

Are Gay Men and Lesbians Discriminated Against When Applying for Jobs? A Four-City, Internet-Based Field Experiment

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An Internet-based field experiment was conducted to examine potential hiring discrimination based on sexual orientation; specifically, the “first contact” between job applicants and employers was looked at. In response to Internet job postings on CareerBuilder.com[®], more than 4,600 resumes were sent to employers in 4 U.S. cities: Philadelphia, Chicago, Dallas, and San Francisco. The resumes varied randomly with regard to gender, implied sexual orientation, and other characteristics. Two hypotheses were tested: first, that employers’ response rates vary by the applicants’ assumed sexuality; and second, that employers’ Response Rates by Sexuality vary by city. Effects of city were controlled for to hold constant any variation in labor market conditions in the 4 cities. Based on employer responses to the applications, it was concluded that there is no evidence that gay men or lesbians are discriminated against in their first encounter with employers, and no significant variation across cities in these encounters was found. Implications of these results for the literature on hiring discrimination based on sexual orientation, the strengths and limitations of the research, and the potential for the Internet-based field experiment design in future studies of discrimination are discussed.

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In this study, we conduct an Internet-based field experiment to examine potential hiring discrimination against gay men and lesbian women. Specifically, we investigate whether discrimination is present upon first contact with the employer—that is, whether employers screen out self-identified gay or lesbian job applicants when responding to job applications. Our experimental design draws on the correspondence testing methods used in prior studies of discrimination (see Bertrand & Mullainathan, 2004; Riach & Rich, 1995; Weichselbaumer, 2003), with several important modifications: By using an Internet-based submission method and targeting multiple cities, we can examine cross-city effects and collect substantially more data for individual cities. We created matched sets of resumes with qualifications held constant, except for self-identification as a lesbian woman or gay man. Resumes with no identified sexuality were treated as implicitly straight woman or straight man. We sent these resumes to companies in four U.S. cities, identifying invitations to interviews or requests for more information as positive responses. Whereas many previous correspondence studies of sexuality and hiring discrimination have faced limitations of scope and statistical power, our study overcame these limitations by utilizing the Internet to submit job applications. We sent resumes to employers in four geographically disparate regions represented by the cities of Philadelphia, Chicago, Dallas, and San Francisco. Second, we were able to submit over 4,600 applications to a wide range of positions, which increased the statistical power of the study.

EMPLOYMENT DISCRIMINATION AGAINST LESBIANS AND GAY MEN

Generally speaking, American attitudes toward homosexuality have grown increasingly liberal since the early 1990s. General Social Survey (GSS) data illustrate a shift in favor of lesbians and gay men along a number of axes (Loftus, 2001; Yang, 1997). Willingness to restrict the civil liberties of homosexuals has steadily declined, barring a brief uptick in the 1980s. This liberalization encompasses not only attitudes toward civil liberties, such as employment nondiscrimination and adoption, but attitudes toward personal matters, such as comfort around homosexuals (Craig, Martinez, Kane, & Gainous, 2005). Powell, Bolzendahl, Geist, and Steelman (2010) provided further evidence for both these shifts, finding that Americans who hold liberal views about same-sex family rights, as well as what constitutes a family, have been increasing in number following the 2004 presidential election.

Cultural indicators, like the presence of gay or lesbian characters in television shows, also point toward increased tolerance (Brewer, 2003).

Viewed in aggregate, these metrics paint an optimistic picture for the future of American lesbians and gay men. This increase in tolerance, however, remains inconsistent and sometimes contradictory. Loftus (2001) noted that American opinions about the morality of homosexuality have liberalized more slowly than Americans' willingness to restrict homosexuals' civil rights. Lending significance to Loftus's analysis is Lewis's (2005) conclusion that popular disapproval of homosexuality affected voting behaviors in the 2004 presidential election. In addition, despite recent civil rights gains, as of 2009, 29 U.S. states had not passed laws banning discrimination based on sexual orientation (National Gay and Lesbian Task Force [NGLTF], 2009); and as of March 2010, only 15 U.S. states had laws recognizing any level of same-sex domestic relationship (NGLTF, 2010). The first large-scale study of rental discrimination based on family type in North America finds significant discrimination against same-sex partners, especially gay men (Lauster & Easterbrook, 2011). Only recently have gay men and lesbians been allowed to serve openly in the U.S. military; previously, both were considered "mentally unfit for military service, a threat to national security," and "morally objectionable to heterosexuals" (Sinclair, 2009, p. 713). On the other hand, public opinion about gay men and lesbians does not necessarily reflect public opinion about gay rights; some groups hold negative attitudes toward homosexuals while being reluctant to restrict their rights (Brumbaugh, Sanchez, Nock, & Wright, 2008; Loftus, 2001). Craig et al. (2005) described this as the American public's "ambivalence" toward gay rights. Despite a general trend toward liberalization, then, an uneven and differential shift in attitudes influences the liberties and restrictions faced by lesbians and gay men on an individual basis. It, therefore, becomes important for research to pay attention to the particular contexts in which lesbians and gay men face discrimination.

Placed against this backdrop of contradictory attitudes and discriminatory behaviors, rights and achievements in the workplace represent important concrete barometers of lesbians' and gay men's progress. Being employed in meaningful, rewarding work is a central life interest in U.S. society. Work is not only a source of extrinsic rewards like income, fringe benefits, and health care, it is also a source of intrinsic rewards like job satisfaction, autonomy, and a sense of self-actualization (Kalleberg, 2009). Indeed, securing worthwhile, rewarding work is a key goal in the achievement of human dignity and a sense of purpose in U.S. society (Hodson, 2001). Consequently, depriving people of an equal opportunity to a job that maximizes their human potential based on sexual orientation or any other attribute is a serious threat not only to a person's economic welfare, but also to their sense of citizenship. In this vein, we seek to contribute to the small, but growing, literature on hiring discrimination based on sexual

orientation. In particular, we attempt to expand the literature on the period of candidates' first contact with potential employers. This period plays a fundamental role in hiring by removing candidates from the pool before more nuanced factors come into play. This screening process, although important, is relatively under-examined (Derous, Nguyen, & Ryan, 2009).

