



Gay glass ceilings: Sexual orientation and workplace authority in the UK[☆]



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ABSTRACT

A burgeoning literature has examined earnings inequalities associated with a minority sexual orientation, but far less is known about sexual orientation-based differences in access to workplace authority – in contrast to well-documented gender and race-specific differences. We provide the first large-scale evidence on this question using confidential data from the 2009–2014 UK Integrated Household Surveys (IHS) ($N = 607,709$). We are the first to document that gay men and lesbians are significantly *more* likely to have objective measures of workplace authority compared to otherwise similar heterosexual men and women. However, we also find clear evidence that gay men face glass ceilings: their higher likelihood of attaining workplace authority is driven entirely by their significantly higher odds of being low-level managers. In fact, gay men are significantly *less* likely than comparable heterosexual men to be in the highest-level managerial positions that come with higher status and pay. Oaxaca-style decompositions suggest that this differential access to workplace authority for gay men is due to discrimination as opposed to different skills and characteristics. Moreover, this “gay glass ceiling” is stronger for racial minorities than for whites. Corresponding effects for lesbians exist but are notably weaker. These results provide the first direct evidence of social stratification in the workplace associated with a minority sexual orientation and reveal that differences are exacerbated for individuals with multiple marginalized identities.

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1. Introduction

Do sexual minorities¹ face barriers in accessing jobs with supervisory and managerial workplace authority? Once on the managerial ladder, do sexual minorities face glass ceilings that block them from higher-level posts? Very little empirical research has addressed these questions, despite a now comprehensive examination of how lesbian and gay earnings compare

[☆] The results in this paper are based on confidential versions of the 2009–2014 Integrated Household Surveys through a special license with the UK Office for National Statistics. Interested readers can contact the corresponding author for information on how to obtain access. The authors thank Tim Vizard and Gareth Rusgys at the Social Surveys Division of the UK Office for National Statistics for assistance with the data. Results do not imply the endorsement of the UK Office for National Statistics, the European Bank for Reconstruction and Development, the London School of Economics, or any other organization. We thank David Pevalin for helpful discussions. All interpretations, errors, and omissions are our own.

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¹ We use the term “sexual minorities” to refer to gay and bisexual men and lesbian and bisexual women. We will sometimes refer to each group explicitly. We will also sometimes refer to heterosexual men and women as “straight.”

to those of heterosexuals. In contrast to the research gap for sexual minorities, large literatures document significantly less access to workplace authority for women and racial and ethnic minorities relative to white men (e.g., [Baxter and Wright, 2000](#); [Wright et al., 1995](#); [Cohen and Huffman, 2007a](#); [Cotter et al., 2001](#); [Hultin, 2003](#); [Maume, 1999](#); [Smith, 2012](#)). Managerial authority at the workplace is important for three reasons given by Wright et al. First, as we will directly show in our empirical analysis, workplace authority is one of the main determinants of labor market earnings. Second, these jobs are desirable in their own right, since they typically have relatively high occupational prestige and recognition. Third, inequalities in authority across gender or ethnic groups may be key mechanisms that generate and sustain inequalities in workplace outcomes. Having more female senior managers, for example, may lead to more equitable treatment of women throughout the organization ([Huffman and Cohen, 2004](#)). The presence of high-status female managers has a large impact on mitigating gender wage differentials². In addition, positions of authority in the workplace may allow individuals from underrepresented groups to sidestep personal discrimination and potential harassment.

In this paper, we provide the first large-scale systematic evidence on the relationship between a minority sexual orientation and workplace authority. We analyze confidential data from the 2009–2014 UK Integrated Household Surveys (IHS) which asked individuals directly about their sexual orientation and a raft of individual, household and workplace questions. The IHS data benefit from a large sample size: we analyze data on over 645,000 working-age adults, including more than 6000 self-identified sexual minorities. There are two independent avenues by which we can examine workplace authority. There are direct questions on whether or not individuals have managerial and/or supervisory authority in the workplace. A different question asks about the occupation held by the individual and codes this by the National Statistics Socio-economic Classification (NS-SEC). We use both measures in our analysis, and we generally find that our results are robust to the measure. The NS-SEC measure has the advantage that it differentiates between upper-level managers and lower-level managers. This allows us to investigate the existence of possible glass ceiling effects ([Cotter et al., 2001](#)).

Our analysis yields clear and surprising findings for gay men. Specifically, we provide the literature's first evidence that gay men are significantly *more* likely than otherwise similar heterosexual men to report managerial authority and/or supervisory responsibilities in the workplace. Using the NS-SEC measure, we also find that they are more likely to have a managerial/professional post. However, we find strong evidence from the NS-SEC that there are glass ceilings: the managerial advantage experienced by gay men stems entirely from the fact that they are more likely than heterosexual men to be low-level managers. Gay men are significantly *less* likely than otherwise similar heterosexual men to attain the highest level managerial positions that come with increased status and pay. We also document evidence of intersectionality: the 'gay glass ceiling' effect whereby gay men have significantly lower access to top managerial posts is much stronger for racial minorities than for whites. When we perform Oaxaca-style decompositions to understand the source of the gay male disadvantage with respect to workplace authority, we find that the majority of the difference is due to differential returns to observed characteristics and skills (such as education) as opposed to differential endowments. That is, the evidence is most consistent with discrimination explaining differential access to top managerial positions.

The results for lesbians are less clear-cut. Lesbians are significantly more likely than heterosexual women to have managerial authority (but only weakly significantly more likely to have more supervisory authority). But they are significantly *less* likely than comparable heterosexual women to have any NS-SEC managerial/professional occupation, notably including the highest-level managerial posts. Bisexual men and women are both less likely than otherwise similar heterosexual adults to have any of the types of workplace authority (regardless of the measure), though these differences are not always statistically significant.

2. Prior research and conceptual framework

2.1. Prior research

Empirical research on sexual orientation and work-related inequality has focused on earnings and income. Several studies have found that gay men earn significantly less than similarly situated straight men, while lesbians earn more than similarly situated straight women. This pattern has been shown to exist not only in the U.S. (for example, see [Badgett, 1995](#); [Allegretto and Arthur, 2001](#); [Antecol et al., 2008](#); [Carpenter, 2007](#); [Mize, 2016](#), and others) but also in Canada ([Carpenter, 2008a](#)), the UK ([Aksoy et al., 2018](#), [Arabsheibani et al., 2004](#); [2005](#)), the Netherlands ([Plug and Berkhout, 2004](#)), Australia ([Carpenter 2008a](#)), Greece ([Drydak, 2011](#)), and elsewhere³. [Aksoy et al. \(2018\)](#), using the same UK dataset as we use in this paper, confirms the standard findings of a lesbian earnings premium and a gay male disadvantage.

