Chars	No	No	No	No	No	No	Yes

Note: Coefficient and standard errors in parentheses. * Significant at 10% ** Significant at 5% *** Significant at 1%. See Eq. (1) in the text or note to Table A.3 for additional demographic and job characteristic controls. All estimates are weighted. Panels B–E exclude single individuals. Panel E excludes controls for children.

5. Conclusion

Inferring sexual orientation with cohabitation status introduces a meaningful bias that overstates estimates of labor market outcomes for lesbian women and all bisexual individuals. The bias for bisexual individuals is large because they are less likely to cohabit, are more likely to cohabit with a member of a different sex (and not be included in the same-sex cohabiting sample) when cohabiting, and outcomes appear to vary by the sex of bisexual individuals' partners. This bias may explain, in part, the lesbian premium being often estimated in cohabitation based data (Klawitter, 2015; Martell and Hansen, 2017). However, contamination bias does not meaningfully bias outcomes for same-sex cohabiting sexual minorities.

Collectively, these results caution the generalization of cohabitation based samples to the population of bisexual individuals. As such, we know very little about how bisexual individuals experience the economy — an area of research which should be a priority moving forward. More fundamentally, these results

reiterate the need for the inclusion of self-identified sexual orientation on large government surveys. Our ability to understand how the remarkable rise in tolerance and expansion of laws benefiting sexual minorities influence the well-being of all sexual minorities will be limited until all sexual minorities are counted.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix

See Tables A.1–A.3.

Table A.1

Descriptive statistics by sexual orientation and cohabitation status.

Source: Author's calculations from 2013 to 2018 National Health Interview Survey data.

MEN	Heterosexual		Bisexual		Gay	
	Not cohabiting	Cohabiting	Not cohabiting	Cohabiting	Not cohabiting	Cohabiting
Age	42.19 (11.60)	43.76*** (10.65)	40.35 (12.17)	40.23 (11.40)	42.26 (11.27)	44.29*** (10.65)
Bachelor's or Higher	0.363 (0.481)	0.399*** (0.490)	0.468 (0.501)	0.410 (0.496)	0.563 (0.497)	0.596 (0.491)
Associate's Degree	0.126 (0.332)	0.124 (0.329)	0.129 (0.337)	0.164 (0.373)	0.0812 (0.273)	0.0962 (0.295)
Some College	0.186 (0.389)	0.154*** (0.361)	0.250 (0.435)	0.213 (0.413)	0.203 (0.403)	0.144** (0.352)
White	0.770 (0.421)	0.832*** (0.373)	0.855 (0.354)	0.820 (0.388)	0.815 (0.388)	0.885*** (0.320)
Hispanic	0.146 (0.354)	0.166** (0.372)	0.161 (0.369)	0.148 (0.358)	0.142 (0.349)	0.157 (0.364)
Black/African American	0.133 (0.339)	0.0746*** (0.263)	0.0806 (0.273)	0.0492 (0.218)	0.0996 (0.300)	0.0481*** (0.214)
Children	0.112 (0.315)	0.620*** (0.485)	0.0726 (0.260)	0.475*** (0.504)	0.0111 (0.105)	0.103*** (0.304)
Income	47301.5 (36471.6)	59767.6*** (43701.6)	45796.5 (36321.3)	53181.9 (34733.0)	55881.9 (39273.1)	70854.5*** (50622.2)
Observations	12718	21018	124	61	542	312
WOMEN	Heterosexual		Bisexual		Lesbian	
	Not cohabiting	Cohabiting	Not cohabiting	Cohabiting	Not cohabiting	Cohabiting
Age	43.68 (11.53)	43.33*** (10.73)	36.93 (10.28)	36.61 (9.667)	41.98 (11.10)	43.33 (9.799)
Bachelor's or Higher	0.412 (0.492)	0.475*** (0.499)	0.465 (0.500)	0.500 (0.502)	0.461 (0.499)	0.597*** (0.491)
Associate's Degree	0.142 (0.349)	0.146 (0.353)	0.136 (0.343)	0.120 (0.326)	0.111 (0.315)	0.109 (0.312)
Some College	0.200 (0.400)	0.154*** (0.361)	0.226 (0.419)	0.140** (0.348)	0.209 (0.407)	0.134** (0.341)
White	0.705 (0.456)	0.825*** (0.380)	0.774 (0.419)	0.900*** (0.301)	0.739 (0.440)	0.853*** (0.355)
Hispanic	0.150 (0.357)	0.141** (0.348)	0.136 (0.343)	0.153 (0.362)	0.121 (0.327)	0.137 (0.345)
Black/African American	0.218 (0.413)	0.0809*** (0.273)	0.140 (0.348)	0.0333*** (0.180)	0.170 (0.376)	0.0767*** (0.267)
Children	0.391 (0.488)	0.548*** (0.498)	0.333 (0.472)	0.427* (0.496)	0.157 (0.364)	0.310** (0.463)
Income	39425.0 (30330.6)	43682.8*** (32517.2)	36871.3 (31037.4)	39962.8 (36727.4)	42753.6 (31265.1)	49316.8** (34404.2)
Observations	14194	15423	243	150	306	313