Existing research on lesbians and gay men in the workplace generally supports the hypothesis that both groups do, in fact, face significant discrimination. Levine and Leonard (1984) placed discrimination against lesbians and gay men into two categories: "formal," including institutionalized procedures to restrict official work-related rewards; and "informal," including unofficial actions and non-institutionalized policies that enable harassment. Both forms find substantial support within the literature.

Experiences of formal discrimination, especially wage discrimination, have been well-documented. Beginning with Badgett (1995), a number of statistically rigorous, randomly sampled studies using the GSS, U.S. Census, and National Health and Social Life Survey data have emerged over the past 15 years. These studies find that, with reasonable consistency, gay men suffer a wage penalty of at least 13% (Badgett, Lau, Sears, & Ho, 2007). Results on lesbian women are mixed: Some studies find wage premiums of up to 30%, whereas others find no difference between heterosexual and lesbian women (Badgett et al., 2007).¹ Croteau (1996) reviewed a number of studies of workplace discrimination, noting that lesbians and gay men perceive "pervasive" formal discrimination in their workplace environments. This discrimination includes being turned down for a position or promotion, being fired, and receiving poor job evaluations. Badgett, Donnelly, and Kibbe (1992), reviewing national and state survey data, found that between 16% and 44% of gay, lesbian, and bisexual respondents reported one or more of these forms of discrimination. More recently, Mays and Cochran (2001) found that 58% of lesbians and 50.8% of gay men surveyed reported some form of employment discrimination, including 38.8% and 22.5%, respectively, not being hired for a job.

The presence of informal discrimination also finds wide support in the literature. Indeed, studying sexual orientation-related discrimination claims in the workplace, Colvin (2009) reported that the majority of claims involve indirect or informal discrimination. This discrimination ranges from exclusion from informal workplace networks, to verbal and physical harassment by coworkers or supervisors. The rate of informal discrimination appears to be related to lesbians' and gay men's visibility in their job environments. Taylor and Raeburn (1995) found that 32% of gay and lesbian sociologists who participated in gay and lesbian activism felt ostracized or excluded from social networks. In addition, studies found that lesbians and gay men in a variety of occupations and locations reported teasing and other verbal harassment (Colvin, 2004; Empire State Pride Agenda, 2001). Croteau (1996) reported that fear of employment discrimination is prevalent among gay and lesbian

employees, and that this fear often causes them to conceal their sexual identities or to separate the personal and professional aspects of themselves. Psychological stress represents another outcome of informal discrimination; indeed, respondents in a study of nursing employees reported a “constant fear” of exclusion due to their sexuality (Röhndal, Innala, & Carlsson, 2007).

Both formal and informal discrimination have been detected by several studies investigating whether employers actively discriminate against lesbians and gay men upon “first contact” with the candidate. Horvath and Ryan (2003) distributed surveys to a sample of college students, asking them to rate eight fictional resumes for a technical writer position. They found that both homosexual women and homosexual men received lower ratings than heterosexual men, although heterosexual women rated the lowest of all. The most evident limitation of their experiment, as noted by the researchers, was its lack of generalizability, considering the probable differences between college undergraduates and decision makers in actual employment contexts. Crow, Fok, and Hartman (1998) performed a similar experiment with respondents from a variety of age groups and professions. The researchers distributed surveys with eight candidate profiles, with differing combinations of White, Black, male, female, heterosexual, and homosexual identities. After being informed that all necessary diversity goals and guidelines had already been met, respondents were asked to select six out of the eight candidates for a hypothetical accounting position. Again, homosexuals suffered the greatest discrimination across race and gender. Van Hove and Lievens (2003) conducted a study in Belgium where human resources professionals received job postings and packets of information that comprised “candidate profiles,” and were asked to rate the hirability of the candidates. In this study, however, sexual orientation had no effect on hiring ratings.

These previous studies primarily tested for formal discrimination—that is, discrimination on the level of actual hiring decisions that translate to real work rewards. Hebl, Foster, Mannix, and Dovidio (2002) performed an experiment that also studied first contact with employers; however, their experiment primarily detected informal discrimination. Researchers sent undergraduate and graduate students to retail stores to apply for jobs. One-half of the confederates wore baseball caps that said “Gay and Proud,” whereas the other half wore similar caps that said “Texan and Proud.” Researchers analyzed both formal and informal discriminatory responses by store staff. Although they found no formal discrimination, they did find that gay-labeled applicants experienced informal discrimination in the form of negativity from employers (Hebl et al., 2002).

A fourth study, conducted in Austria by Weichselbaumer (2003), most closely resembles ours. Using correspondence testing, she investigated direct discrimination against openly lesbian job applicants. Matched pairs of fictional applications were sent out to newspaper job postings, with all relevant characteristics held relatively constant, except for sexuality. Lesbian candidates were identified by managerial experience in a volunteer

organization associated with lesbians and gay men, and straight candidates had similar experience in sexually unmarked volunteer organizations. Researchers then measured the rates of response to the applications in the form of interview invitations. Weichselbaumer found statistically significant discrimination against lesbian applicants, who received about 13% fewer interview invitations.