² For related evidence from female representation at the highest levels of organizations, see [Matsa and Miller \(2011, 2013\)](#), [Bell \(2005\)](#) and [Kunze and Miller \(2017\)](#).

³ Register data from Sweden indicate that gay men earn less than heterosexual men while the earnings difference between lesbians and heterosexual women is very small ([Ahmed and Hammarstedt 2010](#); [Hammarstedt et al. 2015](#)). There are a few exceptions to this general pattern. For example, [Carpenter \(2005\)](#) finds no earnings difference associated with a minority sexual orientation using 2001 data from California, and [Carpenter and Epink \(2017\)](#) find evidence that gay men earn significantly more than similarly situated heterosexual men using recent data from the National Health Interview Survey. In addition to earnings, other studies examine employment and find evidence of differential treatment faced by gay men. [Tilcsik \(2011\)](#), for example, performed a resume experiment in several cities in the United States and found evidence of statistically significant differences in callback rates disfavoring candidates whose resumes were randomly assigned 'gay' characteristics (such as a leadership position in an LGBT organization). [Ahmed et al. \(2011\)](#) document a similar finding for employment using a resume experiment in Sweden, while [Ahmed and Hammarstedt \(2009\)](#) document differential treatment in housing using an internet experiment.

In contrast to earnings and income, little research has addressed sexual orientation gaps in access to managerial autonomy and authority, which is our main focus. The closest related strand of research has been to examine workplace authority gaps and glass ceilings for racial minorities and women (Baxter and Wright, 2000; Huffman and Cohen, 2004, Cohen and Huffman, 2007). Building upon an earlier literature, Wright et al. (1995) engage in a comprehensive, cross-country study of gender gaps in workplace authority and – further – in whether or not glass ceilings exist. They find gender gaps in all the countries, albeit of differing magnitudes. However, they do not find evidence of glass ceilings where, once on the managerial ladder, women suffer further disadvantage in rising to higher level posts. Smith (2012) uses a different definition of glass ceilings, and examines whether gender gaps in wages and benefits rise or fall with progression up the hierarchy. Interestingly, he finds evidence for glass escalators – white men benefit more in a workplace with female or minority managers – rather than for glass ceilings. Zeng (2011) also finds little evidence for glass ceilings in that the primary causes of underrepresentation for women and minorities lie in low levels of promotions at the lower and middle part of the hierarchy, and not the top end. Further, these groups are more likely to suffer downward mobility than are white males.

In contrast to this extensive literature on workplace authority and glass ceilings for women and minorities, only a few studies have examined these issues for sexual minorities. Using a sample of UK academics, Frank (2006) found that gay male academics had significantly lower ranks than their otherwise similar heterosexual male counterparts⁴. Ahmed et al. (2011) examine the relationship between sexual orientation and occupational rank using Swedish population register data on all same-sex couples who formalized their relationship with the government. They find that men in same-sex couples were significantly less likely to attain managerial positions, while lesbians were significantly more likely to attain such positions, consistent with the general pattern of results on earnings. In contrast, Antecol et al. (2008) used data from the 2000 US Census and found that partnered gay men and partnered lesbians are both significantly more likely to be in management occupations than their married and cohabiting heterosexual counterparts. Finally, Ueno et al. (2013) use US data from AddHealth for young adults which include information on supervisory responsibilities on the job. They report no sexual orientation-related differences in supervisory responsibilities for their sample of young adults⁵.

While the existing studies are important, they all use data that are either limited demographically or by sample size. Relative to the studies using large samples of same-sex couples in the U.S. and Sweden, we study a more representative sample by examining non-partnered sexual minorities in addition to partnered sexual minorities. Importantly, we benefit from the fact that the UK classification system for managerial occupations distinguishes between higher- and lower-level managerial occupations – the former enjoy greater status, prestige, and resources compared to the latter. Individuals in those occupations are also more likely to have a university degree, earn more, and are more likely to have managerial and supervisory authority at work. This allows us to identify our primary result on the existence of gay glass ceilings, with gay men concentrated in lower-level managerial occupations.

2.2. Conceptual framework

The existing literature (predominantly in sociology) on female and visible minority workplace authority provides stereotyping arguments for under-representation in managerial/supervisory posts and for glass ceilings in moving up to higher-level managerial posts. For example, managerial posts might be viewed as ‘masculine’ in nature. To the extent that sex stereotypes shape the perception of managers and the exercise of workplace authority as masculine, there may be a “lack of fit” between the characteristics believed to be held by women and by gay men and the requisite skills for success in management (Heilman, 1983; Schein, 2001). Thus, gay men may be penalized for not being perceived to have the stereotypically male heterosexual traits thought to be required among managers. To the extent that this is true, we would expect the disadvantages to become more pronounced as one moves up the managerial hierarchy, for example, from “low” to “high” management. This is consistent with a glass ceiling effect, which posits that barriers become more pronounced as one moves up organizational hierarchies (Cotter et al., 2001). On the other hand, if this was the explanation, it is unclear why lesbians are not advantaged relative to other women.

Our preferred framework is more akin to the standard analysis in economics and relies upon ‘tastes for discrimination’. We believe that three interrelated factors may be at play. On the one hand, those making the decisions (if not of the affected group themselves) may have a ‘taste for discrimination’ when making decisions on whom to hire for managerial posts. The second factor is that – while being of the same ethnicity, gender or sexuality does not guarantee a lack of discrimination – the ‘taste for discrimination’ might typically be significantly lower within the affected group. There is some evidence in the literature that women in senior management posts may be more likely to consider other women for promotion within

⁴ A 2011 report from the UK Office for National Statistics also documents that gay men have higher likelihood of having managerial and professional occupations using the 2011 wave of the data we also use here. That study did not control for demographic characteristics (e.g., the fact that gay men have significantly higher levels of education than heterosexual men), did not directly examine questions about managerial and supervisory authority in the workplace, and did not separately consider ‘higher’ from ‘lower’ managerial positions.

