

Gender, Sexual Orientation, and Behavioral Norms in the Labor Market

In this study, I examine bias and behavioral norms based on sex and sexual orientation in the labor market. I created resumes that were manipulated on sex, perceived sexual orientation, and whether the resume used traditionally masculine or feminine adjectives. I find that men evaluated perceived-heterosexual women who used feminine adjectives more positively than when they used masculine adjectives. The resumes of perceived-gay women and perceived-heterosexual men were both immune to this effect. This suggests that heterosexual women are discouraged from masculine behavior that would be rewarded in the labor market, while gay women are not. Men evaluated resumes with an LGBT activity, particularly male resumes, negatively on numerous personality characteristics and their work history was viewed as less useful when compared to a resume with an identical work history. The same men who had the strongest reaction to perceived-heterosexual women using masculine adjectives also had the strongest negative reaction to male resumes with an LGBT activity. This pattern of findings suggests that male decision makers are biased in distinct ways that harm gay men, lesbian women, and heterosexual women in the labor market.

JEL codes: D03, J71

Gay men and lesbian women have different outcomes in the labor market compared to heterosexual men and women. Importantly, these differences are often different from each other. For example, research on earnings differences consistently find that gay men appear to earn less than similar heterosexual men, while lesbian women earn more than similar heterosexual women. A recent meta-analysis of 31 studies on earnings differences find an average earnings premium of 9% for lesbians and an average earnings penalty of 11% for men (Klawitter 2015). Similarly, resume audit studies find that gay men experience more discrimination in masculine fields or for advertisements using masculine words, while lesbian women face more discrimination in feminine fields (Tilcsik 2011; Ahmed et al 2013). The different experiences of gay men and lesbian women in the labor market suggest a nuanced story of differences in human capital, intra-family decisions, and discrimination.

Literature from psychology reveals cognitive biases that affect how women and sexual minorities are perceived that shed light on these differing labor market outcomes for gay men and lesbian women. First, people hold strong stereotypes about personality attributes based on sex and sexual orientation (Ahmed, Andersson, and Hammarstedt 2013; Kite and Deaux 1987; Broverman et al 1972; Deaux and Lewis 1984; Heilman 2001; Heilman and Parks-Stamm 2007). Second, while both heterosexual men and women have negative reactions to gay people, heterosexual men have stronger negative reactions to gay people than heterosexual women and also have stronger negative reactions to gay men than to lesbian women (Moskowitz, Rieger, and Roloff 2010; Raja and Stokes 1998; Gough, 2002; Herek 2002; Kite and Whitley 1996). Third, a broad literature has established that male laboratory participants prefer women who behave in traditionally feminine ways to those who behave in traditionally masculine ways (Heilman and Chen 2005; Heilman, Wallen, Fuchs, and Tamkins 2004; Rudman and Glick 1999; Rudman

1998; Rudman and Glick 2001; Bowles, Babcock, and Lai 2006; Amanatullah and Morris 2010; Gill 2004; Rudman and Phelan 2008).

These three patterns suggest the need for a deeper analysis of how gender and sexual orientation influence social interactions, particularly their implications in the labor market. In this study, I examine whether men and women evaluate job applicants differently based on their sex, sexual orientation, and if the applicant uses masculine or feminine language. I asked participants in an online laboratory setting to evaluate resumes that vary on sex, sexual orientation, and the use of traditionally masculine or feminine adjectives.

The results of the laboratory experiment show that male participants prefer women who use feminine language to those who use masculine language only if those women do not have an LGBT (lesbian, gay, bisexual, or transgender) activity on their resume. Women *with* an LGBT activity on their resumes are immune to this effect. Male participants rated both perceived-gay men and perceived-lesbian applicants worse than heterosexual applicants, but this effect was more consistent for gay men. Notably - men, both with and without an LGBT activity, do not experience any difference when they use masculine language on their resumes. Female participants, in contrast, only mildly differentiate between applicants based on sex, sexual orientation, and their choice of masculine or feminine adjective.

To examine if this result is driven by a small proportion of male participants with a large effect or if the pattern is widespread, I apply a finite mixture model. This approach reveals two latent classes among male participants: the majority of male participants display a strong effect and a much smaller group that displays no effect. This suggests that a large proportion of men are strongly influenced by norms regarding gender and sexual orientation, rather than the effect being driven by a few “bad apples.” This finding has important welfare implications, because

models of taste-based labor market discrimination highlight that it is the prejudice of the marginal employer who drives any discriminatory effect in equilibrium.

Motivating literature

Differences in labor market outcomes based on sex and sexual orientation

Along with the well-established differences in earnings between women and men (Blau and Kahn 2017), there is also consistent evidence that gay men earn less than heterosexual men (Badgett 1995; Carpenter 2007; Elmslie and Tebaldi 2007; Klawitter 2011; Martell 2012). Importantly, many studies also find that gay women earn substantially more than heterosexual women (Daniels and Yeung 2009; Antecol, Jong, and Steinberger 2008; Black et al. 2003; Jepsen 2007; Black, Gates, Sanders, and Taylor 2000; Blandford 2003; Berg and Lien 2002). There are notable exceptions - Badgett 1995 and Carpenter 2008 found a lesbian penalty and Carpenter 2005 and Frank 2006 found no difference for gay men. On average, these studies find an earnings penalty for gay men and a premium for lesbian women (Klawitter 2015).

These patterns remain consistent today. Table 1 and Table 2 show that men in same-sex couples make less money than similar men in different-sex couples, while the reverse holds true for women. Similarly, Table 3 shows that men in same-sex couples have lower labor force participation than men in different-sex couples, while women in same-sex couples have higher labor force participation than similar women in different-sex couples.

	(1)	(2)	(3)	(4)
	Men		Women	
	Natural log of income from wages and salary		Natural log of income from wages and salary	
Same-sex couple	-0.0614*** (0.0105)	-0.0517*** (0.0115)	0.0357*** (0.00926)	0.0328*** (0.0109)
Observations	209,353	86,068	177,703	83,052
R-squared	0.309	0.274	0.332	0.306
Sample	Men in couples	Men in couples without kids	Women in couples	Women in couples without kids

Standard errors in parentheses

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

Table 1: Result of regressing the natural log of income on an indicator for being in a same-sex couple. Control variables include education, age, age squared, hours worked, state by metro size fixed effects, usual hours worked, usual hours worked squared, usual hours worked cubed, and number of children fixed effects (for columns 1 and 3).

Included observations are for full time, year-round workers, ages 25 to 65, with non-zero income, who are the householder, spouse or partner and whose value for relationship to householder and sex has not been edited.

IPUMS ACS 2016

	(1)	(2)	(3)	(4)
	Men		Women	
	Income from wages and salary		Income from wages and salary	
Same-sex couple	-3,529*** (1,029)	-2,356** (1,104)	2,048*** (653.2)	1,893*** (733.5)
Observations	219,756	90,829	182,622	85,517
R-squared	0.205	0.179	0.217	0.201
Sample	Men in couples	Men in couples without kids	Women in couples	Women in couples without kids

Standard errors in parentheses

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

Table 2: Result of regressing the income on an indicator for being in a same-sex couple. Control variables include education, age, age squared, hours worked, state by metro size fixed effects, usual hours worked, usual hours worked squared, usual hours worked cubed, and number of children fixed effects (for columns 1 and 3).

Included observations are for full time, year-round workers, ages 25 to 65, who are the householder, spouse or partner and whose value for relationship to householder and sex has not been edited.

IPUMS ACS 2016

	(1)	(2)	(3)	(4)
	Men In the labor force		Women In the labor force	
Same-sex couple	-0.0516*** (0.00353)	-0.0539*** (0.00447)	0.0692*** (0.00495)	0.0442*** (0.00584)
Observations	513,622	215,441	541,452	237,667
R-squared	0.148	0.154	0.110	0.158
Sample	Men in couples	Men in couples without kids	Women in couples	Women in couples without kids

Standard errors in parentheses

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

Table 3: Result of regressing indicator for being in the labor force on an indicator for being in a same-sex couple. Control variables include education, age, age squared, state by metro fixed effects. Columns 1 and 3 include number of children fixed effects.

Included observations are the householder, spouse or partner, ages 25 to 65, and whose value for relationship to householder and sex has not been edited.

IPUMS ACS 2016

Men in same-sex couples are disproportionately represented in female-dominated occupations, while women in same-sex couples are much more likely to work in male-dominated occupations. This is consistent with findings from audit studies that gay men face more discrimination in traditionally male fields and gay women in traditionally female fields (Ahmed et al 2013). As shown in Figure 1, the proportion of men that are in same-sex couples in each occupation increases dramatically among occupations that are heavily female. The reverse pattern holds for women: the proportion of women that are in same-sex couples in each occupation is highest among occupations that are heavily male.

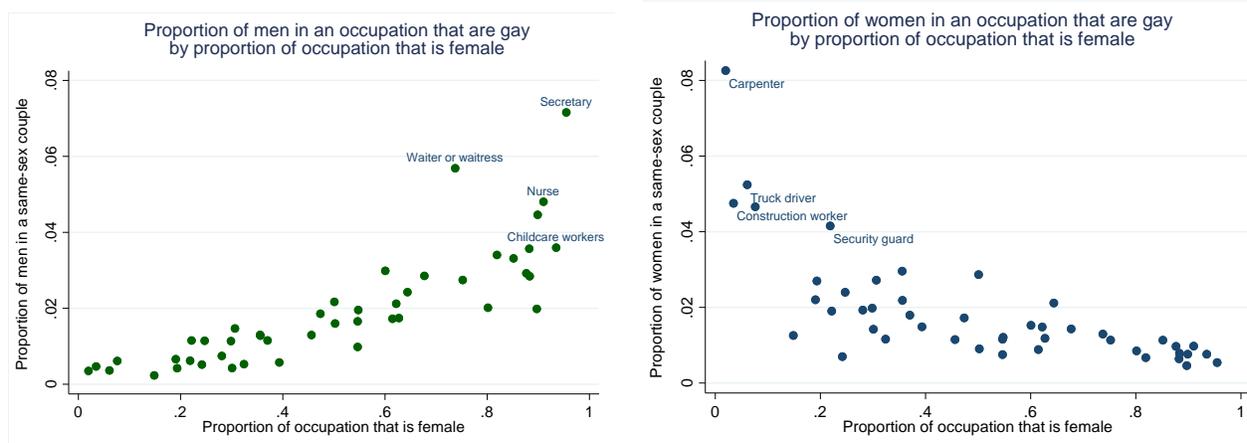


Figure 1: The proportion of men in each occupation that are in a same-sex couple by the proportion of the occupation that are women (left). The proportion of women in each occupation that are in a same-sex couple by the proportion of the occupation that are women (right).

Occupations shown have more than 50,000 observations. The proportion in a same-sex couple is computed based on those who are householder, spouse, or partner and whose value for relationship to head and sex is not edited. IPUMS 5-year pooled 2015 ACS.

The observed differences in income, labor force participation, and occupations for gay men and lesbian women may be driven by differences in human capital. For example, lesbian and bisexual women may anticipate not having a higher earning male partner and therefore invest in education in fields with higher earning potential, which are typically male-dominated fields (Klawitter 2015). A second commonly examined theory is the division of household labor – same-sex couples tend to have more egalitarian divisions of labor (Carrington 1999; [add citations here](#)). However, a less explored explanation for these patterns is social norms and cognitive biases that affect how LGB men and women are perceived by employers. In the next section, I describe the evidence on cognitive biases that affect how LGB men and women are perceived by others.

Insight from psychology about labor market differences

Psychology and behavioral economics offer important insight in the differences in labor market outcomes based on sex and sexual orientation. First, people hold stereotypes about a person's personality characteristics based on sex and sexual orientation. For example, women are perceived as being more cooperative, sensitive, and affectionate while men are seen as more independent and assertive (Broverman et al 1972; Deaux and Lewis 1984; Heilman 2001; Heilman and Parks-Stamm 2007). These descriptive stereotypes may cause people to anticipate a "lack of fit" between a heterosexual female applicant and a job that is perceived to require masculine traits (Heilman 1995; Weichselbaumer 2004; Weichselbaumer 2003).