Survey studies of workplace discrimination against gay men and lesbians, although varied in methodology and results, share two important methodological limitations, which our study attempts to address. First, many studies of discrimination against lesbians and gay men in the workplace rely on nonrandom convenience or “snowball” samples (Badgett, 1995; Black, Makar, Sanders, & Taylor, 2003; Croteau, 1996; Herek, 2009; Herek, Kimmel, Amaro, & Melton, 1991). Without “large, systematic data sets that include information on sexual orientation,” generalizable results are difficult to produce (Black et al., 2003, p. 449). This lack of external validity limits the usefulness of these studies in drawing conclusions about actual levels of discrimination in the workplace. A second concern is the self-reported nature of much of the available data. Even recent national probability sample studies of workplace discrimination against lesbians and gay men rely on self-reported measures of discrimination (Bernstein, 2004; Hebl et al., 2002; Mays & Cochran, 2001). Despite measuring the perception of discrimination by gay and lesbian workers, subjective data are less valid for measuring formal discrimination; in other words, an employee’s perception that he or she was not hired because of his or her sexuality may or may not be accurate (Croteau, 1996). Riach and Rich (2006a, p. 1) succinctly described the problem with self-report data: “It is possible that, consciously or unconsciously, minority applicants may be motivated to prove the existence of discrimination, and thereby bias the results.” It is for these two reasons that, aside from Badgett’s (1995) and others’ wage studies, Crow et al. (1998) described reliable statistical evidence of discrimination against gay men and lesbians in the workplace as “virtually nonexistent.”

The experimental research designs share different methodological limitations. Three attempted more careful control of variables within their research design, using fictional candidates and hypothetical positions. The realities of organizational decision making, however, may involve significantly more variables than can be accounted for in a controlled setting; indeed, Crow et al. (1998) noted the limitations of research conducted in a laboratory setting where the particulars of organizational context cannot be accounted for. It is not clear that results produced using simulated hiring environments can be generalized to real-world situations. Although some researchers made efforts to improve generalizability by conducting pilot studies (Horvath & Ryan, 2003) and revising resumes with employment professionals (Van Hove & Lievens, 2003), none of the experiments attempted to investigate actual hiring processes.

In addition, many of the experimental designs face limitations due to small sample sizes. Weichselbaumer's (2003) study has the greatest sample size, with 1,226 applications sent in response to 613 job openings. The other studies have much smaller sample sizes: Twenty-six individuals rated candidates in Horvath and Ryan's (2003) study, and 135 selection professionals received stimulus materials in Van Hoye and Lievens's (2003) study. Hebl and colleagues (2002) used 84 interactions generated by 16 individuals entering 91 stores.

Our study most closely resembles Weichselbaumer's (2003). Like her study, we focus on first contact between employer and candidate. However, our study adds to the current body of experimental literature on sexuality discrimination in hiring in several important ways. First, whereas Weichselbaumer only investigated a single region in Austria, our study investigates four geographically distinct regions within the United States. We can thereby assess potential regional differences in employers' attitudes toward homosexuals. In addition, our study highlights an important difference between the U.S. and Austrian job application processes: Weichselbaumer described the substantially more comprehensive information generally given on job applications in Austria when compared to the United States. Van Hoye and Lievens (2003) noted the possibility that discrimination is reduced or even eliminated when a decision maker has enough job-relevant information; they theorized that, given limited information, an employer is more likely to resort to stereotypes in order to make hiring decisions. Hiring discrimination against lesbians and gay men in U.S. markets, where applicants generally do not submit the same quantity of information prior to an interview, may, therefore, function differently than in Austria. In our study, employers received dramatically less information, as applicant profiles contained only a resume (as opposed to a letter of application, a cover letter, school transcripts, references, or a photo).

DATA AND METHOD

Our research design consists of a field experiment in which we created four resume templates with different, but roughly equal, qualifications.² The four resume templates were used to create resumes for fake job applicants who applied for advertised positions on the popular Internet job search site CareerBuilder.com[®] in the Spring of 2010. Four research assistants submitted the job applications on the CareerBuilder.com Web site. We gave the student research assistants specific instructions for submitting applications, and we monitored their work both electronically and via weekly staff meetings. Each student research assistant was responsible for applying to jobs in one of four target cities: Philadelphia, Chicago, Dallas, and San Francisco. These target cities were chosen to represent four distinct geographic regions of

the country and to test whether there are regional differences in employers' preferences for applicants of different sexualities.

Figure 1 shows a schematic representation of the research design of the study. This design was repeated for each of the four target cities in the analysis. In each city, we created four resume templates (labeled template A, B, C, and D), each of which had different educational affiliations, academic majors, skill sets, volunteer activities, and employment experiences. We made every effort to keep the qualifications represented in the four templates as comparable as possible. All of the job applicants were portrayed as recent college graduates from prominent public universities in the region of the target cities.³ All four resume templates included strong academic performance (measured by overall undergraduate grade point average); volunteer experience; and competitive employment experience or an internship in a bank, accounting firm, or marketing firm. Three of the four templates included a business-related major, whereas the fourth included a major in psychology. All four templates included computer skills, foreign language studies, and study abroad or volunteer work in foreign countries. Two included a hobbies or interests section. We took care to make the candidates look attractive, but not too well-qualified for fear that overly qualified candidates might be sought after by employers, regardless of their sexuality. We also screened the resumes with human resource officials in public and private employment settings to assure the realism and relative parity of the resumes. The four different resume templates used distinctive formatting and font types to avoid detection. From one city to the next, each template was altered to show different, geographically appropriate addresses, educational affiliations, and employers⁴; in all other respects, the templates were identical across cities.