⁵ We note that most studies in the literature on sexual orientation and earnings have recognized the importance of occupation choices and occupational segregation, even if workplace authority is not their primary focus. Most wage earnings studies, for example, include controls for broad occupation categories. Recent work by Tilcsik et al. (2015) shows that sexual minorities sort into occupations requiring greater task independence and/or social perceptiveness, even after accounting for the well-documented gender-atypical sorting of sexual minorities. Another recent study shows that sexual minorities shy away from prejudiced occupations (Plug et al., 2014). Other studies have focused on specific industries and occupations, such as public sector employment which generally has stronger antidiscrimination protections than the private sector (see, for example, Humphrey, 1999; Lewis and Pitts, 2009, and others).

the corporate hierarchy. Finally, an individual might be able to mitigate discrimination in many aspects of the job by having managerial authority rather than being a line worker who is governed by a potentially discriminatory manager.

Bringing these three aspects of a potential ‘taste for discrimination’ together, we can see possible implications for a gay man (or another sexual minority individual). For given observable and unobservable characteristics, the gay man will be less likely to obtain a post with managerial authority than a comparable heterosexual man. However, to mitigate the effects, a gay man may invest more in those factors such as education that contribute positively to gaining a post with managerial authority. The final implication comes from our assumption that gay men (for example) will typically but not necessarily have a lowered taste for discrimination against other gay men in making promotion decisions. When a heterosexual man with a taste for discrimination promotes a gay man to a junior managerial post, the gay man must in effect display a productivity that outweighs the taste for discrimination. But when the heterosexual man makes the promotion decision about a gay man to a senior post, he takes account of the direct taste for discrimination but also an indirect effect wherein he knows that the gay man might be more likely to hire other gay men to posts below him in the hierarchy. Under these assumptions, gay men (and other affected groups) are likely to face a multiplied taste for discrimination and therefore glass ceilings as they seek to progress up the corporate ladder.

3. Data and methods

3.1. Data

We analyze data from a special license of confidential versions of the 2009–2014 UK Integrated Household Surveys (IHS). The IHS is a large, representative household survey of UK residents similar to the March Current Population Survey in the United States. Approximately 400,000 individuals are sampled in each wave of the IHS. For our purposes, one key feature of these data is that the IHS asked respondents a direct question about their sexual orientation⁶.

The IHS contains both a telephone and a face-to-face survey mode. In the former, respondents age 16 and older are asked “I will now read out a list of terms people sometimes use to describe how they think of themselves. (INTERVIEWER: read list to end without pausing. Note that “Heterosexual or Straight” is one option; “Gay or Lesbian” is one option.) 1. Heterosexual or Straight, 2. Gay or Lesbian, 3. Bisexual, 4. Other (Spontaneous DK/Refusal). As I read the list again please say “yes” when you hear the option that best describes how you think of yourself. (INTERVIEWER: Pause briefly after each option during second reading).” In the face to face interviews, participants age 16 and older were shown a card that had the terms printed next to a number (such as “27. Heterosexual/Straight”). Individuals were then asked “Which of the options on this card best describes how you think of yourself? Please just read out the number next to the description.” Notably, sexual minorities did not have to verbalize the words “gay,” “lesbian,” or “bisexual” to indicate their sexual orientation in either the telephone or face to face survey modes, which can reduce potential stigma⁷. Approximately 1.4–1.7 percent of individuals 16 and older self-identified as gay, lesbian, or bisexual in each wave of the IHS, which is similar to other large population-based surveys in the UK, US, and Canada (Joloza et al., 2010).

The IHS asks respondents detailed questions about employment status, as well as occupation, industry, and firm size questions among the sample who reports working. Individuals are also asked separately about both supervisory responsibility and managerial responsibility on their job. Specifically, employed individuals are asked: “In your job do you have formal responsibility for supervising the work of other employees?” Interviewers are instructed to exclude people who only supervise children (e.g., teachers, nannies, or childminders), animals, or security or buildings (e.g., caretakers or security guards). Employed individuals are then asked “(And) did you have any managerial duties?” We use dichotomous variables to indicate those with supervisory responsibility and those with managerial responsibility. If the answer to both questions is affirmative, we say that the individual has both ‘managerial and supervisory responsibility’. The main difference between managerial and supervisory authority is that a manager has decision-making authority and is responsible for deciding the role, task, and future of his/her department, whereas a supervisor implements the decisions established by the managers.

We also consider complementary measures of workplace status and access to workplace authority based on an available set of occupation codes in the UK IHS data. Specifically, the UK Office of National Statistics commissioned a review of occupation codes in 1994 that resulted in a revised “National Statistics Socio-economic Classification” (NS-SEC) (Rose and Pevalin, 2001; Rose et al., 2005). The revised occupation classification system was derived from the Goldthorpe Schema (Goldthorpe, 1980; Erikson and Goldthorpe, 1992) that was designed to measure the employment relations and conditions of occupations for the purpose of measuring the structure of socioeconomic positions in modern societies. The Goldthorpe Schema has been internationally validated as a good predictor of health, education, and other socioeconomic outcomes (Bartley et al., 1996). The design took a number of variables into account, such as whether the worker is an employee or

⁶ Most studies in the literature on sexual orientation and earnings have relied on indirect methods for identifying sexual minorities, such as same-sex sexual behavior (as in some public health surveys) or, more commonly, the presence of a cohabiting same-sex partner (such as the UKLFS as used in Arabsheibani et al., 2005; 2004). Since people who do not have sex can still identify as sexual minorities, and since single non-partnered sexual minorities may have different outcomes than cohabiting partnered sexual minorities, our individual-level data on self-reported sexual orientation are preferred as a more comprehensive sample of the overall population of LGB individuals.

⁷ In our empirical models below we include a dummy variable for interviews that were conducted face-to-face. Forty-four percent of interviews were conducted either by proxy or for respondents under age 16, and in these cases sexual orientation questions were not asked. We exclude these observations.

is self-employed; the nature of the “service relationship” between the worker and the firm (that is, whether and/or how employees are regulated through employment contracts); the size of the firm (as measured by number of workers); the magnitude of the managerial and/or supervisory responsibilities on the job; and other job characteristics.