Importantly, people believe that gay men and lesbian women hold more personality attributes typically associated with the opposite sex – eg, that lesbian women have more masculine traits than heterosexual women and gay men more feminine traits than heterosexual men (Kite and Deaux 1987; Ahmed, Andersson, and Hammarstedt 2013). Likewise, men with feminine traits and men with masculine traits are perceived as more likely to be gay (Deaux and Lewis 1984). This appears to affect labor market interactions, where employers in male-dominated fields or with masculine traits in the ad are less likely to contact a gay male applicant, and employers are in female-dominated fields are less likely to contact a lesbian applicant (Ahmed, Andersson, and Hammarstedt 2013; Tilcsik 2011).

Prescriptive stereotypes, stereotypes about how a woman *ought to be*, cause employers or coworkers to react negatively when women violate these stereotypes (Heilman 2001; Rudman and Phelan 2008). For example, a laboratory study found that being described as a "successful manager" increased the perceived competence and independence of both men and women (Heilman et al 1995). However, this also negatively affected women: respondents reported that

women are less “hostile to others” than men in general, but women who are “successful managers” are viewed as more “hostile to others” than men who are described as “successful managers” (Heilman et al 1995). More broadly, respondents react negatively when women engage in traditionally masculine actions in the workplace, including withdrawing altruistic behavior, being successful in a male occupation, and self-promotion in an interview (Heilman and Chen 2005; Heilman, Wallen, Fuchs, and Tamkins 2004; Rudman and Glick 1999; Rudman 1998; Rudman and Glick 2001). This negative reaction has been found across different experimental manipulations and among different groups of respondents.

One example of this pattern is how respondents react to women who attempt to negotiate for a higher salary (Bowles, Babcock, and Lai 2006; Amanatullah and Morris 2010). Both male and female laboratory respondents were less likely to want to work with women who negotiated and described them as less nice and more demanding, although equally competent. While men were also viewed as less nice and more demanding when they negotiated, there was no corresponding change in male respondents’ willingness to work with them. This suggests that women are penalized for negotiating because negotiating violates a prescription of femininity: niceness¹ (Bowles, Babcock, and Lai 2006).

¹ In a related literature on prosocial behavior, laboratory participants generally help women more than men; this effect is particularly strong for male participants, who want to be protective, heroic, or chivalrous (for a review see Eagly and Crowley (1986) and Eagly (2009)). Rather than punishing women who act in a counter-stereotypical way, participants may want to act in a chivalrous or protective way towards women who act in a feminine way. Indeed, Bowles, Babcock, and Lai (2006) find that women who did not negotiate were rated more highly than both men who negotiated and men who did not negotiate. While this suggests that the “backlash” could also be interpreted as a form of chivalry, the result is the same: discouraging women from behavior that is rewarded in the workplace.

In this paper, I examine three closely related questions. First, I examine if respondents show bias towards perceived gay and lesbian resumes and if there is more bias towards gay male resumes than lesbian resumes. That is, I test if the documented higher rates of homophobia towards gay men also result in worse assessment of their resumes. Second, I examine if the same behavioral prescriptions that face heterosexual women apply equally to gay women. Third, I test if the first two questions are driven by male or female participants. To examine these three inter-related questions, I test how people perceive resumes that vary on sex, sexual orientation, and that use traditionally masculine or feminine language.

Method

Experimental Manipulation

I created ten resumes formed as a compilation of resumes from recent college graduates who publicly listed their resume on Indeed.com², similar to the compilation of resumes used by Bertrand and Mullainathan (2004). The ten resumes were created from randomly selected resumes of people with a recently awarded bachelor's degree in biology³ from those listed on Indeed.com on a specific date (Oct 30, 2013) in Durham, North Carolina. Each compilation resume is created from randomly selected elements of each randomly selected resume. That is, a resume contains the university name from one resume, job title and description from another, another job from a third, etc. An annotated example resume is included in Appendix 1.

² Indeed.com is an online jobs posting site, similar to Monster.com and CareerBuilder.com. Applicants can post and resumes for free on Indeed.com, which are publicly accessible. Employers pay to post and promote job advertisements.

³ Unlike most fields, bachelor degrees in biology are neither over- nor under-represented among women; women earned 57.2% of all bachelor degrees in 2010 and 57.8% of all bachelor degrees in biological and agricultural sciences (National Center for Science and Engineering Statistics 2013).

The objective statement of the resume, a common feature of resumes of recent college graduates, includes adjectives that are either masculine or feminine. The masculine adjectives are *aggressive, enterprising, assertive, bold, confident, self-starter, achiever, and dynamic*. The feminine adjectives are *nurturing, caring, sympathetic, kind, supportive, encouraging, helpful, and cooperative*. These adjectives were selected from a pre-test that determined which adjectives are perceived as masculine. In the pre-test, one group of participants on Mechanical Turk (or MTurk, described in more detail below) viewed adjectives that were supposedly from a resume and answered the question “How likely is it that the applicant male?” Another group rated the same adjectives on how likely the applicant was female. As Figure 2 shows, adjectives that were viewed as relatively more likely to come from a male applicant by one group were viewed as less likely to come from a female applicant by the other group. This suggests that the manipulation will be effective; that is, using adjectives perceived as the most feminine and least masculine will signal traditionally feminine characteristics. Likewise, using adjectives perceived as the most masculine and least feminine signals traditionally masculine characteristics.

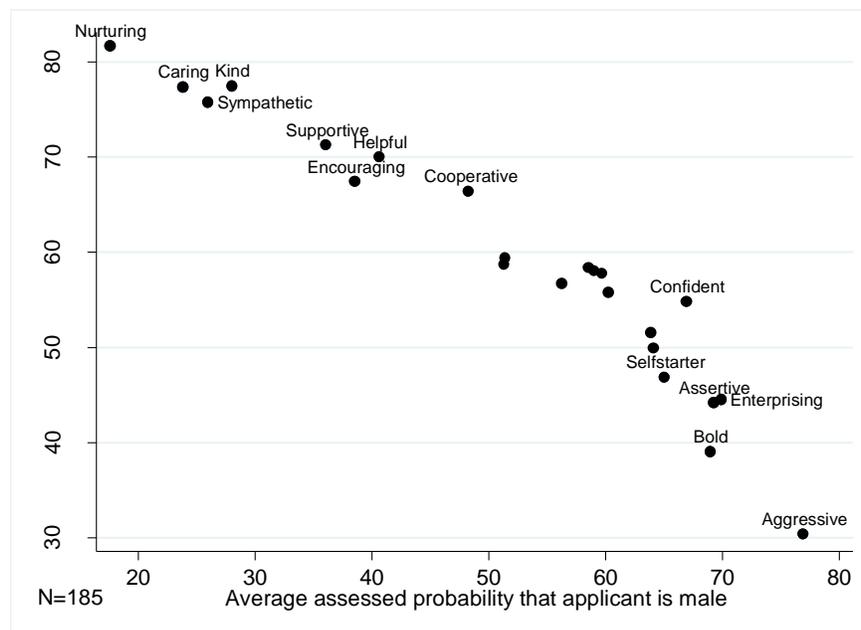


Figure 2: Results from a pre-test of adjectives. One group ($N=85$) reported how likely it was that the applicant was male (x-axis) while another group ($N=90$) reported how likely to applicant was female (y-axis). The adjectives with the strongest gender associations are labeled.

On the resume, the applicant's sex is indicated by the applicant's first name. The choice of a name is complicated by the fact that names also imply information about race. How favorably participants view resumes of gay applicants is different if the resume appears to be from an African American applicant than from a white applicant (Pedulla 2012). Pedulla (2012) found that participants rated the resumes of white gay men resumes worse than white heterosexual men, but the reverse pattern held for African American male resumes. For this project, I restricted myself to using names that are more common among white people, and will leave variation in the effect by race to future work. The first names used in the manipulations are names that are common among white, highly educated parents for babies born in in the 1990s (so would have been in their early twenties during the time of the study). The female names are Katherine, Emma, Alexandra, Julia, and Rachel (Levitt and Dubner 2005). The male names are Benjamin, Samuel, Alexander, John, and William (Levitt and Dubner 2005). Out of the 100 most common last names from the 2000 Census, I selected the last names with the highest percentage of white people. These last names are Wood, Sullivan, Myers, Peterson, Miller, Murphy, Fisher, Cox, Cook, and Long (Census 2012).

I manipulated the way sexual orientation would be perceived in each resume by including a leadership position in a college group. Some resumes indicated the applicant held a leadership position in a lesbian, gay, bisexual, or transgender group, while others indicated the applicant held a similar role in a non-LGBT organization. For example, one non-LGBT activity was labeled "Student Activities Board" and described how the applicant "planned and organized events promoting diversity." Tilcsik (2011) performed an audit study comparing callback rates for resumes of men that indicated they were the treasurer of a campus LGBT organization to those that indicated being the treasurer of a campus socialist organization. He found that 11.5%

of the resumes with the socialist organization received a callback compared to 7.2% for the resumes with the LGBT organization. This suggests that listing membership in a college LGBT organization on a resume is noticed by potential employers.

I recruited participants on Amazon Mechanical Turk (MTurk) to assess the resumes on personality characteristics and level of perceived skill. MTurk is a marketplace that pays piece rate for small tasks completed online. Other studies have shown that participants from these samples are not population representative (Mturk is skewed towards younger participants), but that they are closer to a population representative distribution of race than typical college campus recruitment methods, and their responses are reliable (Buhrmester, Kwang, and Gosling 2011; Berinsky, Huber, and Lenz 2012; Horton, Rand, and Zeckhauser 2011). I restricted to participants with an IP addresses in the United States and who had already successfully completed a specified number of tasks for other employers on MTurk.

The participants were told they were helping a company sort resumes for an entry-level position for a college graduate who majored in biology. Unlike most fields, bachelor degrees in biology are neither over- nor under-represented among women; women earned 57.2% of all bachelor degrees in 2010 and 57.8% of all bachelor degrees in biological and agricultural sciences (National Center for Science and Engineering Statistics 2013).

Concealing that the task was part of a research study reduced the chance that participants would alter their behavior to avoid appearing discriminatory or to “help” the researcher obtain the desired results. This concern is especially pertinent for workers on Mechanical Turk who appear to be more likely than traditional laboratory participants to attempt to guess the desired interpretation behind experiments and alter their behavior correspondingly (Berinsky, Huber, and Lenz 2011). Concealing the true intent of a research study is a common method in experimental

research in labor economics. For example, resume audit studies routinely use deception by applying to job listings with fictional resumes. This experimental protocol was approved by the Duke Institutional Review Board. All participants were debriefed after participating.

Each participant assessed ten resumes made up of two filler resumes and eight manipulated resumes. The eight manipulated resumes varied on sex, membership in an LGBT student group, and type of language used. The two filler resumes helped disguise the manipulation by using neutral adjectives (flexible, adaptable, talented, and reliable) and reducing the proportion of resumes that are identifiable as an LGBT applicant. The two filler resumes were always presented first to the participant. The following eight resumes were presented in a random order.

The participants were asked to view each resume and then evaluate the job candidate on a number of characteristics. The survey was designed so that participant had to stay on each resume page for a minimum of one minute. After viewing the whole resume for one minute, the participants then rated the usefulness of the applicant's work and extracurricular activities on pages where they were shown only that section of the resume. For example, the participant would see Figure 3 and use the slider shown in Figure 4 to rate the usefulness of the applicant's extracurricular activity.

participant's views towards lesbian, gay, bisexual, or transgender people and on gender roles based on questions from the General Social Survey.

There were ten versions of the questionnaire, so that each resume (comprised of the work experience, education, and overall formatting) was paired with each identity (the combination of sex, LGBT student group participation, and type of adjectives) once. For example, in one version of the questionnaire the first resume was a man with masculine adjectives who was in an LGBT student group. In another version, the same resume could be a woman with feminine adjectives who was not in an LGBT student group. While each participant only sees each resume once, each resume is used with all of the manipulations over the ten versions of the questionnaire. This experimental design allows for the inclusion of resume fixed effects and participant fixed effects.