As depicted in Figure 1, each template was evenly rotated among four nondescript last names (Cichon, Korvel, Merak, and Morin), which were chosen to convey as little ethnic content as possible. Two of the last names (Cichon and Merak) were always depicted as men; the other two (Korvel and Morin) were always depicted as women. These last names stayed constant across the four target cities, but first names were changed to facilitate identification and location of employers who responded to the applications. We used common first names that were easily identifiable as male (e.g., David and Michael) and female (e.g., Amy and Sarah) and that did not signal minority racial status. Within each city, the name combinations of applicants were rotated among the four templates so that, for instance, "Katherine Korvel" was evenly rotated among the four resume templates in Philadelphia. In this way, we sought to randomize any effects that might be due to preference for particular names.

As shown in Figure 1, each of the name combinations alternated between gay or lesbian and straight sexualities. Sexuality of applicants was suggested by presence or absence of a reference to a leadership position in a gay or lesbian student organization at the university the applicant

TEMPLATE	LAST NAME (GENDER)	SEXUALITY	IDENTITY	TEMPLATE	LAST NAME (SEX)	SEXUALITY	IDENTITY
Template A	Philadelphia Pennsylvania State University			Chicago			
Template B	University of Maryland			Michigan State University			
Template C	Rutgers University			University of Wisconsin– Madison			
Template D	University of Delaware			Indiana University			
				Dallas			
				Louisiana State University			
				University of Texas–Austin			
				Oklahoma State University			
				University of Arkansas			
				San Francisco			
				Washington State University			
				University of Nevada– Reno			
				University of California– Berkeley			
				University of Arizona			

TEMPLATE	LAST NAME (GENDER)	SEXUALITY	IDENTITY	TEMPLATE	LAST NAME (SEX)	SEXUALITY	IDENTITY
		Gay	1			Straight	17
	Chicon (male)				Korvel (female)		
		Straight	2			Lesbian	18
		Lesbian	3			Straight	19
	Korvel (female)				Merak (male)		
Template A		Straight	4			Gay	20
		Gay	5	Template B		Straight	21
	Merak (male)				Morin (female)		
		Straight	6			Lesbian	22
		Lesbian	7			Straight	23
	Morin (female)				Chicon (male)		
		Straight	8			Gay	24
		Straight	9			Lesbian	25
	Merak (male)				Morin (female)		
		Gay	10			Straight	26
		Straight	11			Gay	27
	Morin (female)				Merak (male)		
Template C		Lesbian	12			Straight	28
		Straight	13	Template D		Lesbian	29
	Chicon (male)				Morin (female)		
		Gay	14			Straight	30
		Straight	15			Gay	31
	Korvel (female)				Chicon (male)		
		Lesbian	16			Straight	32

FIGURE 1 Schematic representation of research design for a single city in the analysis. *Note.* Each template represents unique, region-specific addresses, educational credentials, and employment experiences that are evenly rotated among the four last names. For example, the universities attended are depicted as shown above for each City × Template:

had attended.⁵ Designation as gay or lesbian was suggested by an entry on the resume such as “President, University of Wisconsin Gay–Lesbian Association”; designation as straight was suggested by an entry like “Publicity Manager, Community Students United, Indiana University” instead. Thus,

“Kyle Cichon” in Philadelphia was alternately gay and straight as he rotated across the four resume templates. In this way, we controlled for variation between the templates because small advantages or disadvantages conferred by templates were randomized among homosexual and heterosexual applicants. Thus, as shown in Figure 1, the research design generated 32 fictional identities within each target city (4 templates \times 4 last names \times 2 sexualities = 32 fictional identities). Multiplied by four cities, this design resulted in 128 unique fictional identities across the study.

The complexity of this design assured that any latent characteristics of the applicants (e.g., race, gender, age, residence, academic major, educational affiliation, employment experience, computer or language skills, hobbies, etc.) that might be preferred by employers would be randomized across the key manipulation in the design: sexuality of the applicant. However, this design complicated the procedures required for establishing contact information (e-mail addresses and telephone numbers) so that employers could contact applicants.⁶ Obviously, using 128 unique e-mail addresses and phone numbers would have been an administrative nightmare. We decided to create 16 distinct e-mail accounts (one for each Target City \times Gender \times Sexuality combination) and four distinct phone numbers (one for each Gender \times Sexuality combination).⁷ Thus, the straight “Joshua Merak” in Dallas had a different phone number and e-mail address than the gay “Joshua Merak.” In fact, all four gay and lesbian identities in Dallas used the same e-mail address and phone number, and all four straight identities in Dallas used another e-mail address and phone number. When employers called the phone numbers listed on the applications and left a message, they inevitably asked for “Joshua” or “Amy,” which allowed us to confirm that the employer’s representative was calling from Dallas. In the fewer than 10 cases when employers did not identify the name of the applicant in their voice message, we could determine the location of the caller via their area code or the recorded location of the employer. In this way, we created a foolproof method of determining the target city, gender, and sexuality of applicants who were contacted by employers.⁸

We used the popular job search Web site CareerBuilder.com to locate jobs. This Web site provides information on a wide variety of jobs, and allows easy application via e-mail to many employers. We used the site’s “advanced search” function to search only for jobs within certain parameters. We instructed student research assistants to randomly select jobs within pre-designated career fields, which were drawn in approximate proportion to their frequency within CareerBuilder.com’s job pool. In other words, we applied to more jobs in well-represented categories like “administrative/clerical” and fewer jobs in sparsely populated categories like “warehouse.” We further restricted the available job pool by designating the following parameters: jobs within 150 miles of the target city, jobs posted within the last three days (to keep the job pool fresh), jobs

requiring a four-year degree or less education, and jobs with a salary range of \$30,000 to \$120,000.⁹ The study was conducted between March and May 2010—a period in which the U.S. economy was trying to pull out of a deep recession.