Given our research questions, the NS-SEC coding is advantageous because among the sample employed in managerial occupations, it distinguishes between “high” and “low” managers based on the factors described above (including firm size and the nature of the employment relationship). Although the NS-SEC was not created to be an explicitly hierarchical rubric, there is a clear ranking embedded in the distinction between the higher and lower managerial positions. Below, we document directly that individuals who the UK ONS classified as “high managers” have significantly higher earnings than “low managers” even conditional on all other observed determinants of pay (including alternative occupation dummies, the direct managerial/supervisory responsibility variables, and the job characteristics that enter into the decision rule to classify someone as a high or low manager), despite that low managers also command significant earnings premia relative to non-managers. Thus, we infer an explicit hierarchy in workplace status whereby “high” managers have greater access to workplace authority and status than “low” managers.

In addition to the critical questions on sexual orientation and workplace authority, the IHS also includes standard demographic characteristics such as sex, age, race, educational attainment, marital status, and the presence of children in the household. We study individuals age 25–64 to focus on individuals most likely to have completed their education; however, the results are robust to including 18–24 year olds.

3.2. Empirical approach

To assess the relationship between sexual orientation and workplace authority we estimate a series of multivariate regression models relating worker characteristics to various employment outcomes, including the likelihood a person reports having managerial authority on the job, the likelihood a person reports having supervisory authority on the job, and the likelihood a person reports having both supervisory and managerial authority. In addition, we use the occupational measures from the NS-SEC coding on whether the individual is a higher or a lower manager. We proceed by estimating linear probability models for the dichotomous outcomes for ease of interpretation, though logistic regression models returned similar patterns. We estimate most models separately by sex. Our models take the form:

$$OUTCOME_i = \alpha + \beta_1 X_i + \beta_2 (GAY/LESBIAN)_i + \beta_3 (BISEXUAL)_i + \varepsilon_i \quad (1)$$

where $OUTCOME_i$ is one of the workplace authority indicators described above (managerial responsibilities at work, supervisory responsibilities at work, higher managerial positions, lower managerial positions, and others) for individual i . X_i is a vector of demographic variables and job characteristics that includes: age and its square; education dummies (degree levels, higher education qualification below degree level, A-levels, O-levels); race dummies (white, black, Asian, mixed race, other race); location dummies (London, England excluding London, Scotland, and Northern Ireland); dummy variables for the presence of children in the household (any child <5, any child at least age 5); a dummy variable indicating the person is in any type of partnership (marriage or cohabiting unmarried partnership); 7 firm size dummies (1–10, 11–19, 20–24, 25–49, 50–249, 250–499, and ≥ 500); 8 industry dummies (energy and water; manufacturing; construction; hotels and restaurants; transportation and communication; banking and finance; education and health; and other services); and 8 occupation dummies (manager, director, and senior officials; professional occupations; associate professional and technical occupations; administrative and secretarial occupations; skilled trades occupations; caring, leisure, and other service occupations; customer service and sales occupations; and elementary occupations) based on the Standard Occupational Classification 2010 (SOC 2010). Note that the occupation dummies used as controls in Eq. (1) from the SOC 2010 are distinct from the “higher” and “lower” manager variables described earlier which are based on the NS-SEC: specifically, the SOC 2010 occupation coding – unlike the NS-SEC coding – is *not* designed to account for socioeconomic status differences such as the nature of the employment relationship. Partly because of this, the occupation dummies in Eq. (1) are not highly collinear with the NS-SEC occupation-based classifications, so we can estimate models predicting whether an individual is a higher or lower manager even in the presence of the standard occupation dummies. We also control for survey year dummies in all models.

We focus primarily on full-time workers, though in results not reported we also explored robustness to samples of all workers and found similar patterns. Note that in Eq. (1) the relevant excluded category is composed of individuals who report a heterosexual orientation. In all models we separately include dummy variables for people who reported “other” who refused to respond to the sexual orientation question, or who reported “don’t know” in response to the sexual orientation question (although we do not report the coefficients in the results tables)⁸. All models include a dummy variable for interviews performed face-to-face. We estimate standard errors robust to heteroscedasticity⁹.

⁸ Dropping these individuals from the sample (instead of dummying them out) returned qualitatively identical results.

⁹ Results were robust to clustering standard errors at the industry level.

Table 1a

Demographic characteristics.

Adults age 25–64, 2009–2014 UK Integrated Household Surveys (IHS).

Variables	Heterosexual men	Bisexual men	Gay men	Heterosexual women	Bisexual women	Lesbians
Age	46.67 (11.19)	44.19 (11.29)	43.23 (10.67)	45.77 (11.16)	42.11 (11.27)	42.60 (10.56)
Highest education: Degree level	0.248 (0.432)	0.286 (0.452) ^A	0.403 (0.491) ^A	0.226 (0.418)	0.302 (0.459) ^B	0.370 (0.483) ^B
Higher ed.	0.106 (0.308)	0.102 (0.302)	0.107 (0.309)	0.119 (0.324)	0.099 (0.299) ^B	0.129 (0.347)
A level	0.234 (0.424)	0.161 (0.368) ^A	0.194 (0.396) ^A	0.160 (0.367)	0.153 (0.361)	0.165 (0.383)
O level	0.219 (0.413)	0.218 (0.413)	0.190 (0.393) ^A	0.301 (0.459)	0.267 (0.442) ^B	0.221 (0.396) ^B
White	0.867 (0.339)	0.820 (0.384) ^A	0.905 (0.293) ^A	0.877 (0.329)	0.864 (0.343)	0.924 (0.266) ^B
Partnered	0.686 (0.464)	0.471 (0.500) ^A	0.437 (0.496) ^A	0.650 (0.477)	0.702 (0.457) ^B	0.637 (0.481)
Any Child <16	0.148 (0.335)	0.094 (0.293) ^A	0.005 (0.075) ^A	0.207 (0.405)	0.196 (0.397)	0.083 (0.276) ^B
England	0.753 (0.431)	0.791 (0.407) ^A	0.831 (0.375) ^A	0.747 (0.435)	0.826 (0.379) ^B	0.796 (0.403) ^B
London	0.083 (0.276)	0.143 (0.350) ^A	0.214 (0.410) ^A	0.081 (0.274)	0.152 (0.359) ^B	0.093 (0.291) ^B
N. Ireland & Wales & Scotland	0.247 (0.431)	0.209 (0.407)	0.169 (0.375)	0.253 (0.329)	0.174 (0.379) ^B	0.204 (0.403) ^B
Full-time worker	0.676 (0.468)	0.595 (0.491) ^A	0.681 (0.466)	0.365 (0.481)	0.386 (0.487)	0.581 (0.494) ^B
Sample Size	245,100	728	3678	353,764	1727	2712

Weighted means (standard deviations). Not reported (but included in the models) there are 16,575 men and 21,021 women who, when asked about sexual orientation, responded 'other', 'don't know' or who refused a response.