To increase the quality of the data analyzed, I use numerous methods to exclude participants who could be a computer program answering questions randomly or a person who was not paying attention to the survey. First, set up the task on MTurk to only allow responses from those with high accuracy on previously submitted tasks on MTurk. Second, I incorporated an "attention check" question in the survey. The directions above the question instructed the participant to ignore the text of the question and instead type a specific word in the text box. If a participant was clicking randomly or not reading the directions, they would not type the word into the text box. 79 participants failed to type the correct word in the text box and were excluded from the analyses. Third, I asked participants to indicate their sex in a text box; eight participants put their age in the text box instead of their sex and one put a series of nonsensical letters — these participants are excluded from the analyses. Fourth, I asked participants to indicate if the applicant was male, female, or indeterminate; 24 participants said the resume was of indeterminate sex or incorrectly identified the applicant's sex more than one time, so were

excluded. Finally, if the participant spent less than 26.2 minutes (the 5th percentile) on the survey, they were excluded; this affected 30 participants. Many of the excluded participants were excluded for failing more than one of the quality checks. In total, 878 participants passed all of the quality checks.

It is possible that participants became aware of the purpose of the experiment and altered their behavior (Berinsky, Huber, and Lenz 2011). To check for this, I examine if participants rate resumes differently for resumes they saw early in the group compared to those they saw later. There is no difference between how participants rated resumes viewed early in the group compared to those they viewed later. All patterns described in the results section are also found if analysis is restricted to the first four manipulated resumes viewed. This suggests that even if participants became aware of the purpose of the experiment, they did not alter their behavior significantly.

Regression Framework

To test if respondents show bias towards perceived gay and lesbian resumes and if there is more bias towards gay male resumes than lesbian resumes, I examine if respondents rate resumes from perceived-gay men and women differently from perceived heterosexual applicants. I additionally test if this difference is different for male and female participants. I test the difference between resumes based on the sex of the applicant and if they include an LGBT activity. I then also if that difference is different between male and female participants. The outcome variable ($y_{i,r}$) is the participant's (r) assessment of each applicant's (i) resume.

$$\begin{aligned}
y_{i,r} = & \alpha + \beta * I(\text{Female and LGBT activity}_i) + \theta * I(\text{Female and non LGBT activity}_i) \\
& + \delta * I(\text{Male and LGBT activity}_i) + \beta_2 * I(\text{Female and LGBT activity}_i) * I(\text{Male participant}) + \\
& \theta_2 * I(\text{Female and non LGBT activity}_i) * I(\text{Male participant}) + \\
& \delta_2 * I(\text{Male and LGBT activity}_i) * I(\text{Male participant}) \\
& + \sum_{r=1}^{n-1} \tau_r * I(\text{participant} = r) + \sum_{k=1}^7 \omega_k * I(\text{base resume}_i = k) + \eta_{i,r}
\end{aligned} \tag{1}$$

Because I include participant fixed effects, I only include the indicator variable for being a male participant in the interactions.

The omitted group is perceived heterosexual male resumes and female participants. $\hat{\beta}$ estimates the difference in perceived hireability of female resumes with an LGBT activity compared to the omitted group when evaluated by female participants. $\hat{\delta}$ estimates this difference for male resumes with an LGBT activity. $\hat{\beta}_2$ then estimates if male participants respond differently to female resumes with an LGBT activity than female participants. $\hat{\delta}_2$ estimates if male participants respond differently to male resumes with an LGBT activity compared to female participants.

To test if resumes with traditionally masculine or feminine language are viewed differently based on the sex and sexual orientation of the applicant, I will examine if the four groups of resumes (sexual orientation by sex) have a difference impact of using masculine adjectives on a resume inspires. To do this, I augment Equation 1 to examine the difference within the four groups of resumes in the difference between how resumes with masculine adjectives are viewed compared to those with feminine adjectives.

$$\begin{aligned}
y_{i,r} = & \alpha + \beta * I(\text{Female and LGBT activity}_i) + \theta * I(\text{Female and non LGBT activity}_i) \\
& + \delta * I(\text{Male and LGBT activity}_i) + \beta_2 * I(\text{Female and LGBT activity}_i) * I(\text{Masculine adjective}) + \\
& \theta_2 * I(\text{Female and non LGBT activity}_i) * I(\text{Masculine adjective}) + \\
& \delta_2 * I(\text{Male and LGBT activity}_i) * I(\text{Masculine adjective}) \\
& + \sum_{r=1}^{n-1} \tau_r * I(\text{participant} = r) + \sum_{k=1}^7 \omega_k * I(\text{base resume}_i = k) + \eta_{i,r}
\end{aligned} \tag{2}$$

To test if this effect is stronger for male participants, I stratify the regression for male and female participants.

Finite Mixture Model

To examine if the effects found in Equations 1 and 2 are actually the average between two latent classes, I utilize finite mixture model analysis. That is, perhaps one group of people do not have a reaction when women use masculine adjectives and another group has a strong reaction. The analysis in Equation 4 would identify only the weighted average between the two groups. Finite mixture model analysis examines if there is heterogeneity in the sample based on unobserved characteristics.

Suppose there are two classes of participants, one with the relationship $y_{r,i} = \mathbf{x}_{r,i}\boldsymbol{\beta}_1 + \eta_{r,i}$ and the other $y_{r,i} = \mathbf{x}_{r,i}\boldsymbol{\beta}_2 + \omega_{r,i}$. Equation 6 shows the likelihood for participant r , who could be in the first latent class with probability π_1 or in the second class with probability $\pi_2 = 1 - \pi_1$ (where $\pi_1 \in [0,1]$). Participant r has I observations (I resumes reviewed by participant r) distributed with pdf f_1 if participant r is in group 1 and f_2 if they are in group 2. Assuming

these I observations are independent⁴, the product of their pdf represents the joint probability.

The sum of the two products, weighted by the probabilities of being in group 1 and group 2 is the likelihood function for person r .

$$L_r(\pi_1, \pi_2, \boldsymbol{\beta}_1, \sigma_1^2, \boldsymbol{\beta}_2, \sigma_2^2 | \mathbf{y}_r) = \pi_1 * \prod_{i=1}^I f_1(y_{r,i} | \mathbf{x}_{r,i}, \boldsymbol{\beta}_1, \sigma_1^2) + \pi_2 * \prod_{i=1}^I f_2(y_{r,i} | \mathbf{x}_{r,i}, \boldsymbol{\beta}_2, \sigma_2^2) \quad (6)$$

If all N participants are independent and identically distributed, the likelihood function is

$$L(\pi_1, \pi_2, \boldsymbol{\beta}_1, \sigma_1^2, \boldsymbol{\beta}_2, \sigma_2^2 | \mathbf{y}) = \prod_{r=1}^N \left[\pi_1 * \prod_{i=1}^I f_1(y_{r,i} | \mathbf{x}_{r,i}, \boldsymbol{\beta}_1, \sigma_1^2) + \pi_2 * \prod_{i=1}^I f_2(y_{r,i} | \mathbf{x}_{r,i}, \boldsymbol{\beta}_2, \sigma_2^2) \right] \quad (7)$$

Maximizing $\ln(L)$ by choosing $\pi_1, \pi_2, \boldsymbol{\beta}_1, \sigma_1^2, \boldsymbol{\beta}_2, \sigma_2^2$ will estimate a set of coefficients for each latent class and also the proportion of the sample that falls in each latent class. From this, I calculate the posterior probability that a participant is in a specific latent class, shown here for being in group 1:

$$\Pr(\text{Respondent } r \in \text{Group 1}) = \frac{\pi_1 * \prod_{i=1}^I f_1(y_{r,i} | \mathbf{x}_{r,i}, \boldsymbol{\beta}_1, \sigma_1^2)}{\pi_1 * \prod_{i=1}^I f_1(y_{r,i} | \mathbf{x}_{r,i}, \boldsymbol{\beta}_1, \sigma_1^2) + \pi_2 * \prod_{i=1}^I f_2(y_{r,i} | \mathbf{x}_{r,i}, \boldsymbol{\beta}_2, \sigma_2^2)} \quad (8)$$

⁴ When applied, all data will be demeaned by respondent to account for dependence between observations within the same respondent.

Results

Characteristics of Participants

The following graphs show the demographic characteristics of the participants recruited through Mechanical Turk. The first two graphs show that the participants tend to be young and well-educated: over 60% of the sample is under 35 and 50% has a Bachelor's degree or higher. The sample is represents both men and women well, with 52.5% of the sample being female.

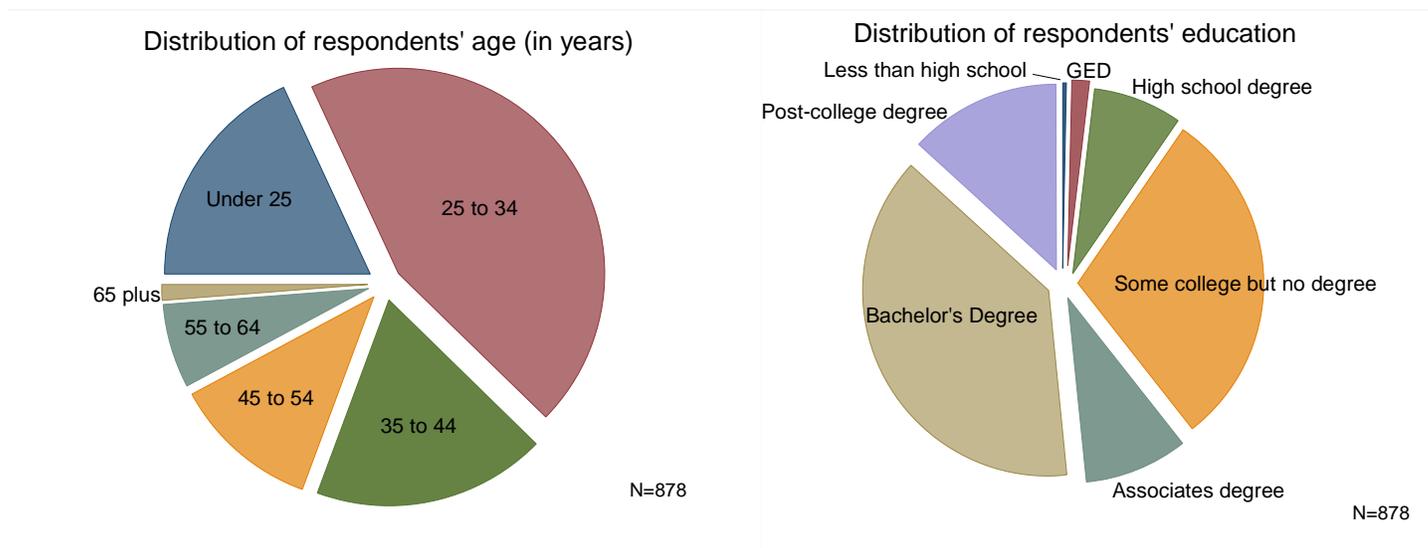


Figure 5: Self-reported age and education among MTurk respondents. N=878

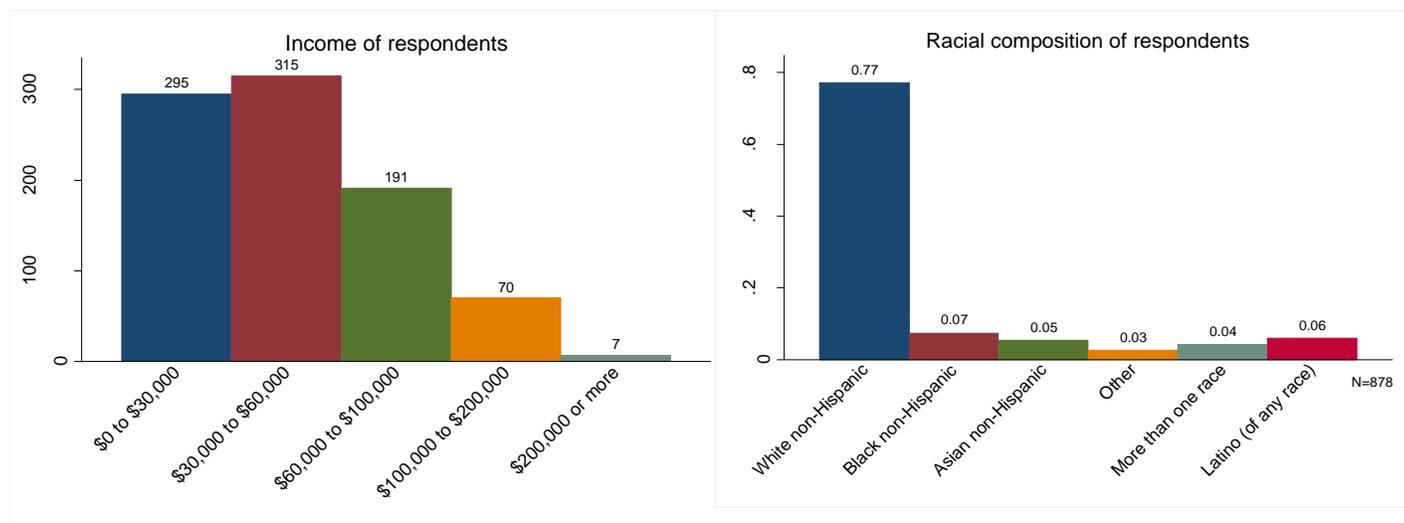


Figure 6: Self-reported household income and race/ethnicity among MTurk respondents. N=878

The majority of participants are non-Hispanic white, but with sizable portions that are non-Hispanic African American (7%), Asian (5%), and multi-racial (4%). The vast majority of participants live in households with an income of \$60,000 or less. The participants hold predominantly liberal views; 74% of participants agree or strongly agree that same-sex marriage should be legal.