The resumes were organized into folders with three resumes per folder. Once we identified a position on CareerBuilder.com that was suitable for the study, we e-mailed all three resumes in a particular folder to the designated employer. The resumes in a folder consisted of one straight man, one straight woman, and *either* one gay man *or* one lesbian woman. Because the applications for a position were sent almost simultaneously, we wanted to avoid suspicions that might have been aroused if employers had received two self-identified gay or lesbian resumes in a short span of time. The order of the resumes and whether a gay man or lesbian woman applicant was included was randomized across all folders in the batch. This design assured that our applications reflected exactly a 2:1 ratio between straight and gay or lesbian applicants. For each target city, we sent out 384 folders of applications. Thus, across the four target cities, we identified 1,536 distinct jobs and distributed 4,608 applications (3 resumes per folder \times 384 folders per city \times 4 target cities = 4,608 applications). These 4,608 applications maintained the 2:1 ratio between straight and gay or lesbian applicants: 1,536 straight men, 1,536 straight women, 768 gay men, and 768 lesbian women. The other features of our design guaranteed that other applicant characteristics (applicant name, gender, residence, university attended, academic major, job skills, specific work experience, etc.) were evenly distributed in a random fashion across the sexuality manipulation.

These procedures allowed us to record contacts by either phone or e-mail from potential employers to our fake applicants. In addition to recording whether the contact was made by phone or e-mail, we also recorded the identity of the applicant (which included his or her gender, sexuality, and target city), name of potential employer, name of the contact person, phone number or e-mail address of the contact person, date(s) of contact, and number of contacts. Responses were coded as “positive” if they included invitations to call back, requests for face-to-face interviews, invitations to open houses, or requests for more information (e.g., inquiries about a candidate’s willingness to relocate for a position). All other responses, such as those requiring applicants to reapply on a different Web site, or no response at all were coded as “negative.”

From these data, we derived three dependent variables: *total employer contacts by phone and e-mail*, *total employer contacts by e-mail*, and *total employer contacts by phone*. These variables are computed as rates of employer contact—that is, the total number of employer contacts (including multiple contacts by employers to the same applicant) divided by the total number of applications sent. Because e-mail is more impersonal, requires less effort, and perhaps involves less scrutiny of applicants’ resumes, we

speculated there might be qualitative differences between these two modes of response.

We consider two independent variables in our analysis. First, *city* is a categorical variable with four values representing the four target cities in the analysis: Philadelphia, Chicago, Dallas, and San Francisco. This variable is used as a control variable to control for the diverse conditions in different urban labor markets. Second, *sexuality* is a categorical variable with four values that tap the four sexualities represented in our study: lesbian woman, gay man, straight woman, and straight man. All other variables that might be relevant to the rate of employer contact, such as race, education, age, residence, and so forth, are either implicitly controlled or randomized in our design. Hence, it is not necessary to explicitly measure these variables or enter them into the analysis.

Our main analysis consists of three two-way analyses of variance in which the three employer contact variables are entered as dependent variables. In each of the three models, we specify main effects for sexuality and city and the interaction effect for Sexuality \times City as independent variables. We note that the rate of total employer contact varied by target city, indicating some variability in labor market conditions: .106 in Philadelphia, .168 in Chicago, .128 in Dallas, and .097 in San Francisco. This suggests that the city effect might be statistically significant; in any event, it must be controlled to assess the two key hypotheses in the analysis.

The first hypothesis is that there is variation in the rate of employer contact by sexuality. This hypothesis would be supported if the main effect for sexuality is statistically significant. Such a finding would indicate that there is variation in how applicants of different sexualities are treated by employers and that these differences exist net of differing labor market conditions in the target cities. The second hypothesis is that the rate of employer contact by sexuality varies by city. This hypothesis would be supported if the interaction effect Sexuality \times City were statistically significant. It is plausible that the second hypothesis could be supported when the first one is not supported. For instance, the rate of employer contact across the four sexualities might be relatively equal across all four cities; yet, San Francisco and Dallas, for example, might significantly vary in their preference for gay and lesbian applicants.

ANALYSIS

In Figure 2, we graphically portray the total employer contact rates by city by sexuality. Overall, these rates vary from a low of .068 for lesbian women in Philadelphia to a high of .224 for gay men in Chicago. From a visual inspection of the graph, however, there is no discernible pattern indicating a preference for gay men or straight individuals across the four cities.

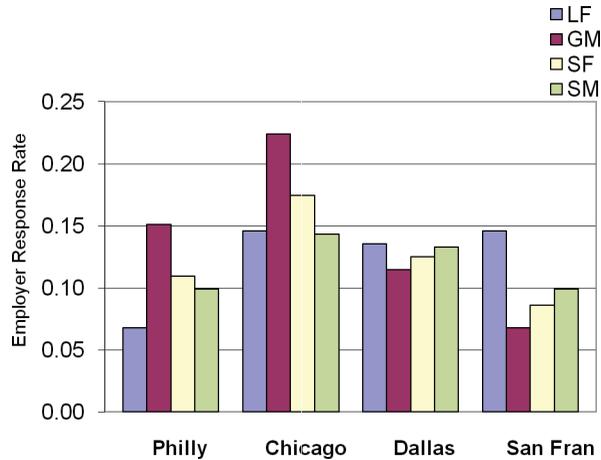


FIGURE 2 Employer Response Rate \times City \times Sexuality (color figure available online).