^A The superscript letter A means statistically significant difference ($P < 0.05$) between the groups of gay men and bisexual men in contrast to the heterosexual men.

^B The superscript letter B means statistically significant difference ($P < 0.05$) between the groups of lesbians and bisexual women in contrast to the heterosexual women.

4. Results

4.1. Descriptive statistics

Table 1a presents the descriptive statistics on demographic characteristics from the IHS data by self-reported sexual orientation for heterosexual, gay/lesbian, and bisexual respondents. These broad patterns have been documented previously by the UK Office for National Statistics. The data indicate that self-identified gay men are on average younger, more highly educated, more likely to be never married, less likely to have children in the household, and more likely to live in London than either heterosexual or bisexual men. Gay men are also slightly more likely to be employed than other men. Among women, Table 1a shows that self-identified lesbians are also more highly educated, more likely to be never married, less likely to have children in the household, and more likely to be employed than heterosexual or bisexual women. Moreover, the magnitude of the employment differences between lesbians and other women is much larger than the gap between gay men and other men.

Table 1b presents descriptive statistics for job characteristics – including the workplace authority variables we focus on here – by sexual orientation group for the sample of full-time workers age 25–64. Results indicate that gay men are significantly more likely than heterosexual men to have supervisory or managerial authority in raw mean comparisons. The same is true for comparisons of lesbians with heterosexual women. Turning to occupation-based measures of workplace authority and status, we find that gay men are significantly more likely than heterosexual men to be both higher managers/professionals and lower managers/professionals, with a larger difference for the lower managerial category. For lesbians we also estimate that they are unconditionally more likely to be lower managers and professionals compared to heterosexual women, though we do not find a difference in the raw means for the higher managers/professionals category. With respect to other job characteristics, Table 1b shows that gay men exhibit much different profiles of industry composition than heterosexual men, and they are also significantly more likely to be observed in the largest firms than heterosexual men.

Table 2a and b show demographic characteristics for the sample of high and low managers, respectively, by sexual orientation. Notably, we find that gay men and lesbians in managerial positions are much more likely to have higher education qualifications than heterosexual adults in those same types of managerial positions. For higher managerial posts, 70 percent of gay men have degree level education, compared to only 57 percent of heterosexual men. For lower managerial posts, 51 percent of gay men have degree level education, compared to only 39 percent of heterosexual men. Gay men need to have greater qualifications than heterosexual men to compete for the same jobs. A similar pattern obtains in comparing heterosexual women to heterosexual men: for every level of managerial position, heterosexual women have greater education (consistent with more qualifications) than heterosexual men.

This difference in education levels by sexual orientation or gender for those holding managerial posts is suggestive of glass ceilings but also shows the importance of controlling for characteristics in examining whether or not sexual minorities achieve the same managerial/supervisory authority as their heterosexual counterparts.

4.2. Evidence that the workplace authority measures convey meaningful information

In this paper we are primarily interested in testing whether sexual minorities have different access to positions of authority in the workplace compared to otherwise similar heterosexuals. An issue that is key to the interpretation of any

Table 1b

Job characteristics.

Full-time workers age 25–64, 2009–2014 UK Integrated Household Surveys (IHS).

Variables	Heterosexual men	Bisexual men	Gay men	Heterosexual women	Bisexual women	Lesbians
Supervisory responsibilities	0.474 (0.499)	0.427 (0.495)	0.555 (0.497) ^A	0.449 (0.497)	0.402 (0.491) ^B	0.493 (0.500) ^B
Managerial responsibilities	0.339 (0.473)	0.139 (0.346)	0.441 (0.497) ^A	0.301 (0.459)	0.270 (0.444)	0.358 (0.480) ^B
Higher managerial and professional	0.221 (0.415)	0.187 (0.390)	0.241 (0.428) ^A	0.139 (0.346)	0.144 (0.351)	0.156 (0.363)
Lower managerial and professional	0.291 (0.454)	0.266 (0.442)	0.425 (0.494) ^A	0.404 (0.491)	0.407 (0.492)	0.436 (0.496) ^B
Intermediate occupations	0.082 (0.275)	0.102 (0.302)	0.121 (0.327) ^A	0.203 (0.402)	0.218 (0.413)	0.153 (0.360) ^B
Small Emp. and own account workers	0.036 (0.009)	—	0.004 (0.020)	0.001 (0.010)	—	0.000 (0.025) ^B
Lower supervisory and technical	0.144 (0.352)	0.104 (0.306) ^A	0.071 (0.258) ^A	0.053 (0.226)	0.055 (0.229)	0.070 (0.256) ^B
Semi-routine occupations	0.108 (0.311)	0.143 (0.352) ^A	0.069 (0.255) ^A	0.127 (0.333)	0.102 (0.303)	0.105 (0.307) ^B
Routine occupations	0.121 (0.326)	0.155 (0.362) ^A	0.037 (0.190) ^A	0.039 (0.196)	0.033 (0.179)	0.048 (0.216)
Admin./Secretary	0.091 (0.288)	0.071 (0.258)	0.136 (0.343) ^A	0.169 (0.375)	0.177 (0.382)	0.151 (0.358)
Skilled Person/Sales	0.083 (0.276)	0.062 (0.242)	0.083 (0.277)	0.095 (0.293)	0.073 (0.261)	0.078 (0.268) ^B
Agri/Energy/Cons/Trans	0.260 (0.439)	0.236 (0.425)	0.169 (0.374) ^A	0.080 (0.272)	0.101 (0.301)	0.110 (0.314) ^B
Manufacturing	0.186 (0.389)	0.136 (0.343) ^A	0.066 (0.249) ^A	0.069 (0.254)	0.045 (0.211) ^B	0.060 (0.238)
Hotels/Restaurant	0.129 (0.335)	0.143 (0.351)	0.153 (0.360) ^A	0.123 (0.328)	0.084 (0.278) ^B	0.095 (0.294) ^B
Banking/Finance	0.149 (0.356)	0.169 (0.375)	0.183 (0.387) ^A	0.142 (0.349)	0.144 (0.351)	0.126 (0.332)
Education/Health	0.206 (0.405)	0.226 (0.419)	0.352 (0.478) ^A	0.518 (0.500)	0.535 (0.499)	0.550 (0.498) ^B
1–10 at workplace	0.168 (0.374)	0.139 (0.346)	0.160 (0.367)	0.142 (0.349)	0.134 (0.341)	0.129 (0.335)
11–24 at workplace	0.111 (0.314)	0.113 (0.317)	0.104 (0.306)	0.121 (0.327)	0.114 (0.318)	0.103 (0.305) ^B
25–49 at workplace	0.119 (0.324)	0.157 (0.364) ^A	0.109 (0.312)	0.145 (0.352)	0.129 (0.336)	0.128 (0.334)
50–249 at workplace	0.267 (0.443)	0.300 (0.459)	0.242 (0.428) ^A	0.259 (0.428)	0.261 (0.44)	0.276 (0.447)
250 or more at workplace	0.303 (0.460)	0.261 (0.440)	0.362 (0.481) ^A	0.302 (0.459)	0.309 (0.463)	0.347 (0.476) ^B
Sample size	165,580	433	2503	129,040	666	1575