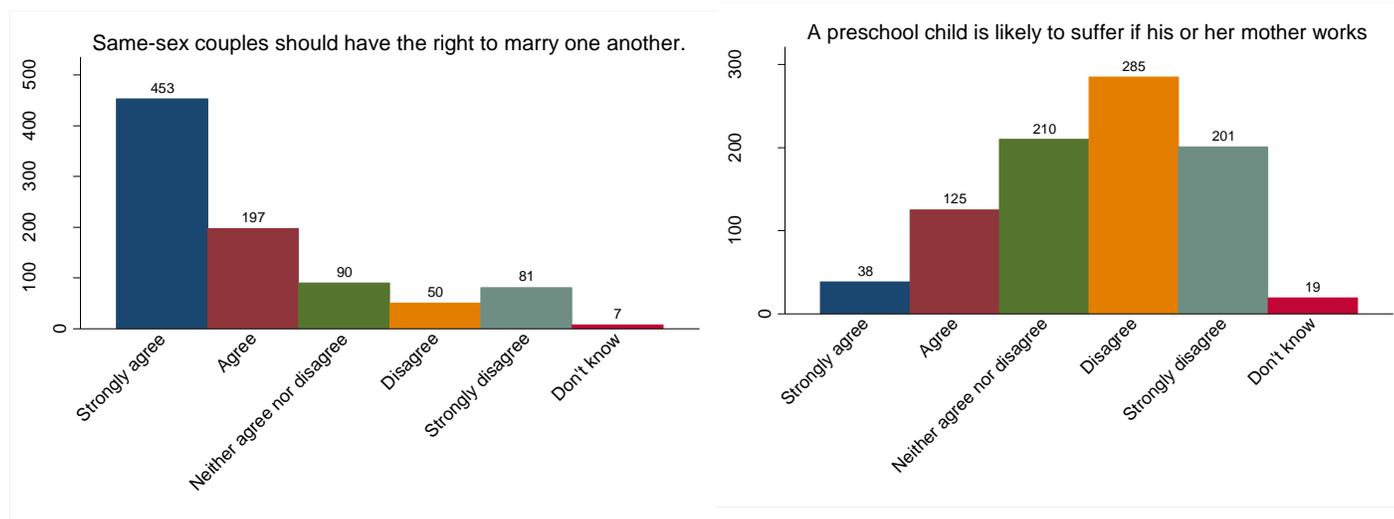


Figure 7: MTurk respondents' answers to questions from the General Social Survey about gender roles and same-sex marriage. N=878

Evaluating if the treatment was salient to participants

I first test if the use of adjectives in the objective statement was salient to the participant. I examine if the participants' evaluation of the applicant's personality is affected by the use of masculine adjectives relative to feminine adjectives. Participants evaluated eleven different personality characteristics on how well they described the applicant (from 0 to 100). The following graphs show that within each sex by sexual orientation subgroup, the use of the masculine adjectives makes an applicant appear more confident and less kind. Although not show, the same pattern holds for negative attributes; the use of the masculine adjectives makes an applicant appear less passive and more pushy.

Respondents' assessment of how "confident" an applicant is

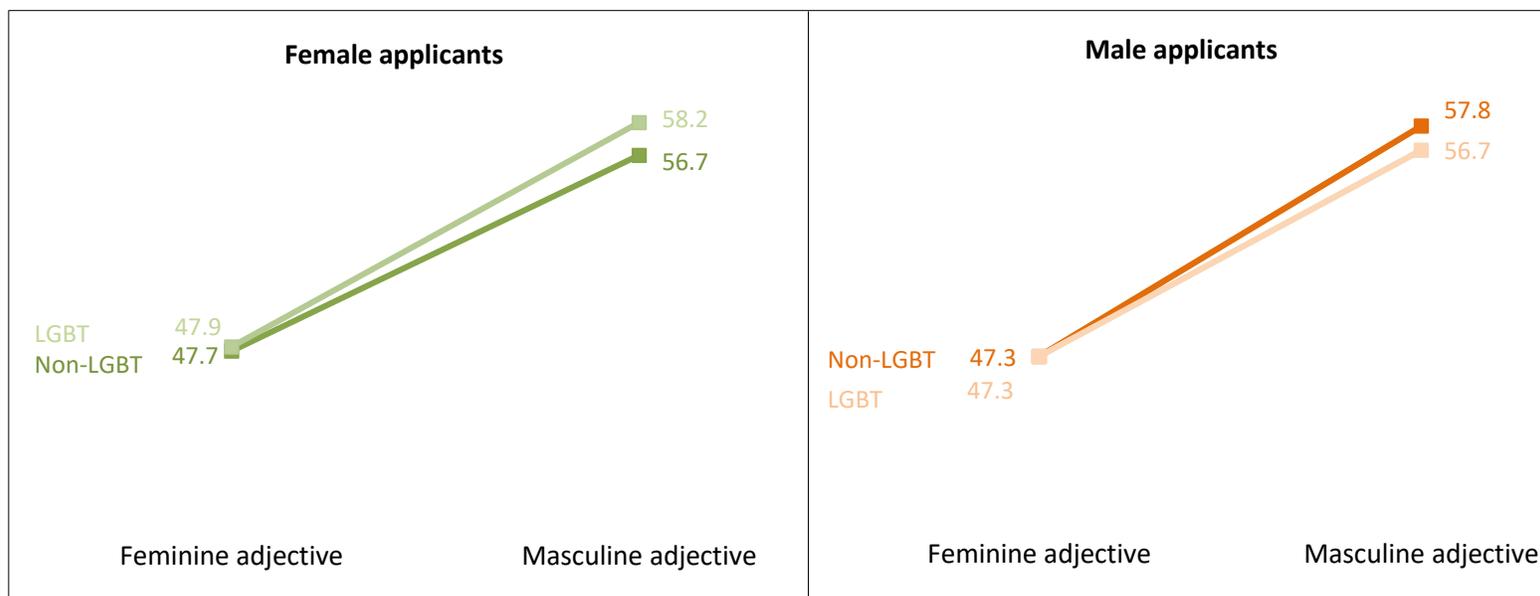


Figure 8.1: Assessment of the applicants' personalities. Respondents reported that applicants who used masculine adjectives were more confident within each sex by sexual orientation subgroup. $N=878$ Outcome variables could take on values from 0 to 100.

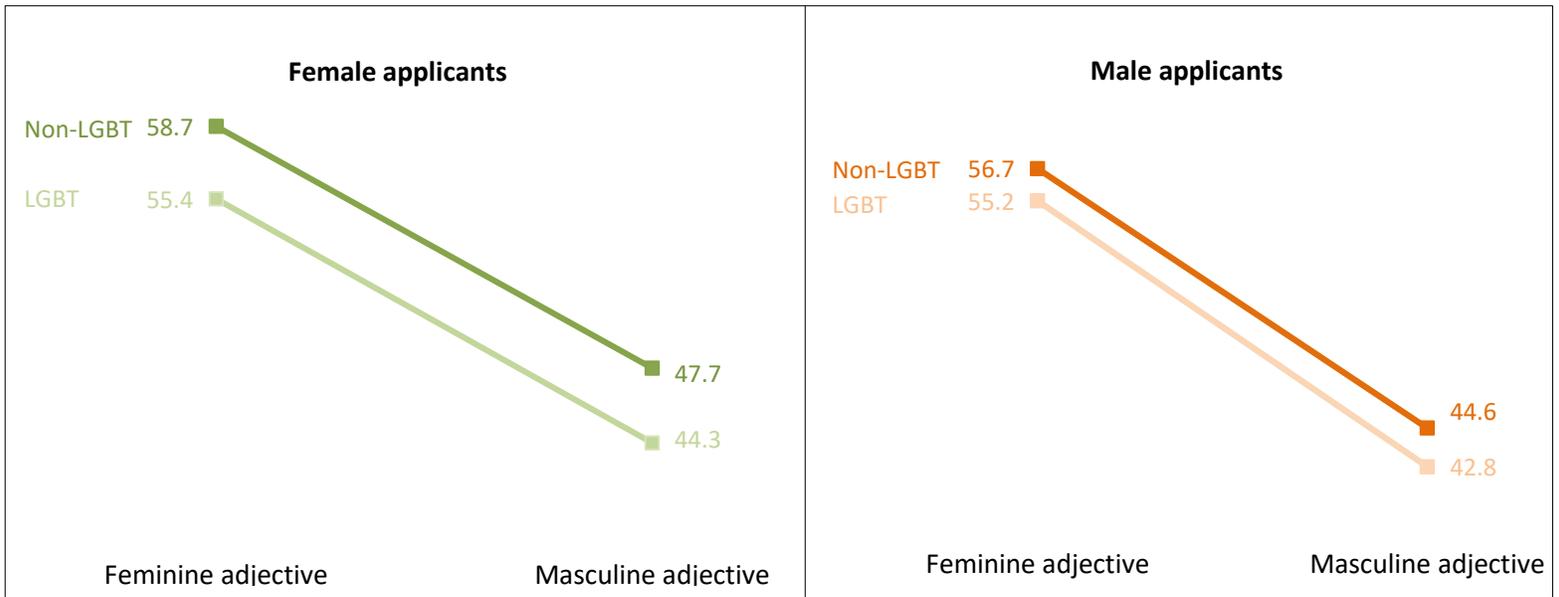


Figure 8.2: Assessment of the applicants' personalities. Respondents reported that applicants who used masculine adjectives were less kind within each sex by sexual orientation subgroup. $N=878$ Outcome variables could take on values from 0 to 100.

The results shown above suggest that the use of adjectives in the objective statement is effective — the participants noticed and responded to the treatment. In each sex by sexual orientation subgroup, the difference in the perceived personality characteristics (confident, kind, passive, and pushy) between the masculine and feminine adjectives is statistically significant at the .001 level (robust standard errors, clustered at the participant level, with participant fixed effects). The use of masculine adjectives strongly and consistently impacts how the participant views an applicant's personality.

The evaluations of "pushy" and "passive" had large masses on zero; to address this, I also evaluated dichotomous (positive or zero) versions of the "pushy" and "passive" measures in a logit model. The evaluations of "kind" and "confident" had masses on multiples of ten; I created ten bins (from 0 to 9, 10 to 19, and so on) for the "kind" and "confident" measures that I evaluated in an ordered logit model. The results of the logit and ordered logit models mirror those described above and were all significant at the .001 level (robust standard errors, clustered

at the participant level). The results for all eleven personality characteristics are statistically significant in each of the four subgroups and follow the same pattern; these results are available upon request.