Notes: Weighted mean values with standard deviations in parentheses. Differences relative to cohabiting counterparts * Significant at 10% ** Significant at 5% *** Significant at 1%.

Table A.2

Descriptive statistics vary by sex of cohabiting partner and sexual orientation.

Source: Author's calculations from 2013 to 2018 National Health Interview Survey data.

MEN	Heterosexual		Bisexual		Gay	
	Different sex	Same sex	Different sex	Same sex	Different sex	Same sex
Cohabiting with a member of a:						
Age	43.77 (10.65)	40.31 (11.67)	40.56 (11.57)	37.71 (10.42)	44.54 (9.115)	44.25 (10.85)
Bachelor's or Higher	0.399 (0.490)	0.500 (0.516)	0.389 (0.492)	0.571 (0.535)	0.432 (0.502)	0.618** (0.487)
Associate's Degree	0.124 (0.329)	0.125 (0.342)	0.167 (0.376)	0.143 (0.378)	0.135 (0.347)	0.0909 (0.288)
Some College	0.154 (0.361)	0.0625 (0.250)	0.204 (0.407)	0.286 (0.488)	0.189 (0.397)	0.138 (0.346)
White	0.832 (0.373)	0.812 (0.403)	0.833 (0.376)	0.714 (0.488)	0.811 (0.397)	0.895 (0.308)
Hispanic	0.166 (0.372)	0.188 (0.403)	0.130 (0.339)	0.286 (0.488)	0.0811 (0.277)	0.167 (0.374)
Black/African American	0.0745 (0.263)	0.125 (0.342)	0.0370 (0.191)	0.143 (0.378)	0.0541 (0.229)	0.0473 (0.213)
Children	0.620 (0.485)	0.250*** (0.447)	0.537 (0.503)	0 (0)	0.595 (0.498)	0.0364*** (0.188)
Income	59787.1 (43708.9)	34233.7 (21126.5)	53358.2 (36468.3)	51822 (17707.6)	68359.4 (48417.6)	71190.2 (50987.2)
Observations	21002	16	54	7	37	275
WOMEN	Heterosexual		Bisexual		Lesbian	
	Different sex	Same sex	Different sex	Same sex	Different sex	Same sex
Cohabiting with a member of a:						
Age	43.32 (10.73)	44.05 (11.38)	35.16 (8.642)	43.54*** (11.36)	42.72 (8.902)	43.40 (9.908)
Bachelor's or Higher	0.475 (0.499)	0.381 (0.498)	0.476 (0.501)	0.615 (0.496)	0.594 (0.499)	0.598 (0.491)
Associate's Degree	0.146 (0.353)	0.0952 (0.301)	0.121 (0.327)	0.115 (0.326)	0.0625 (0.246)	0.114 (0.318)
Some College	0.153 (0.360)	0.238 (0.436)	0.153 (0.362)	0.0769 (0.272)	0.0938 (0.296)	0.139 (0.346)
White	0.825 (0.380)	0.762 (0.436)	0.887 (0.318)	0.962 (0.196)	0.812 (0.397)	0.858 (0.350)
Hispanic	0.141 (0.348)	0.0476 (0.218)	0.145 (0.354)	0.192 (0.402)	0.188 (0.397)	0.132 (0.339)
Black/African American	0.0808 (0.272)	0.143 (0.359)	0.0403 (0.198)	0 (0)	0.125 (0.336)	0.0712 (0.258)
Children	0.548 (0.498)	0.286** (0.463)	0.427 (0.497)	0.423 (0.504)	0.469 (0.507)	0.292** (0.455)
Income	43674.2 (32500.0)	50003.2 (43912.7)	38495.2 (37452.4)	46962.2 (32812.1)	46997.5 (44857.3)	49581.0 (33097.7)
Observations	15402	21	124	26	32	281

Notes: Weighted mean values with standard deviations in parentheses. Differences relative to different-sex cohabiting counterparts * Significant at 10% ** Significant at 5% *** Significant at 1%.