Weighted means (standard deviations).

^A The superscript letter A means statistically significant difference ($P < 0.05$) between the groups of gay men and bisexual men in contrast to the heterosexual men.^B The superscript letter B means statistically significant difference ($P < 0.05$) between the groups of lesbians and bisexual women in contrast to the heterosexual women.**Table 2a**

Demographic characteristics: high managers.

Adults age 25–64 not missing information on earnings, 2009–2014 UK Integrated Household Surveys (IHS).

Variables	Heterosexual men	Bisexual men	Gay men	Heterosexual women	Bisexual women	Lesbians
Age	45.85 (10.64)	42.38 (10.17)	42.37 (9.85)	43.20 (10.15)	42.25 (9.99)	44.38 (9.63)
Highest education: Degree level	0.572 (0.495)	0.620 (0.488) ^A	0.702 (0.458) ^A	0.659 (0.474)	0.761 (0.428) ^B	0.719 (0.450) ^B
Higher ed.	0.138 (0.345)	0.130 (0.388)	0.083 (0.277) ^A	0.109 (0.311)	0.063 (0.245) ^B	0.078 (0.269)
A level	0.163 (0.369)	0.100 (0.302) ^A	0.130 (0.337)	0.100 (0.301)	0.084 (0.279)	0.113 (0.316)
O level	0.087 (0.283)	0.080 (0.273)	0.057 (0.232) ^A	0.098 (0.298)	0.049 (0.217) ^B	0.071 (0.259)
White	0.849 (0.358)	0.860 (0.349)	0.928 (0.258) ^A	0.873 (0.333)	0.908 (0.289)	0.950 (0.218) ^B
Partnered	0.782 (0.413)	0.570 (0.498) ^A	0.507 (0.500) ^A	0.714 (0.452)	0.739 (0.440)	0.781 (0.414) ^B
Any Child <16	0.171 (0.377)	0.060 (0.239) ^A	0.004 (0.066) ^A	0.210 (0.408)	0.155 (0.363) ^B	0.093 (0.292) ^B
England	0.792 (0.406)	0.820 (0.386)	0.876 (0.330) ^A	0.790 (0.407)	0.859 (0.349) ^B	0.850 (0.358) ^B
London	0.108 (0.310)	0.160 (0.368) ^A	0.336 (0.473) ^A	0.131 (0.338)	0.204 (0.405) ^B	0.184 (0.388) ^B
N. Ireland & Wales & Scotland	0.208 (0.406)	0.180 (0.386)	0.124 (0.330) ^A	0.210 (0.407)	0.141 (0.349) ^B	0.150 (0.358) ^B
Full-time worker	0.849 (0.358)	0.810 (0.394)	0.883 (0.322)	0.657 (0.475)	0.676 (0.470)	0.769 (0.422) ^B
Sample Size	43,063	100	684	27,331	142	320

Weighted means (standard deviations).

^A The superscript letter A means statistically significant difference ($P < 0.05$) between the groups of gay men and bisexual men in contrast to the heterosexual men.^B The superscript letter B means statistically significant difference ($P < 0.05$) between the groups of lesbians and bisexual women in contrast to the heterosexual women.

differentials is whether our measures of workplace authority – managerial responsibilities at work, supervisory responsibilities at work, and whether one's occupation is a 'high' or 'low' manager – are 'good' outcomes from a normative perspective. While these jobs are often desirable in their own right due to greater prestige and recognition, better jobs are also typically better paid. This can reflect the greater stress of managerial and supervisory responsibilities. Alternatively, if these jobs contain more individual control of one's workload and associated flexibility, there may be a compensating differential in the opposite direction. The definitions of the variables suggest a pairwise hierarchy of workplace authority measures. Managerial authority is more senior than supervisory authority, with additional decision-making power. Similarly, 'high' managers have more responsibility than 'lower' managers.

To provide evidence on the returns to managerial authority, we make use of the fact that we observe earnings for three years of the IHS sample (2012–2014). We use these data to estimate straightforward models of log earnings controlling for detailed observable characteristics such as age, education, race, and geographic location, as well as the workplace author-

Table 2b

Demographic characteristics: low managers.

Adults age 25–64 not missing information on earnings, 2009–2014 UK Integrated Household Surveys (IHS).