Differences for LGBT resumes

The following table shows the results of Equation 1, where hireability measures are regressed on indicator variables for LGBT female resume, LGBT male resume, non-LGBT female resume, and each variable interacted with an indicator for male participant. Non-LGBT male resumes and female participants are the omitted group.

As shown below, female participants did not have a statistically significant reaction to LGBT female resumes, nor were male participants statistically significantly different in their reaction. Female participants largely did not have a statistically significant reaction to LGBT male resumes. However, male participants did: male participants had a stronger negative reaction to LGBT male resumes on multiple hireability measures. The non-LGBT female resumes were slightly preferred over the omitted group of non-LGBT male resumes, although these differences were largely not significant (except for “Willing to work with.”)

	Recommend	Committed	Willing to work with	Successful	Salary
LGBT female resume	-0.377 (0.960)	-0.906 (0.707)	-0.0401 (0.860)	-0.558 (0.815)	-0.322 (0.623)
LGBT female resume, male participant	-0.961 (1.396)	-0.339 (1.069)	-1.051 (1.314)	-0.344 (1.205)	-0.606 (0.950)
LGBT male resume	-1.316 (0.919)	-1.644** (0.688)	-0.575 (0.829)	-0.777 (0.787)	-0.383 (0.580)
LGBT male resume, male participant	-2.148 (1.330)	-1.763* (1.020)	-3.563*** (1.231)	-2.114* (1.132)	-2.098** (0.896)
Non-LGBT female resume	1.236 (0.934)	0.809 (0.723)	3.220*** (0.815)	1.198 (0.792)	0.759 (0.626)
Non-LGBT female resume, male participant	0.509 (1.305)	0.490 (1.009)	-0.467 (1.123)	0.703 (1.128)	0.124 (0.889)
Observations	7,016	7,016	7,016	7,016	7,016
R-squared	0.546	0.560	0.503	0.543	0.477

Robust standard errors in parentheses

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

Table 4: Results of an OLS regression of hireability measures on indicator variables for LGBT female resumes, LGBT male resume, non-LGBT female resume, and each variable interacted with an indicator for male participant. Controls include respondent and resume fixed effects. Errors are robust and clustered at the respondent level. Outcome variables could take on values from 0 to 100.

To examine if it is just the final outcomes that are impacted by the inclusion of an LGBT activity, I also examine if the LGBT extracurricular activities are perceived as less useful than equivalent activities. In order to control for the value of different extracurricular activities, I analyze a particular base resume where the extracurricular resume entry for the non-LGBT group is identical to the LGBT group, except for the name⁵. The first bullet point in the job description states “Planned and organized events that promoted diversity and raised awareness on various topics.” The entry includes other to demonstrate the magnitude of the role, such as “managed a committee of 10 to 12 members” (see Appendix 1 for full text). The LGBT club was named the “LGBT Alliance” while the non-LGBT club was named “Student Activities Board.”

⁵ Because the analysis was designed to examine differences *within* sexual orientation cells, the resumes were not designed to be identical *across* sexual orientation cells. Only one base resume had identical text for the non-LGBT and the LGBT versions of the resume.

After viewing the whole resume for one minute, participants were asked to evaluate the usefulness of the applicant's extracurricular activities on a scale of one to ten on a page where only the participants name, objective statement, and extracurricular activity were visible. Despite having the exact same detailed description of the role, the resumes with the non-LGBT club were rated as 2.84 on the useful scale while the LGBT version was only 2.51 ($p=.06$, robust standard errors). Because the usefulness ratings only took on whole numbers, I also use an ordered logit model to examine this question. The odds ratio on the LGBT activity indicator is .75 ($p=.03$, robust standard errors; $N=702$), indicating again that the LGBT extracurricular activity is viewed as less useful than the identical entry for a non-LGBT group. Restricting to only those participants who agree or strongly agree that same-sex marriage should be legal also results in a statistically significant difference: 2.96 for the non-LGBT group and 2.46 for the LGBT group ($p=.02$) and an odds ratio of .68 ($p=.01$).

This negative association also leaks into the assessment of the applicant's work history for male applicants being evaluated by male participants. After viewing the whole resume for one minute, the participant is shown a page with only the applicant's name and work history (no extracurricular activity) and asked to rate the usefulness of the applicant's work history on a scale of one to ten. The following regression include resume fixed effects; importantly the resumes have **identical work experiences**. The following table shows that for male applicants evaluated by male participants, having an LGBT activity on the resume results in a lower assessment of the usefulness of the applicant's work history ($-.074 - .122 = -.196$; p-value of F-test is $.03$). Additionally, both male and female participants rated LGBT male resumes as being more pushy than non-LGBT male resumes.

	Usefulness of work history	Pushy
LGBT female resume	-0.0287 (0.0972)	1.004 (0.758)
LGBT female resume, male participant	0.0888 (0.139)	0.180 (1.088)
LGBT male resume	-0.0738 (0.0946)	1.785** (0.719)
LGBT male resume, male participant	-0.122 (0.131)	-0.00964 (1.016)
Non-LGBT female resume	-0.0343 (0.0909)	-1.055 (0.647)
Non-LGBT female resume, male participant	0.0618 (0.135)	-0.328 (0.906)
Observations	7,016	7,016
R-squared	0.587	0.493

Table 5: Results of an OLS regression of “Usefulness of work history” in Equation 1. Controls include respondent and resume fixed effects. Errors are robust and clustered at the respondent level. Usefulness variable could take on values from 0 to 10. Pushy can take on values from 0 to 100.

Taken together, the above results suggest that having an LGBT related extracurricular activity is viewed negatively, with the negative effect being most consistent for for male LGBT resumes being evaluated by male participants. LGBT resumes, both male and female, were seen as more pushy than non-LGBT resumes. Male LGBT resumes were rated more negatively on the multiple hireability questions, particularly by male participants. Their extracurricular activity was viewed as less useful than an identical activity that is not LGBT related; this remained true even among those who support same-sex marriage. Moreover, when men evaluate the usefulness of a male applicant’s work history on a separate page from the extracurricular activity, they rate the work experience of a male applicant who has the LGBT activity as less useful relative to the identical work history of another applicant without the LGBT activity. The spillover did not occur for female applicants or for female participants.

The effect of masculine adjectives for women

The previous literature has found that women experience a negative reaction when they engage in traditionally male behavior. As the graphs below demonstrate, on average male participants rate male applicants who use masculine adjectives equally to those who use feminine adjectives. Male participants view female applicants who use masculine language as less successful ($p=.066$) and recommend them less ($p=.089$) than women who use feminine language (robust standard errors clustered by participant and participant fixed effects).

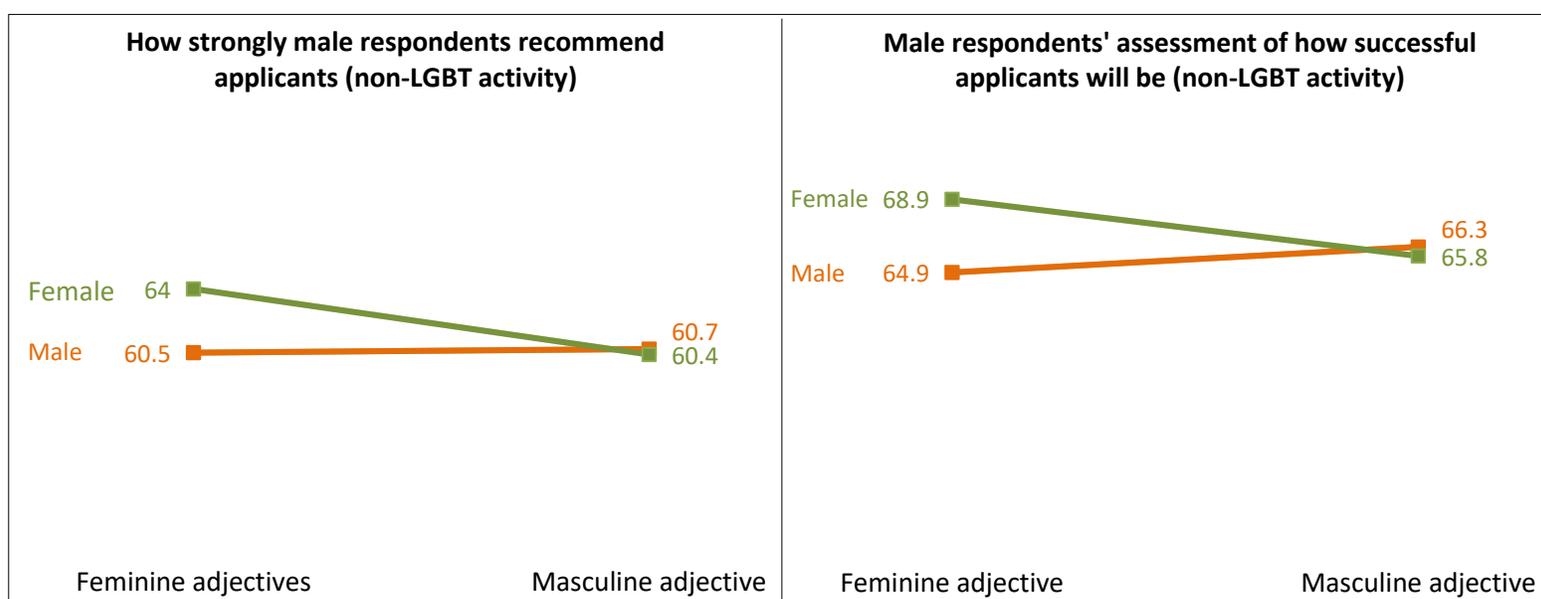


Figure 9: Assessment of the applicant's hireability (for resumes with the non-LGBT activity). Male respondents reported that female applicants who used masculine adjectives would be less successful and recommended them less than female applicants who used feminine language. $N=416$ Outcome variables could take on values from 0 to 100.

An important note is that women who use feminine language are rated better on these measures than any other group, including men of both adjective types. This is consistent with Bowles, Babcock, and Lai (2006), who find that women who did not negotiate were rated more highly than both men who negotiated and men who did not negotiate. This suggests that what is considered a negative reaction to women using masculine adjectives could also be viewed as a

premium for women using feminine adjectives. To examine this more closely, I compared male and female applicants among the filler resumes (the first two resumes the participant viewed). These filler resumes used gender neutral adjectives and the non-LGBT activity. Female filler resumes were also rated more highly than male filler resumes on salary and how successful the applicant would be (difference in means are significant at the .05 level, with participant fixed effects and robust clustered errors at the participant level). This suggests a preference for female applicants except when they use masculine adjectives, rather than a preference for women who use feminine adjectives over all other groups. This is consistent with literature on prosocial behavior, where male participants help women more than men (Eagly and Crowley 1986; Eagly 2009). However, this analysis must be interpreted cautiously, because the filler resumes were intended to help the participant adjust to the experiment rather than be used in the analysis.

The following graphs show that male participants think that female applicants with the LGBT activity and masculine adjectives will be as successful and recommend them equally to those with feminine adjectives. As before, women with the non-LGBT activity who use feminine language are thought of as more successful and receive higher recommendations than those who use masculine language. This suggests that gay women are treated more like men — either they miss out on the premium that women without the LGBT activity receive when using feminine adjectives or they are exempt from the negative reaction to masculine adjectives.