Among the four treatments, gay men rank *highest* in contact from employers in Philadelphia (.151) and Chicago (.224), but they rank *lowest* in Dallas (.115) and San Francisco (.068). Similarly, lesbian women rank *highest* in Dallas (.135) and San Francisco (.146), *lowest* in Philadelphia (.068) and *second lowest* in Chicago (.146). Also, some surprising findings are revealed in Figure 2. Straight men fail to rank as the most favored group in any of the four cities, although they are also not heavily disfavored in any city. Also, Dallas, a southwestern city with a popular image of hostility toward gay men and lesbians, displays the least prejudicial patterns of any of the cities, showing approximately equal response rates for the four sexualities. Overall, when the data for the four target cities are pooled, the rates of employer contact across the four sexualities are very close: .124 for lesbian women, .139 for gay men, .124 for straight women, and .119 for straight men. Keeping in mind that these rates reflect multiple contacts for some applicants, it is clear that only about 10% of all applicants received a contact from employers, which reflects the bleak conditions of the job market in the Spring of 2010.

In Table 1, we show the results of three two-way analyses of variance estimating determinants of total employer contacts by phone and e-mail (Panel A), employer contacts by phone (Panel B), and employer contacts by e-mail (Panel C). All three models show statistically significant effects of city (the results in Panel B for phone contacts are significant at $p = .061$), which suggests variable conditions in the labor markets of the four cities. If employer contact rates are any indication, Chicago displayed the most hospitable market for job-seekers, and San Francisco was the least hospitable. Once the effects of city are controlled, we find no support for either hypothesis, as neither the sexuality main effect nor the Sexuality \times City interaction effect is statistically significant. These results provide very little evidence

TABLE 1 Two-Way Analysis of Variance Analyzing Employer Contacts by Sexuality and City

Panel	Sum of squares	<i>df</i>	Mean square	<i>F</i>	<i>p</i>
Panel A: Total employer contacts by phone and e-mail					
Main effects					
Sexuality	0.226	3	0.075	0.274	.844
City	3.400	3	1.133	4.122	.006
Interaction effects					
Sexuality × City	2.144	9	0.238	0.866	.555
Residual	1,262.729	4,592	0.275		
Panel B: Employer contacts by e-mail					
Main effects					
Sexuality	0.059	3	0.020	0.203	.894
City	0.709	3	0.236	2.458	.061
Interaction effects					
Sexuality × City	0.322	9	0.036	0.372	.949
Residual	441.534	4,592	0.096		
Panel C: Employer contacts by phone					
Main effects					
Sexuality	0.071	3	0.024	0.229	.876
City	1.523	3	0.508	4.930	.002
Interaction effects					
Sexuality × City	1.112	9	0.124	1.199	.290
Residual	472.914	4,592			

Note. *N* = 4,068.

that employers discriminate against gay men and straight individuals in their first contacts with job applicants. The effect that comes closest to statistical significance—the Sexuality × City interaction for phone contacts in Panel C ($p = .290$)—suggests a slight possibility that some statistically significant results might be buried in the data if they were disaggregated.

In an effort to fine-tune our understanding of the results, we disaggregated the data in a variety of ways. First, we partitioned all three dependent variables into *first contacts* and *later contacts*, anticipating that different patterns might emerge. For example, employers who chose to discriminate on sexuality might be more persistent in attempting to contact straight applicants by trying to reach them a second, third, or fourth time. However, after running two-way analyses of variance for six dependent variables (total, e-mail, and Phone × First/Later), no discernible patterns emerged. Again, neither the main effects for sexuality nor the Sexuality × City interactions came close to statistical significance in any of the models. We then reconstructed our dependent variables in two different ways. First, we converted the three original dependent variables to indexes that, instead of counting each employer contact equally (1, 2, 3, and 4), gave each subsequent contact geometrically *increasing* weight (1, 3, 6, and 10). Second, we converted the three original dependent variables to indexes that gave each subsequent contact geometrically *decreasing* weight (1.00, 1.75, 2.25, and 3.00). These two

scenarios reflected different assumptions about the importance that should be attached to contacts following the first one. We repeated the two-way analysis of variance procedure using these reconstructions for total, e-mail, and phone contacts, and again found no statistically significant differences.

In a last sensitivity check, we selected each city one at a time and re-estimated models predicting employer contacts using each of the measures described earlier. Because city was constant, these analyses involved simple one-way analyses of variance, with sexuality as the only treatment variable. These analyses would reveal whether there was employer preference for any sexuality in specific cities that might have been masked by the overall analyses. Again, we found that sexuality failed to achieve statistical significance for any of the employer contact dependent variables in Philadelphia, Chicago, or Dallas. In San Francisco, however, we found repeated evidence in our measures that employers showed a statistically significant preference to contact lesbian women by phone, compared to contacting the other three sexualities by phone. To further specify, this significant effect was specifically isolated to *first contacts by telephone* (.073 for lesbian women, .021 for gay men, .023 for straight women, and .031 for straight men); later contacts by telephone showed no statistically significant difference. This effect is only partially suggested in Figure 2, which shows *total* employer contact (both e-mail and phone), but it is apparent in the figure that lesbian women clearly receive the most contacts from employers in San Francisco in the sample data. One can only speculate as to whether this single, significant result is meaningful or a statistical aberration. On balance, our results strongly suggest that there is no evidence that employers discriminate in their first contacts with job applicants on the basis of sexuality.