Variables	Heterosexual men	Bisexual men	Gay men	Heterosexual women	Bisexual women	Lesbians
Age	45.89 (10.97)	44.32 (10.78)	41.90 (10.24) ^A	44.92 (10.75)	41.23 (10.74) ^B	42.50 (10.02)
Highest education: Degree level	0.386 (0.487)	0.521 (0.501) ^A	0.512 (0.500) ^A	0.429 (0.495)	0.486 (0.500) ^B	0.580 (0.494) ^B
Higher ed.	0.158 (0.365)	0.155 (0.363)	0.132 (0.229)	0.205 (0.404)	0.138 (0.345) ^B	0.166 (0.372) ^B
A level	0.224 (0.417)	0.155 (0.363) ^A	0.174 (0.379) ^A	0.145 (0.352)	0.144 (0.352)	0.125 (0.331)
O level	0.162 (0.369)	0.106 (0.308) ^A	0.138 (0.346)	0.169 (0.375)	0.158 (0.365)	0.103 (0.304) ^B
White	0.887 (0.316)	0.831 (0.376) ^A	0.904 (0.295)	0.895 (0.307)	0.873 (0.333)	0.931 (0.254) ^B
Partnered	0.770 (0.421)	0.528 (0.501) ^A	0.479 (0.500) ^A	0.697 (0.460)	0.711 (0.454)	0.688 (0.464)
Any Child <16	0.161 (0.368)	0.106 (0.308) ^A	0.004 (0.067) ^A	0.198 (0.398)	0.153 (0.361) ^B	0.075 (0.265) ^B
England	0.767 (0.423)	0.761 (0.428)	0.828 (0.378) ^A	0.750 (0.433)	0.838 (0.369) ^B	0.804 (0.397)
London	0.095 (0.294)	0.204 (0.405) ^A	0.234 (0.424) ^A	0.086 (0.281)	0.160 (0.367) ^B	0.117 (0.322)
N. Ireland & Wales & Scotland	0.233 (0.423)	0.239 (0.428)	0.172 (0.378) ^A	0.250 (0.433)	0.162 (0.369) ^B	0.196 (0.397) ^B
Full-time worker	0.817 (0.386)	0.810 (0.394)	0.813 (0.390)	0.569 (0.495)	0.593 (0.492)	0.744 (0.437) ^B
Sample Size	58,920	142	1307	91,645	457	922

Weighted means (standard deviations).

^A The superscript letter A means statistically significant difference ($P < 0.05$) between the groups of gay men and bisexual men in contrast to the heterosexual men.^B The superscript letter B means statistically significant difference ($P < 0.05$) between the groups of lesbians and bisexual women in contrast to the heterosexual women.

ity measures described above. We present this evidence in Table 3 which shows the key coefficients from estimation of Eq. (1) where we consider log earnings as our outcome of interest and where we additionally control for our key workplace authority indicators as additional control variables to see if the return to, say, managerial responsibilities at work or supervisory responsibilities at work is sizable, positive, and statistically significant. We present these results for men in column 1 and for women in column 2.

The results in Table 3 confirm that the outcomes we identify for workplace authority are associated with sizable and statistically significant earnings premia, with the expected pairwise comparisons. For example, we estimate that – conditional on all other covariates including individual demographics, family characteristics, industry, occupation (SOC 2010) and firm size variables – full-time working men who report managerial responsibilities on the job earn 15 percent more than otherwise similar men who do not report managerial responsibilities on the job¹⁰. The associated return to managerial responsibilities for full-time working women is 17 percent. As expected, we estimate that among men working full time, those who report supervisory responsibilities at work earn a smaller 9 percent premium than otherwise similar men who do not report supervisory responsibilities on the job. The associated return to supervisory responsibilities for full-time working women is about 7 percent. Finally, we estimate that among full time working men in the bottom panel of Table 3, men in the ‘higher managerial’ occupations earn 43 percent more than otherwise similar men. The associated return for men in the ‘lower managerial’ occupations is substantially lower (16 percent), and the difference between ‘high’ and ‘low’ managers is statistically significant. For women we also estimate that the returns to both types of managerial positions are positive and statistically significant and that the return for high managers is significantly larger than the return for low managers¹¹. Thus, taken as a whole the results in Table 3 confirm that the observable dimensions of workplace authority are strongly positively related to earnings and thus very likely reflect meaningful differences in status attainment at work. In the next sections we turn to our primary question and ask whether sexual minority men and women are differentially likely to attain these positions compared to heterosexuals of comparable observable characteristics¹².

4.3. Findings on sexual orientation, workplace authority, and gay glass ceilings

In Table 4 we investigate whether the unadjusted patterns observed in Table 1b for managerial and supervisory duties at work remain in the presence of controls for educational attainment, demographic characteristics, and job characteristics. Specifically, we present evidence on the relationship between sexual orientation and managerial and supervisory authority for men (top panel) and women (bottom panel) age 25–64 who work full-time. All models also control for age, race/ethnicity, education, partnership, year dummies, a dummy variable for being interviewed face-to-face, location dummies, the presence of children in the household, firm size, industry, and occupation dummies. The outcomes across the

¹⁰ This is calculated as $e^x - 1$.¹¹ These patterns also hold if we remove the SOC 2010 occupation dummies. Recall that the high and low manager indicators are based on the NS-SEC occupation classification.¹² A limitation of the NS-SEC measure is that it includes professional occupations with managerial occupations. This is likely to contribute to the substantially higher salaries for high managerial/professional occupations compared to low managerial/professional occupations (and compared to non-managerial/professional occupations). It is also likely to contribute to the pattern that the share of full-time workers observed in these managerial/professional occupations (about half the sample) is substantially higher than the share of full-time workers directly reporting managerial and/or supervisory authority at work.

Table 3

Workplace authority variables are strongly positively related to earnings.
2012–2014 UK IHS Adults age 25–64 with full time employment Outcome is log earnings.

	Men	Women
Managerial responsibilities	0.141*** (0.005)	0.162*** (0.005)
Supervisory responsibilities	0.088*** (0.004)	0.071*** (0.004)
Higher managerial occupation	0.362*** (0.006)	0.390*** (0.007)
Lower managerial occupation	0.150*** (0.005)	0.163*** (0.005)
R-squared	0.371	0.442
N	75,017	59,221

Notes: * significant at 10%; ** significant at 5%;

*** significant at 1%. Models include additional controls not reported, including: dummy variables for self-reported sexual orientation (gay/lesbian, bisexual, other, don't know, refused); a dummy variable for being interviewed face-to-face; age and its square; dummy variables for degree levels, higher education (HE qualification below degree level), A-levels, O-levels; race/ethnicity dummies (white, black, Asian, mixed race, other race); a dummy for being in any kind of partnership; year dummies; location dummies (London, England, Scotland, and Northern Ireland), a dummy variable for the presence of children (any child <5 & any child ≥5) in the household; a private sector dummy; 7 firm size dummies (1–10, 11–19, 20–24, 25–49, 50–249, 250–499, >500); 8 industry dummies (energy/water, manufacturing, construction, hotels/restaurants, transportation/communication, banking/finance, education/health, other services); and 8 occupation dummies (manager/director/senior officials, professional occupations, associate professional/technical occupations, administrative and secretarial occupations, skilled trades occupations, caring/leisure/other service occupations, customer service and sales occupations, elementary occupations).

columns are as follows: managerial authority (column 1); supervisory authority (column 2); managerial and supervisory authority (column 3); managerial/professional occupation (column 4); 'high managerial' occupation (column 5); and 'low managerial' occupation (column 6).