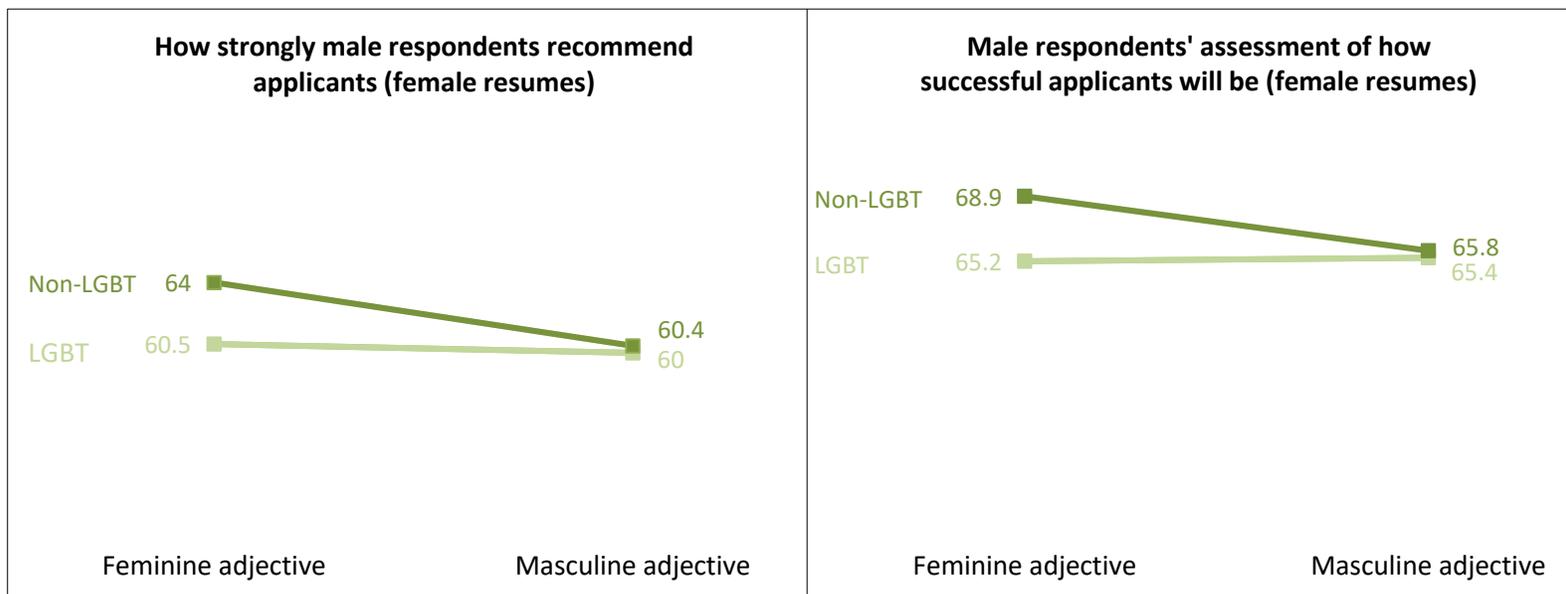


Figure 10: Assessment of the applicant's hire-ability (for resumes of female applicants). Male respondents reported that female applicants with the non-LGBT activity who used masculine adjectives would be less successful and recommended them less than female applicants who used feminine adjectives. No such pattern holds for the resumes with the LGBT activity. $N=416$ Outcome variables could take on values from 0 to 100.

The following graph examines resumes from male applicants, rather than female. For male resumes, both with the LGBT activity and with the non-LGBT activity, male participants had slightly higher average ratings for those with the masculine adjectives, but the difference is not statistically significant.

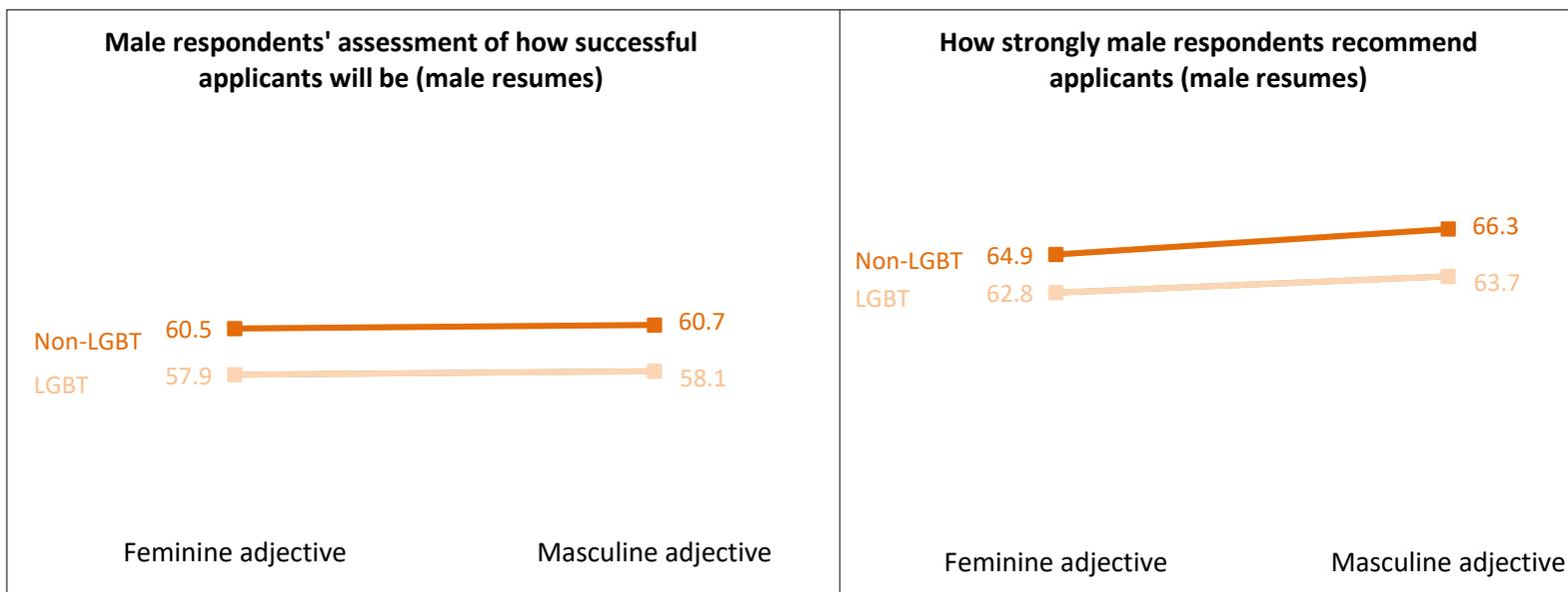


Figure 8: Assessment of the applicant's hireability (for resumes of male applicants). Male respondents did not have a statistically significant difference in how much they recommend the applicant or how successful they thought the applicant would be when they use masculine adjectives. $N=416$ Outcome variables could take on values from 0 to 100.

The regression results mirror the results in the summary statistics above. For male participants, women without an LGBT who use feminine adjectives are rated more highly than those who use masculine adjectives. For women with the LGBT activity, there is no difference between resumes with masculine adjectives or feminine adjectives. This is a striking finding: participants do not hold perceived-gay women to the same norms as perceived-straight women. Men, either with or without an LGBT activity, are rated equally regardless of their use of adjectives.

	Recommend	Committed	Willing to work with	Successful	Salary
Resume with masculine adjectives	0.153 (1.302)	-1.353 (1.004)	-2.526** (1.176)	1.370 (1.152)	1.211 (0.980)
LGBT female resume	-1.088 (1.384)	-2.375** (0.975)	-0.846 (1.183)	-0.344 (1.215)	-0.913 (0.980)
LGBT female resume & masculine adjectives	-0.411 (1.845)	2.300* (1.272)	-0.586 (1.556)	-1.093 (1.537)	-0.0338 (1.241)
LGBT male resume	-3.962*** (1.334)	-4.582*** (1.024)	-4.347*** (1.203)	-2.940** (1.154)	-3.125*** (0.975)
LGBT male resume & masculine adjectives	0.984 (1.749)	2.333* (1.339)	0.297 (1.578)	0.0458 (1.564)	1.230 (1.292)
Non-LGBT resume female	3.491*** (1.282)	1.602* (0.941)	3.885*** (1.054)	4.020*** (1.136)	2.164** (0.948)
Non-LGBT resume female & masculine adjectives	-3.636** (1.849)	-0.667 (1.404)	-2.333 (1.598)	-4.351*** (1.566)	-2.647** (1.330)
Observations	3,328	3,328	3,328	3,328	3,328
R-squared	0.531	0.571	0.507	0.542	0.478
Participants	Male	Male	Male	Male	Male

Robust standard errors in parentheses

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

Table 6: Results of an OLS regression of hireability measures in Equation 2. Controls include respondent and resume fixed effects. Errors are robust and clustered at the respondent level. Outcome variables can take on values from 0 to 100.

Female participants largely do not rate resumes differently based on adjective use, except for less willingness to work with people who use masculine adjectives. This is not different based on sex or perceived sexual orientation. Female participants are more willing to work with perceived-straight women applicants, but this does not diminish when they use masculine adjectives.

	Recommend	Committed	Willing to work with	Successful	Salary
Resume with masculine adjectives	-0.260 (1.259)	-0.487 (1.016)	-6.259*** (1.170)	0.614 (1.113)	0.475 (0.879)
LGBT female resume	-0.519 (1.321)	-0.390 (1.027)	-0.247 (1.075)	-0.327 (1.116)	-0.324 (0.904)
LGBT female resume & masculine adjectives	0.360 (1.786)	-0.980 (1.469)	0.368 (1.512)	-0.450 (1.540)	0.0139 (1.251)
LGBT male resume	-0.942 (1.258)	-1.908* (0.972)	-0.809 (1.051)	-1.122 (1.022)	-0.600 (0.822)
LGBT male resume & masculine adjectives	-0.783 (1.847)	0.506 (1.402)	0.398 (1.579)	0.640 (1.446)	0.388 (1.199)
Non-LGBT resume female	1.715 (1.252)	1.180 (0.978)	3.008*** (0.994)	1.708 (1.071)	1.019 (0.842)
Non-LGBT resume female & masculine adjectives	-1.030 (1.749)	-0.759 (1.314)	0.396 (1.477)	-1.098 (1.426)	-0.568 (1.186)
Observations	3,688	3,688	3,688	3,688	3,688
R-squared	0.561	0.554	0.521	0.542	0.481
Participants	Female	Female	Female	Female	Female

Robust standard errors in parentheses

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

Table 7: Results of an OLS regression of hireability measures in Equation 2. Controls include respondent and resume fixed effects. Errors are robust and clustered at the respondent level. Outcome variables can take on values from 0 to 100.

Finite Mixture Model

To investigate if the penalty for including an LGBT activity on a resume is the average between two latent classes, I apply the finite mixture model from the likelihood function in Equation 7. This analysis reveals two distinct classes among male participants, but not among female participants. In the following regressions, all the data is demeaned by participant to account for the dependence between observations within the same participant.

Among male participants, for the outcome variables “Willing to work with” “Salary” and “Successful,” there is one group of respondents (Class 2) that has a strong negative reaction to male resumes with the LGBT activity, and a second group with a weaker negative reaction (Class 1). For the “Recommend” outcome variable, the two groups are not distinct: both with a moderate negative effects. The group with the stronger reaction comprises the majority of male respondents: the estimated proportion ranges from .60 to .65.

	Recommend		Successful		Salary		Willing to work with	
	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2
LGBT female resume	-0.307 (1.034)	-0.438 (1.467)	0.249 (0.710)	-0.625 (1.250)	-0.140 (0.399)	-0.531 (0.997)	0.364 (0.563)	-1.330 (1.161)
LGBT male resume	-2.864*** (1.080)	-2.417 (1.480)	-1.646** (0.727)	-2.804** (1.257)	-0.241 (0.384)	-2.967*** (0.999)	-1.175** (0.564)	-5.309*** (1.165)
Non-LGBT female resume	1.395 (1.077)	1.644 (1.477)	0.526 (0.699)	2.593** (1.245)	-0.130 (0.397)	1.345 (0.996)	0.789 (0.543)	3.623*** (1.159)
Observations	3,328	3,328	3,328	3,328	3,328	3,328	3,328	3,328
Estimated proportion	0.37	0.63	0.40	0.60	0.36	0.64	0.35	0.65

Standard errors in parentheses

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

Table 8: Results of FMM model regression of hireability measures. All variables are demeaned by respondent. Outcome variables can take on values from 0 to 100. Male participants.

Among female participants, there is no strong pattern of negative reaction to resumes with an LGBT activity, even when split into latent classes.