Table A.3

Expanded coefficient estimates for self-identified sexual orientation based labor market differentials.

Source: Author's calculations from 2013 to 2018 National Health Interview Survey data.

	Men			Women		
	Employment	Full time	Income	Employment	Full time	Income
Gay/Lesbian	−0.03** (0.01)	−0.05*** (0.02)	0.05* (0.03)	0.04** (0.02)	0.04** (0.02)	0.04 (0.03)
Bisexual	−0.05 (0.03)	−0.08** (0.04)	−0.04 (0.04)	−0.02 (0.02)	−0.04* (0.02)	−0.01 (0.05)
Something else	−0.07* (0.04)	−0.13*** (0.05)	−0.27*** (0.10)	−0.08* (0.04)	−0.10** (0.04)	0.05 (0.08)
Do not Know	−0.06** (0.03)	−0.08** (0.03)	−0.57 (0.49)	−0.04 (0.03)	−0.04 (0.03)	−0.23** (0.09)
Refused	0.05** (0.02)	0.05* (0.02)	−0.09 (0.13)	−0.03 (0.03)	−0.00 (0.03)	−0.07 (0.08)
No Response	0.03** (0.01)	0.02 (0.01)	−0.01 (0.06)	0.02 (0.01)	0.02 (0.02)	0.04 (0.03)
Age	0.03*** (0.00)	0.04*** (0.00)	0.04*** (0.00)	0.04*** (0.00)	0.05*** (0.00)	0.03*** (0.00)
Age × Age	−0.00*** (0.00)	−0.00*** (0.00)	−0.00*** (0.00)	−0.00*** (0.00)	−0.00*** (0.00)	−0.00*** (0.00)
Bachelor's or Higher	0.15*** (0.00)	0.18*** (0.01)	0.30*** (0.01)	0.22*** (0.01)	0.24*** (0.01)	0.40*** (0.02)
Associate's Degree	0.10*** (0.01)	0.11*** (0.01)	0.16*** (0.02)	0.16*** (0.01)	0.15*** (0.01)	0.14*** (0.02)
Some College	0.07*** (0.01)	0.07*** (0.01)	0.10*** (0.02)	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.02)
Black/African American	−0.06*** (0.01)	−0.07*** (0.01)	−0.15*** (0.02)	−0.01 (0.01)	0.03*** (0.01)	−0.04*** (0.01)
Other race	−0.02*** (0.01)	−0.04*** (0.01)	−0.08*** (0.02)	−0.06*** (0.01)	−0.03*** (0.01)	−0.03 (0.02)
Hispanic	0.04*** (0.01)	0.04*** (0.01)	−0.16*** (0.02)	−0.03*** (0.01)	−0.00 (0.01)	−0.11*** (0.02)
Widowed	−0.02 (0.02)	−0.01 (0.02)	0.02 (0.05)	−0.05*** (0.01)	−0.04** (0.01)	0.03 (0.03)
Divorced	0.04*** (0.01)	0.06*** (0.01)	0.10*** (0.02)	0.04*** (0.01)	0.06*** (0.01)	0.07*** (0.02)
Separated	0.02 (0.02)	0.04*** (0.02)	0.05* (0.03)	−0.01 (0.01)	−0.00 (0.01)	−0.01 (0.03)
Cohabiting	0.13*** (0.01)	0.16*** (0.01)	0.13*** (0.01)	−0.03*** (0.01)	−0.03*** (0.01)	0.06*** (0.01)
Children	0.02*** (0.00)	0.03*** (0.01)	0.03** (0.01)	−0.05*** (0.01)	−0.10*** (0.01)	−0.05*** (0.01)
Adj. R Squared	0.124	0.134	0.424	0.077	0.079	0.377
P-Value	0.000	0.000	0.424	0.000	0.000	0.000
N	57524	56954	35764	67561	66978	31608
Year and Month	Yes	Yes	Yes	Yes	Yes	Yes
Demographics	Yes	Yes	Yes	Yes	Yes	Yes
Job Chars	Yes	Yes	Yes	Yes	Yes	Yes

Notes: * Significant at 10% ** Significant at 5% *** Significant at 1%. Estimates are weighted. All columns include controls interview month and year effects (as well as an indicator for income being top-coded in specifications predicting logged annual income). Demographic characteristics include age and age squared, educational attainment (bachelor's degree or higher, associates degree, some college; reference group is less than high school or non-response), race (Black, other; reference group is white), a Hispanic ethnicity, relationship status (widowed, divorced, separated, cohabiting, missing cohabitation status), presence of children and region of residence (midwest, south, west). Job characteristics include job tenure (in years) and its square, occupation and industry indicators, an indicator for employment in the public sector (as well as indicators for do not know sector, refused to answer sector and missing sector information), number of employees at current employer site.