DISCUSSION AND CONCLUSION

In this study, we contribute to the small, but growing, literature on discrimination by sexual orientation in the hiring process. We sent job applications over the Internet; thus, the initial contact with employers does not involve face-to-face contact. This is an important departure from previous research, as we could find no previous studies of sexuality discrimination in hiring that were based on Internet applications. The Internet is an increasingly prominent feature of the job application process, and is particularly attractive for younger, more computer-savvy job applicants. The relatively anonymous nature of interaction over the Internet also potentially raises new opportunities for discriminatory treatment. Consequently, studies such as ours are important for understanding what, if any, processes of discrimination are enabled through an online application process. These studies also allow researchers to expand the geographical scope of their studies because the Internet transcends local boundaries. In addition, Internet-based studies

allow larger sample sizes than previous designs because of the relative ease of submitting applications.

We found little evidence that employers discriminate in their first contact with job applicants on the basis of their sexuality. The single, statistically significant effect we did find—that female lesbian applicants in San Francisco were significantly more likely to receive first phone calls—is probably just a statistical aberration. In any event, nothing in our data suggests that gay men or lesbians are treated less fairly than straight applicants in these first encounters with employers. Unlike many previous studies (Hebl et al., 2002; Horvath & Ryan, 2003; Van Hove & Lievens, 2003; Weichselbaumer, 2003), our research is not limited to a single location or a narrow range of jobs; rather, we study a diverse range of job classifications in four major U.S. cities in different regions of the country. Moreover, our procedures more rigorously controlled for latent characteristics of the applicants (e.g., race, gender, age, residence, academic major, educational affiliation, employment experience, computer or language skills, hobbies, etc.) that might affect employers' decisions. Also, our sample size of 4,608 applications to 1,536 distinct positions is significantly larger than any previous study¹⁰ and, thus, provides greater statistical power for interpreting the results. Thus, for a variety of reasons, we have high confidence in our conclusion that there is no discernible discrimination against job applicants based on their sexual orientations at this early stage of the hiring process.

If these results are accurate, they run counter to many similar studies of employment discrimination based on sexual orientation (Crow et al., 1998; Hebl et al., 2002; Weichselbaumer, 2003). However, Van Hove and Lievens (2003) found, like us, no evidence of hiring discrimination based on sexual orientation. These authors gave a number of reasons for their study's departure from previous findings. The most germane to our study is their argument that providing significant amounts of job-relevant information reduces or eliminates hiring discrimination. Decision makers with limited information are more likely to resort to using stereotypes and biased evaluations, whereas those with more information are not. It is interesting to note that our study provided only short, one- or two-page resumes, no cover letters, and no photographs. We, therefore, provided less job-relevant information than many previous studies, yet found no evidence of discrimination. This finding fails to confirm Van Hove and Lievens's argument.

In any event, this would suggest some cause for optimism that rates of discrimination which might have been found in earlier studies are dissipating with time. This might be due to the continued liberalization of attitudes regarding the employment of gay men and lesbians that we noted earlier; such liberalization of attitudes might have occurred both with regard to general attitudes toward gay men and lesbians and specifically with regard to hiring and employment. Another possible explanation for the lack of discrimination is the effectiveness of employment discrimination laws in dissuading

employers from differential treatment against gay men and lesbians. Many of the employers in our CareerBuilder.com dataset were large, institutional employers that would be very visible targets for employment discrimination suits. It is also possible that the lack of discrimination we found might be due to the fact that our study is limited to large metropolitan areas. Larger cities foster what Simmel (1903) referred to as the “blasé attitude” leading to greater tolerance, even indifference, toward diverse lifestyles. Perhaps our results would be different if the study were conducted in small towns or rural areas.

On the other hand, the lack of discrimination we found in our study must be qualified. Our study merely gauges the results of first contact with employers, and does not analyze subsequent stages of the hiring process or the employment situation in general.¹¹ In addition, it does not speak to the substantial discrimination on the job found in many studies against gay men and lesbians with regard to pay, promotions, and other job rewards. Also, our study does not involve face-to-face encounters where appearance, demeanor, speech, or affectation might send stronger signals about sexual orientation and result in more discriminatory treatment (Hebl et al., 2002). On the other hand, the relative anonymity of Internet applications would seemingly provide a low-risk opportunity for employers to discriminate if they desired. Another consideration is that the decision to contact an applicant is often made by people at lower levels of the organization, who have no vested interest in discriminating. In other words, these decisions do not always reflect the views of employers’ *per se* but, rather, of their subordinates. Some hiring personnel might be under orders to contact all candidates who appear qualified; and, in the perfunctory execution of this directive, they are less inclined to discriminate.

Although we feel that our research design has several advantages over those of previous studies, it is possible that there are places where alteration of the design might have led to different results. For one, it is possible that, despite our best efforts, we simply made the qualifications of our characters too strong. Past research in this field has shown that if applicants are too over-qualified or under-qualified, employers are less inclined to discriminate (Heckman, 1998). In our case, candidates might have been too well-qualified, meaning that employers would set aside their preferences to discriminate in order to hire well-qualified applicants, although this argument is somewhat blunted by the relatively low overall employer response in our study. Another possible explanation is that the generally poor labor market in the Spring of 2010 might have depressed the rate of employer response to such a low point that it was impossible to detect discrimination. Had the same study been conducted during a period of tighter labor markets, we might have observed a higher rate of employer response and greater levels of discrimination. Yet another consideration is the decision we made to let our college-educated candidates apply for positions for

which a college education *or lower* educational credentials were required. This decision might have exacerbated the problems of over-qualification and depressed job markets to further dampen the rate of employer response and, thus, make it difficult to identify discrimination.