	Recommend		Successful		Salary		Willing to work with	
	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2
LGBT female resume	-1.015 (1.231)	-1.246 (1.280)	-0.257 (0.662)	-1.467 (1.068)	-1.024** (0.446)	-0.647 (0.979)	0.897* (0.512)	-0.721 (0.967)
LGBT male resume	-1.211 (1.196)	-2.014 (1.274)	-0.354 (0.672)	-1.394 (1.070)	-0.990** (0.430)	-0.455 (0.977)	0.455 (0.517)	-1.051 (0.967)
Non-LGBT female resume	1.443 (1.202)	1.138 (1.276)	1.227* (0.688)	1.167 (1.071)	-0.491 (0.431)	1.478 (0.978)	2.033*** (0.515)	3.570*** (0.968)
Observations	3,688	3,688	3,688	3,688	3,688	3,688	3,688	3,688
Estimated proportion	0.25	0.75	0.30	0.70	0.39	0.61	0.22	0.78

Standard errors in parentheses

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

Table 9: Results of FMM model regression of hireability measures. All variables are demeaned by respondent. Outcome variables can take on values from 0 to 100. Female participants.

The result is similar when examining the negative reaction to using masculine adjectives. Among male participants, there is a large latent class with a strong negative response when perceived-straight women use masculine adjectives and a strong positive response when they use feminine adjectives. Particularly for “Willing to work with” and “Salary” this latent class also tends to have stronger negative reactions to perceived-gay male resumes.

	Recommend		Successful		Salary		Willing to work with	
	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2
Resume with masculine adjectives	-4.030*** (1.555)	2.645 (2.056)	-0.906 (0.996)	3.014* (1.738)	0.695 (0.592)	1.623 (1.426)	-2.099*** (0.799)	-2.695* (1.624)
LGBT female resume	-2.373 (1.455)	1.283 (2.037)	-1.051 (0.980)	1.296 (1.744)	-0.104 (0.565)	-0.426 (1.424)	-0.440 (0.782)	-0.418 (1.621)
LGBT female resume & masculine adjectives	4.161** (2.074)	-3.451 (2.887)	2.536* (1.328)	-3.782 (2.452)	-0.0707 (0.776)	-0.221 (2.010)	1.664 (1.110)	-1.844 (2.296)
LGBT male resume	-4.710*** (1.488)	-1.372 (2.049)	-1.694 (1.038)	-2.232 (1.759)	0.338 (0.569)	-3.870*** (1.434)	-1.844** (0.822)	-4.828*** (1.629)
LGBT male resume & masculine adjectives	4.246* (2.212)	-2.417 (2.909)	0.00621 (1.415)	-1.062 (2.469)	-1.119 (0.825)	1.712 (2.022)	1.360 (1.158)	-0.942 (2.300)
Non-LGBT resume female	0.0939 (1.513)	5.364*** (2.035)	0.613 (0.966)	6.251*** (1.738)	0.824 (0.596)	3.023** (1.424)	0.413 (0.776)	5.657*** (1.624)
Non-LGBT resume female & masculine adjectives	2.102 (2.080)	-7.173** (2.895)	-0.263 (1.331)	-7.299*** (2.457)	-1.788** (0.813)	-3.386* (2.013)	0.694 (1.118)	-4.059* (2.296)
Observations	3,328	3,328	3,328	3,328	3,328	3,328	3,328	3,328
Estimated proportion	.36	.64	.40	.60	.37	.63	.35	.65

Standard errors in parentheses

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

Table 10: Results of FMM model regression of hireability measures. All variables are demeaned by respondent. Outcome variables can take on values from 0 to 100. Male participants.

Among female participants, there is a negative reaction to using masculine adjectives for “Willing to work” but this does not vary by the sex or sexual orientation of the applicant. As with the previous simpler model in Table 9, one group among female participants shows a strong preference to work with perceived-straight women who do not use the masculine adjective. But beyond that, female participants show no evidence of having a differential reaction to applicant’s use of masculine language even when split into latent classes.

	Recommend		Successful		Salary		Willing to work with	
	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2
Resume with masculine adjectives	-1.147 (1.544)	0.0495 (1.782)	-1.646* (0.939)	1.553 (1.502)	-0.121 (0.611)	0.762 (1.338)	-1.715** (0.741)	-7.517*** (1.350)
LGBT female resume	-0.646 (1.724)	-1.924 (1.797)	-1.682* (0.948)	-0.797 (1.504)	-1.821*** (0.657)	-0.443 (1.340)	0.812 (0.730)	-1.050 (1.347)
LGBT female resume & masculine adjectives	-0.663 (2.238)	1.335 (2.522)	2.692** (1.297)	-1.262 (2.125)	1.339 (0.876)	-0.289 (1.890)	0.117 (1.038)	0.664 (1.904)
LGBT male resume	-1.405 (1.690)	-1.775 (1.794)	-0.923 (0.942)	-1.833 (1.503)	-0.934 (0.602)	-1.073 (1.335)	0.276 (0.709)	-1.382 (1.345)
LGBT male resume & masculine adjectives	0.519 (2.289)	-0.512 (2.530)	0.750 (1.288)	1.054 (2.121)	-0.211 (0.854)	1.252 (1.886)	0.192 (0.999)	0.701 (1.902)
Non-LGBT resume female	0.613 (1.670)	2.025 (1.797)	-0.114 (0.975)	2.484 (1.513)	-0.676 (0.616)	1.888 (1.339)	1.605** (0.732)	3.452** (1.345)
Non-LGBT resume female & masculine adjectives	1.834 (2.159)	-1.828 (2.523)	2.505* (1.323)	-2.558 (2.133)	0.190 (0.876)	-0.860 (1.892)	0.757 (1.061)	0.272 (1.904)
Observations	3,688	3,688	3,688	3,688	3,688	3,688	3,688	3,688
Estimated proportion	.25	.75	.30	.70	.37	.63	.22	.78

Standard errors in parentheses

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

Table 11: Results of FMM model regression of hireability measures. All variables are demeaned by respondent. Outcome variables can take on values from 0 to 100. Female participants.

Posterior probabilities

Using Equation 8 to calculate posterior probabilities shows that the male participants are distinctly split between the two latent classes. That is, almost all participants have posterior probability of being in the high discrimination groups of either over .9 or under .1; there are few ambiguous participants. Histograms for each outcome variable for both FMM models are shown in Appendix 4.

The two types of discrimination, against men with an LGBT organization and perceived-heterosexual women who use masculine adjectives, are strongly correlated. Table 10 showed that discrimination against LGBT male resumes tends to be higher in Class 2, which had stronger discrimination against perceived-heterosexual women with masculine adjectives. To look at this

from a second angle, I run a simplified version of the FMM model examining the impact of masculine adjectives that only compares men and women **without** the LGBT activity.

	Recommend		Successful		Salary		Willing to work with	
	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2
Resume with masculine adjectives	-1.807 (1.658)	1.071 (1.909)	0.0534 (1.005)	2.479 (1.875)	0.0536 (0.495)	1.892 (1.379)	-1.088 (0.773)	-3.249** (1.656)
Non-LGBT resume female	0.398 (1.672)	4.691** (1.900)	1.381 (0.947)	5.921*** (1.868)	0.324 (0.499)	3.154** (1.380)	0.797 (0.734)	5.466*** (1.657)
Non-LGBT resume female & masculine adjectives	1.237 (2.197)	-5.859** (2.690)	-0.908 (1.383)	-7.113*** (2.652)	-1.206* (0.712)	-3.590* (1.951)	-0.524 (1.078)	-3.412 (2.344)
Observations	1,664	1,664	1,664	1,664	1,664	1,664	1,664	1,664
Estimated proportion								

Standard errors in parentheses

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

Table 12: Results of FMM model regression of hireability measures. All variables are demeaned by respondent. Outcome variables can take on values from 0 to 100. Male participants and non-LGBT resumes.

Table 13 shows the correlation for the posterior probability of between being in Class 2 on Table 8 and Class 2 in Table 12. That is, the correlation between the posterior probability of being in the higher discrimination group for the LGBT model and for the masculine adjective model when estimated on non-LGBT resumes.

Recommend	Successful	Salary	Willing to work with
.9833	.9259	.9972	.9387

Table 13: Correlation between posterior probability of being in Class 2 for LGBT model (Table 8) and masculine adjective model (Table 12)

All four variables have a very high correlation between the two high discrimination groups. This suggests that men who hold strong beliefs that women should act in a feminine manner also have the stronger negative reaction to men with an LGBT activity. These are two different threats to masculinity that both affect how these men evaluate a job applicant's resume.

Conclusions

Gay men and lesbian women have different labor market outcomes from similar heterosexual people, but these differences are often different from each other. In this paper, I examined if social norms and cognitive biases affect how LGB men and women are perceived by employers. I test interrelated questions that may explain why gay men and lesbian women have different labor market outcomes. First, I examined if respondents show bias towards perceived gay and lesbian resumes and if there is more bias towards gay male resumes than lesbian resumes. Second, I examined if the same behavioral prescriptions that face heterosexual women apply equally to gay women. I then tested if the first two questions are driven by male or female participants.

I found that resumes with an LGBT activity are penalized. These resumes are viewed more negatively on numerous personality characteristics and have lower rating on the hireability measures. These effects are strongest for perceived-gay men being evaluated by male participants. A perceived-gay man's work history is viewed as less useful when compared to a resume with an identical work history, suggesting that the negative view about an LGBT activity on a man's resume spills over to the evaluation of other unrelated aspects of the resume. This pattern held even among laboratory participants who reported progressive views on LGBT rights. This suggests that there is a substantial and persistent penalty for including an LGBT activity on their resume.

But this study didn't only find a penalty for including an LGBT activity – I also show that women with an LGBT activity on their resume are not held to the same behavioral norms that perceived-heterosexual women face. Numerous laboratory studies in have shown that men prefer when women act in traditionally feminine ways rather than in traditionally masculine

ways (Bowles, Babcock, and Lai 2006; Heilman and Chen 2005; Heilman, Wallen, Fuchs, and Tamkins 2004; Rudman and Glick 1999; Rudman 1998; Rudman and Glick 2001). I found that using feminine language is viewed positively when used by perceived-heterosexual women, but not perceived-gay women.

Male participants rate perceived-heterosexual female applicants who use masculine adjectives unfavorably relative to when they use feminine adjectives. The difference in the difference between male and female applicants who use masculine or feminine language is significant for three important hireability measures: how much the participant would recommend the company hire the applicant, recommended starting salary, and their likelihood of success. In contrast, perceived-gay women are completely exempt from this effect. Perceived-gay female applicants are *not* rated differently when they use masculine adjectives relative to when they use feminine adjective. Latent class analysis suggests that this average effect is driven by a larger effect in a majority of male participants tempered by a weaker reaction in a minority of male participants.

Importantly, the same men who reacted negatively to LGBT activities on men's resumes **also** reacted the most strongly to the difference between feminine and masculine adjectives on perceived-heterosexual women's resumes.

Female participants did not rate any group differently based on the applicant's choice of adjective. Even when split into latent classes, both classes of female participants rated perceived-heterosexual female applicants who used masculine language equally to those applicants who used feminine adjectives. Female participants also largely did not rate a group differently based on their sexual orientation, although there was a preference to work with perceived-heterosexual women.

Taken together, these results suggest social norms and cognitive biases that affect how gender and sexual orientation are perceived by male decision makers in employment settings. Literature from psychology has found persistent patterns of cognitive biases that affect how women and sexual minorities are perceived – and indeed these affected how laboratory participants rated resumes. Two different threats to masculinity, heterosexual women acting in traditionally masculine ways and gay men, both negatively affect how men evaluate a job applicant's resume.

MORE HERE- occupation sorting. Gay men more often sort into female dominated fields – less discrimination. perceived gay women benefit in some ways by being exempt from some norms – more able to thrive in male dominated fields. The men with the strongest reactions to straight women's femininity vs. masculinity also responded most strongly to gay men. Biases about gender norms and sexual orientation are tied together in the labor market. Majority of men: #notallmen, but most men.

These results are inconsistent with the theory that a driving factor is information about productivity. If the impetus was a concern for productivity, male and female participants should have similar reactions to the adjectives. For productivity to result in only male participants evaluating resumes differently based on the adjective and only for resumes from heterosexual women, male and female participants would have to perceive dramatically different informational content in adjectives used specifically by heterosexual women.

Appendix 1: Resume example for laboratory experiment

John Long

Greenville, NC

JohnLong@

The name and email address fields are used to manipulate the sex of the applicant.