References

- Ahmed, A.M., Hammarstedt, M., 2010. Sexual orientation and earnings: a register data-based approach to identify homosexuals. *J. Popul. Econ.* 23 (3), 835–849.
- Aksoy, C.G., Carpenter, C.S., Frank, J., 2018. Sexual orientation and earnings: new evidence from the United Kingdom. *ILR Rev.* 71 (1), 242–272.
- Antecol, H., Jong, A., Steinberger, M., 2008. The sexual orientation wage gap: The role of occupational sorting, human capital and discrimination. *Indust. Labor Relat. Rev.* 61 (4), 518–543.
- Antecol, H., Steinberger, M.D., 2013. Labor supply differences between married heterosexual women and partnered lesbians: a semi-parametric decomposition approach. *Econ. Inq.* 51 (1), 783–805.
- Badgett, M.V.L., 1995. The wage effects of sexual orientation discrimination. *Indust. Labor Relat. Rev.* 54 (3), 726–739.
- Badgett, M.V.L., 2009. Best practices for asking questions about sexual orientation on surveys. Retrieved from The Williams Institute, UCLA School of Law Web site: <http://escholarship.org/uc/item/706057d5> (Accessed 1 June 2021).
- Badgett, M.V.L., 2018. Left out? Lesbian, gay, and bisexual poverty in the US. *Popul. Res. Policy Rev.* 37, 667–702.
- Black, D., Gates, G., Taylor, L., 2007. The measurement of same-sex unmarried partner couples in the 2000 US census. UCLA CCPR Population Working Papers.
- Blewett, L.A., Rivera Drew, J.A., King, M.L., Williams, K.C., 2019. Ipums health surveys: national health interview survey, version 6.4 [dataset]. minneapolis, mn: ipums. <http://dx.doi.org/10.18128/D070.V6.4>.
- Carpenter, C.S., Eppink, S.T., 2017. Does it get better? recent estimates of sexual orientation and earnings in the United States. *South. Econ. J.* 84 (2), 426–441.
- Dilmaghani, M., 2019. Sexual orientation and the 'cohabitation gap' in life satisfaction in Canada. *Rev. Econom. Household* 17 (4), 1163–1189.
- Gates, G.J., Steinberger, M.D., 2015. Same-sex unmarried partner couples in the American community survey: The role of misreporting, mis-coding, and misallocation. Paper presented at Annual Meeting of the Population Association of America. <https://pdfs.semanticscholar.org/97b0/63773977c20faf5c473eb2fe8c7b226fb840.pdf> (Accessed 21 February 2019).
- Giddings, L., Nunley, J.M., Zietz, J., 2014. Birth cohort and the specialization gap between same-sex and different-sex couples. *Demography* 51 (2), 509–534.
- Jepsen, L.K., Jepsen, C.A., 2002. An empirical analysis of the matching patterns of same-sex and opposite-sex couples. *Demography* 39 (3), 435–453.

- Klawitter, M., 2015. Meta-analysis of the effects of sexual orientation on earnings. *Indust. Relat.* 54 (1), 4–32.
- Laumann, E.O., Gagnon, J.H., Michaels, S., 1994. *The Social Organization of Sexuality: Sexual Practices in the United States*. The University of Chicago Press.
- Manning, W.D., Brown, S.L., Stykes, J.B., 2016. Same-sex and different-sex cohabiting couple relationship stability. *Demography* 53 (4), 937–953.
- Martell, M.E., Hansen, M.E., 2017. Sexual identity and the lesbian earnings differential in the U.S. *Rev. Soc. Econ.* 75 (2), 159–180.
- Sabia, J.J., 2015. Fluidity in sexual identity, unmeasured heterogeneity, and the earnings effects of sexual orientation. *Indust. Relat.* 54 (1), 33–58.
- Saewyc, E.M., Bauer, C.L., Skay, L.H., Bearinger, M.D., Resnick, E., Reis, G.R., Murphy, A., 2004. Measuring sexual orientation in adolescent health surveys: Evaluation of eight school-based surveys. *J. Adolesc. Health* 35 (4), 345–e1.