Another possibility is that hiring personnel who reviewed the applications simply did not notice the main manipulation in the applicants' resumes—whether they had been members of sexually marked student organizations or not. This possibility would be stronger if applications were not carefully reviewed or if employers were casting a wide net to identify candidates for the next, more serious round of interviews. We note that some employers responded to our applications with a perfunctory request to fill out a more detailed questionnaire (which we declined), thus reinforcing this possibility. A stronger manipulation might have elicited a more discriminatory response by employers, although we note that a similar Internet-based study we conducted did detect employer discrimination against job applicants with several different religious affiliations (Wallace, Wright, & Hyde, 2013). Also, the considerable statistical power of this study design would have detected even small treatment effects.

In addition, it is possible that our results might have been different if we had used a different employment Web site, like Craigslist.org. Craigslist tends to list jobs from smaller, more localized employers, whereas many of the employers on CareerBuilder.com are large, nationally known employers.¹² We also suspect Craigslist employers are more likely to carefully screen applications themselves, rather than relying on secondary hiring personnel, and are less likely to give rote responses to job applicants. In short, more direct involvement and closer scrutiny of the resumes by Craigslist employers might result in more discriminatory treatment.

Although we have been careful to document the potential limitations of our own research, we want to stress that this field experiment method holds great potential for future research in job discrimination. For instance, field experiments offer a valuable way to triangulate the findings from self-report studies and experimental designs that do not involve actual hiring personnel and job applicants. Studies of job discrimination based on sexual orientation that involve self-reports typically report pervasive discrimination in the candidate selection process (see the reviews of Badgett et al., 2007; and Croteau, 1996), but Van Hove and Lievens (2003) noted that these studies often manifest an “attribution bias”—that is, the perception by members of groups who experience frequent unfair treatment that any negative decision is the result of discrimination. Although participants' perceptions in self-report studies should not be minimized, they should be balanced with more objective indicators, such as those derived from studies like ours. Also, other experimental designs that do not involve the actual decision makers responsible for hiring may lack external validity. For instance, the rating of resumes by college students (Horvath & Ryan, 2003) or respondents from

the general population (Crow et al., 1998) may not simulate real-world hiring situations. The advantage of our design is that it has a high degree of realism—that is, we elicited responses from actual hiring personnel and employers to actual job openings posted on the Internet. Despite sending out over 4,000 resumes, there was no evidence that our experimental design was detected by respondents.

Thus, in addition to contributing to the literature on hiring discrimination based on sexual orientation, we hope our study advances the use of field experiments as applied to Internet-based job applications. This general design can be extended beyond hiring and employment situations; for instance, in an ongoing study, we are investigating possible race- and class-based prejudicial treatment by church officials to e-mail inquiries about possibly relocating and joining the church. The research design for such studies can be complicated, and there are many facets of the design that need to be refined, but the potential payoff for learning more about discrimination based on sexual orientation, gender, race, religion, or other characteristics is great. This method is still in its infancy, and there is much to be learned with each additional study.

NOTES

1. See Badgett, Lau, Sears, and Ho (2007) for a comprehensive review of studies of the sexual orientation earnings gap.

2. As one reviewer pointed out, an ideal experimental design would vary only the sexual orientation of paired applicants, leaving all other qualifications identical. The need to avoid detection and approximate plausible pairings of applicants, however, prevented us from giving pairs such identical qualifications.

3. See the bottom of Figure 1 for specific university affiliations associated with each template in the four cities.

4. To assure authenticity, the city names and street names in applicants' addresses were real. However, the house numbers were either too low or too high to correspond with actual addresses. In addition, we made sure that the four applicants in each target city came from neighborhoods (as designated by their zip codes) with similarly moderate median incomes so employers would not be unduly influenced by either low-status or high-status residence.

5. We ensured that the treatment organization appeared on the first page of the resume if it extended longer than a single page. Of course, it is possible that straight individuals could be members of gay or lesbian organizations, but we assumed that most potential employers would assume that people affiliated with such organizations would be gay or lesbian.

6. We used pay-per-minute TracFones[®], which can be set up under any area code, and free Yahoo![®] e-mail accounts. Our four TracFones used St. Louis area codes in order to not favor any of the four target cities.

7. In other words, responses to people of the same Gender \times Sexuality combination (i.e., female lesbians) from all four target cities were directed to the same phone number. Because the TracFones[®] we used recorded the area codes of the callers' phone numbers, we were able to use this information, along with other identifying information (e.g., calls asking for "Amy" only originated from Dallas applications), to tell which target city the calls originated from.

8. It was not necessary for us to distinguish among the different applicants' names because these were randomized in the design.

9. Not all jobs that fit these criteria were equally suitable. We avoided jobs that required registration on an external Web site or long pre-application questionnaires due to time constraints

and loss of efficiency. Instead, we concentrated on jobs that featured the “quick apply” feature by CareerBuilder.com®. This feature typically directed us to other “quick apply” jobs that fit the same criteria, which saved time and energy in the application process.

10. Weichselbaumer’s (2003) study in Belgium was the next largest, involving 1,226 applications to 613 job openings.

11. Riach and Rich (2006b) found that almost 90% of racial discrimination detected in Belgium, the Netherlands, and Spain occurs at this initial stage of the hiring process. It is important to note their study did not involve Internet applications.

12. Kroft and Pope (2008) observed that CareerBuilder.com® charges employers to post job advertisements, whereas postings on Craigslist are generally free. In addition, although CareerBuilder.com is generally regarded as the industry leader, Craigslist job postings have surpassed CareerBuilder.com’s in some metropolitan areas (Kroft & Pope, 2008). Especially given Craigslist’s recent surge in popularity, it is possible that employers who use Craigslist have different attitudes toward gay and lesbian employees than employers who use CareerBuilder.com.

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