The two adjective fields are used for adjectives that are perceived as more masculine or more feminine.

Objective: Confident and enterprising recent college graduate pursuing a career as a biologist

Experience

Research Technician - Miller Lab, UNC School of Medicine, Chapel Hill, NC
May 2012 to September 2012

- Conducting research under a post doctorate fellow on *Klebsiella Pneumoniae*

Customer Specialist - Best Buy, Raleigh, NC
April 2011- April 2012

- Provided excellent customer service to people of all backgrounds
- Managed transactions accurately and ethically
- Met sales goals in a fast -paced environment

Hollister & Aeropostale Sales Associates/Customer Service
2006 - 2010 (College breaks)

- Demonstrated a high level of selling and customer service skills
- Achieved sales goals and used company tools to develop strong selling skills and reinforce the brand vision

Related Activities

LGBTQ Alliance, Initiatives Chair, East Carolina University - Greenville, NC
April 2012 to December 2012

- Planned and organized events that promoted diversity and raised awareness on various topics
- Filed proper paperwork to hold events; pre approvals and post event evaluations
- Managed a committee of 10 - 12 members
- Attended weekly executive board meetings
- Collaborated with other groups and organizations on campus
- Developed leadership, time management, team player, and event planning skills

Education

B.S. in Biology, 2012
East Carolina University - Greenville, NC

The "Related Experience" field is used to signal an LGBT affiliation. If this were a non-LGBT resume, the student group name would be a similar non-LGBT group.

Appendix Figure 1: Example of a compilation resume used in MTurk study. The entries in the resume are compiled from randomly selected publicly listed resumes. Three fields are used for the experimental manipulation (sex, masculine language, and LGBT affiliation); these fields are noted and described.

Appendix 2

The difference in hireability measures between resumes with and without an LGBT activity within each sex by adjective combination:

	Recommend	Recommend	Recommend	Recommend
LGBT activity	-1.172	-2.252*	-3.444***	-2.446**
	(1.142)	(1.219)	(1.215)	(1.202)
Obs (Resume x Participant)	1,756	1,756	1,756	1,756
R-squared	0.771	0.728	0.738	0.765
Resumes	Female with masculine adjective	Male with masculine adjective	Female with feminine adjective	Male with feminine adjective
Participant FE	Yes	Yes	Yes	Yes
Resume FE	Yes	Yes	Yes	Yes
Clustered by Participant	Yes	Yes	Yes	Yes
Participants	All	All	All	All
<i>Robust standard errors in parentheses</i>				
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$				
	Committed	Committed	Committed	Committed
LGBT activity	-1.454	-1.747*	-2.749***	-3.181***
	(0.922)	(0.924)	(0.875)	(0.928)
Obs (Resume x Participant)	1,756	1,756	1,756	1,756
R-squared	0.758	0.755	0.768	0.768
Resumes	Female with masculine adjective	Male with masculine adjective	Female with feminine adjective	Male with feminine adjective
Participant FE	Yes	Yes	Yes	Yes
Resume FE	Yes	Yes	Yes	Yes
Clustered by Participant	Yes	Yes	Yes	Yes
Participants	All	All	All	All
<i>Robust standard errors in parentheses</i>				
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$				
	Salary	Salary	Salary	Salary
LGBT activity	-0.635	-0.960	-2.209**	-1.808**
	(0.812)	(0.814)	(0.861)	(0.836)
Obs (Resume x Participant)	1,756	1,756	1,756	1,756
R-squared	0.727	0.711	0.680	0.732
Resumes	Female with masculine adjective	Male with masculine adjective	Female with feminine adjective	Male with feminine adjective
Participant FE	Yes	Yes	Yes	Yes
Resume FE	Yes	Yes	Yes	Yes
Clustered by Participant	Yes	Yes	Yes	Yes
Participants	All	All	All	All
<i>Robust standard errors in parentheses</i>				
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$				

	Successful	Successful	Successful	Successful
LGBT activity	-1.282	-1.578	-3.227***	-2.013**
	(0.996)	(1.034)	(0.987)	(1.011)
Obs (Resume x Participant)	1,756	1,756	1,756	1,756
R-squared	0.762	0.731	0.749	0.766
Resumes	Female with masculine adjective	Male with masculine adjective	Female with feminine adjective	Male with feminine adjective
Participant FE	Yes	Yes	Yes	Yes
Resume FE	Yes	Yes	Yes	Yes
Clustered by Participant	Yes	Yes	Yes	Yes
Participants	All	All	All	All
<i>Robust standard errors in parentheses</i>				
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$				

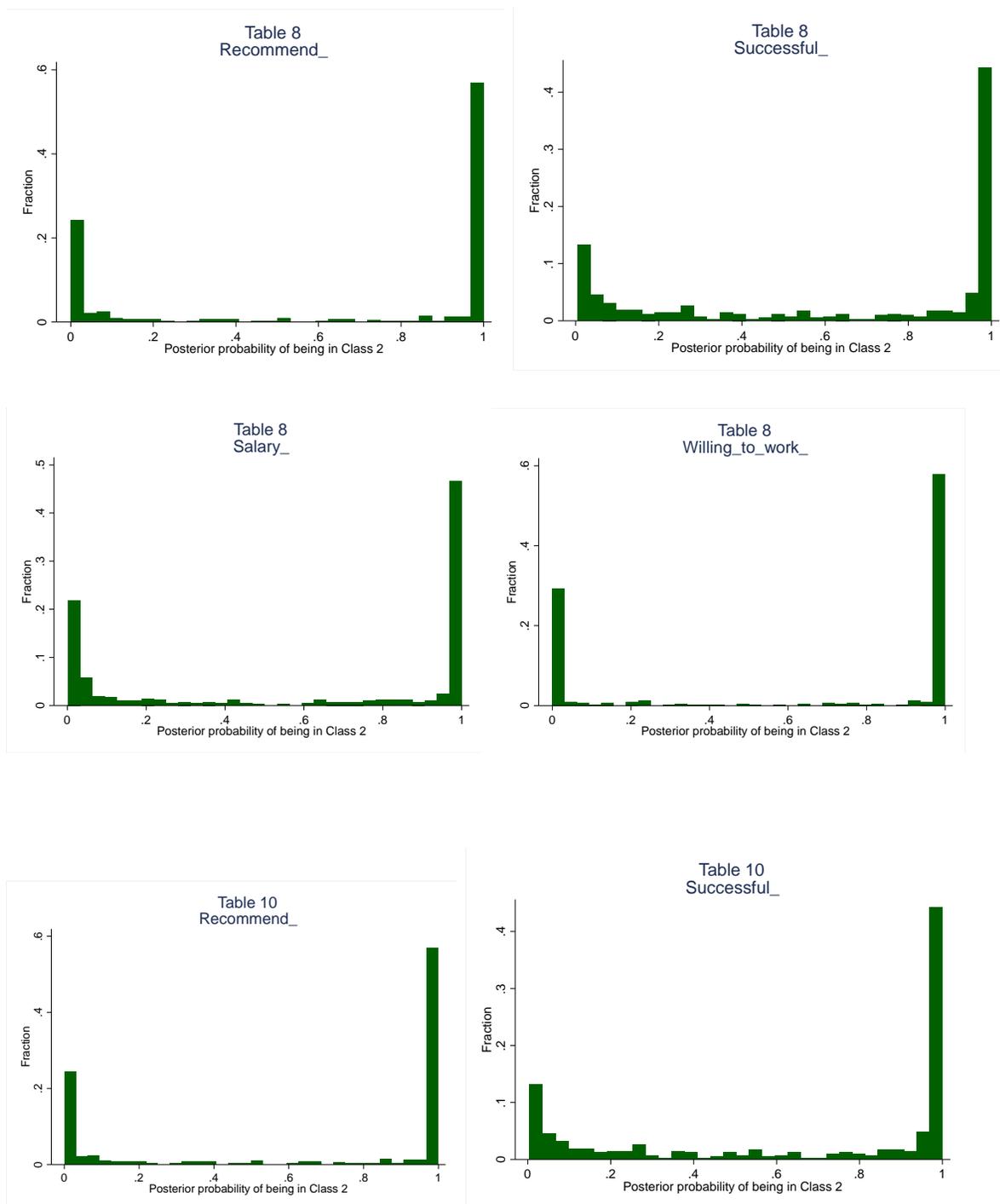
Appendix 3: Balance of Laboratory Experiment

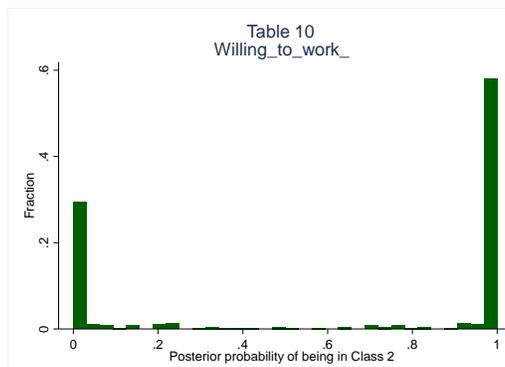
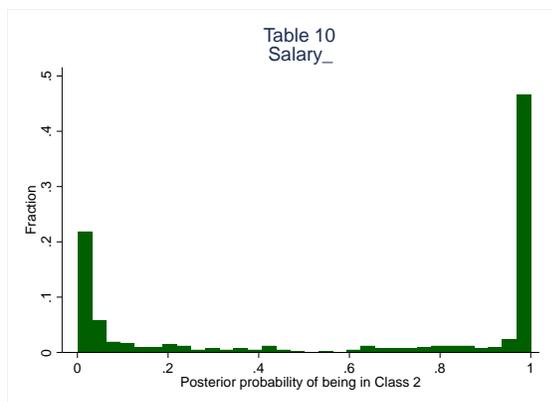
The following table shows the distribution of base resumes (identical work history, education, font, and style) by the experimental manipulations. The value in each cell shows the cell proportion.

Manipulation	<i>Base Resume 1</i>	2	3	4	5	
<i>Female, no LGBT activity, and feminine adjective</i>	1.3	1.22	1.27	1.24	1.21	
<i>Female, no LGBT activity, and masculine adjective</i>	1.25	1.25	1.3	1.22	1.27	
<i>Male, no LGBT activity, and feminine adjective</i>	1.22	1.27	1.24	1.21	1.21	
<i>Male, no LGBT activity, and masculine adjective</i>	1.25	1.3	1.22	1.27	1.24	
<i>Male, LGBT activity, and feminine adjective</i>	1.21	1.28	1.27	1.25	1.25	
<i>Male, LGBT activity, and masculine adjective</i>	1.24	1.21	1.21	1.28	1.27	
<i>Female, LGBT activity, and feminine adjective</i>	1.21	1.21	1.28	1.27	1.25	
<i>Female, LGBT activity, and masculine adjective</i>	1.27	1.24	1.21	1.21	1.28	
<i>Total</i>	9.95	9.98	9.99	9.95	9.98	
	6	7	8	9	10	<i>Total</i>
<i>Female, no LGBT activity, and feminine adjective</i>	1.21	1.28	1.27	1.25	1.25	12.5
<i>Female, no LGBT activity, and masculine adjective</i>	1.24	1.21	1.21	1.28	1.27	12.5
<i>Male, no LGBT activity, and feminine adjective</i>	1.28	1.27	1.25	1.25	1.3	12.5
<i>Male, no LGBT activity, and masculine adjective</i>	1.21	1.21	1.28	1.27	1.25	12.5
<i>Male, LGBT activity, and feminine adjective</i>	1.3	1.22	1.27	1.24	1.21	12.5
<i>Male, LGBT activity, and masculine adjective</i>	1.25	1.25	1.3	1.22	1.27	12.5
<i>Female, LGBT activity, and feminine adjective</i>	1.25	1.3	1.22	1.27	1.24	12.5
<i>Female, LGBT activity, and masculine adjective</i>	1.27	1.25	1.25	1.3	1.22	12.5
<i>Total</i>	10.01	9.99	10.05	10.08	10.01	100

Pearson chi2(63) = 3.3240 Pr = 1.000

Appendix 4: Posterior probabilities from FMM models





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