The results in Table 4 provide direct evidence that sexual orientation is correlated with authority in the workplace. For the managerial authority outcome in column 1 we find that gay men and lesbians are 6.1 and 2.7 percentage points, respectively, more likely to have this type of workplace authority compared to similarly situated heterosexual men and women, and both estimates are statistically significant ($p < 0.01$). We also find that bisexual men are significantly less likely to have managerial authority in the workplace than otherwise similar heterosexual men and that bisexual women are significantly less likely to have managerial authority in the workplace than otherwise similar heterosexual women¹³. Moving to supervisory authority in column 2 we find that gay men and lesbians are 5.7 and 1.6 percentage points, respectively, more likely to have supervisory responsibility in the workplace than otherwise similar heterosexual adults. The result for gay men is significant at the one percent level while the estimate for lesbians is significant at the ten percent level. Bisexual men and women are also estimated to be less likely to have supervisory authority in the workplace, though only the result for women is statistically significant. Column 3 shows results for individuals reporting both managerial and supervisory responsibility in the workplace and shows that again gay men and lesbians are both significantly more likely to have this combination of workplace authority compared to otherwise similar heterosexual adults, while bisexual women are significantly less likely to have positions with both managerial and supervisory authority.

Column 4 addresses workplace authority in a different way by using the NS-SEC occupation-based measures rather than self-reported authority measures. The occupation measures take into account the nature of the "service relationship" between the worker and the firm as well as the magnitude of the managerial responsibilities on the job. This occupation-based approach is common to most prior work on sexual orientation and economic outcomes. In column 4 of Table 4 we show results for a model where the outcome is a dummy variable indicating that the individual's occupation is in the managerial

¹³ These patterns also held when we removed the full-time employment requirement.

Table 4

Workplace authority gap associated with sexual orientation and evidence of gay glass ceilings.
2009–2014 UK IHS Adults age 25–64 with full time employment.

Outcome is →	(1) Managerial authority	(2) Supervisory authority	(3) Managerial & Supervisory authority	(4) Occupation is Man- agerial/Professional occupations	(5) Occupation is 'Higher managerial occupations'	(6) Occupation is 'Lower managerial occupations'
Men						
Gay	0.061*** (0.009)	0.057*** (0.010)	0.062*** (0.009)	0.057*** (0.008)	−0.022*** (0.008)	0.079*** (0.009)
Bisexual	−0.030* (0.016)	−0.034 (0.023)	−0.027 (0.020)	−0.065*** (0.019)	−0.050*** (0.017)	−0.015 (0.019)
R-squared	0.167	0.094	0.145	0.373	0.254	0.166
N	179,980	179,980	179,980	179,980	179,980	179,980
Women						
Lesbian	0.027*** (0.011)	0.016* (0.010)	0.023** (0.011)	−0.028*** (0.010)	−0.017** (0.008)	−0.010 (0.011)
Bisexual	−0.037** (0.016)	−0.049*** (0.018)	−0.036** (0.016)	−0.035** (0.016)	−0.014 (0.012)	−0.020 (0.018)
R-squared	0.141	0.102	0.127	0.372	0.193	0.211
N	140,084	140,084	140,084	140,084	140,084	140,084

Notes:

* significant at 10%;

** significant at 5%;

*** significant at 1%. All models include controls for: a dummy variable for being interviewed face-to-face; age and its square; dummy variables for degree levels, higher education (HE qualification below degree level), A-levels, O-levels; race/ethnicity dummies (white, black, Asian, mixed race, other race); a dummy for being in any kind of partnership; year dummies; location dummies (London, England, Scotland, and Northern Ireland); dummies for the presence of children (any child <5 & any child ≥5) in the household; a private sector dummy; 7 firm size dummies (1–10, 11–19, 20–24, 25–49, 50–249, 250–499, >500); 8 industry dummies (energy/water, manufacturing, construction, hotels/restaurants, transportation/communication, banking/finance, education/health, other services); and 8 occupation dummies (manager/director/senior officials, professional occupations, associate professional/technical occupations, administrative and secretarial occupations, skilled trades occupations, caring/leisure/other service occupations, customer service and sales occupations, elementary occupations). Standard errors robust to heteroscedasticity are reported in parentheses.

or professional occupations (based on the NS-SEC classification system). Results in the top panel of column 4 indicate that gay men are 5.7 percentage points more likely to be in the managerial and professional occupations compared to otherwise similar heterosexual men, and this estimate is statistically significant at the five percent level. Bisexual men, in contrast, are 6.5 percentage points less likely to be in these high-status occupations, and this difference is also statistically significant.

Moving to columns 5 and 6 we separate the 'manager and professional' grouping into two subgroups: in column 5 we consider an outcome equal to one if the respondent works in a 'high managerial and professional' occupation, while in column 6 we consider an outcome equal to one if the respondent works in a 'low managerial and professional' occupation. The results when we disaggregate the managerial/professional occupations are striking: specifically, we find that gay men are 7.9 percentage points *more* likely to be in the low managerial and professional occupations but are 2.2 percentage points *less* likely to be in the high managerial and professional occupations, and both estimates are statistically significant at the one percent level. This suggests that the gay male "advantage" in access to positions of high workplace status documented in column 4 is driven entirely by the relatively low-end of the high-status group. In fact, the results are consistent with gay men having systematically *less* access to the highest status positions in the UK workplace¹⁴. Columns 5 and 6 also show that the lower likelihood of bisexual men attaining high-status positions in the workplace is driven mainly by their inability to access the high managerial and professional occupations: they are 5 percentage points less likely to have these positions, and this estimate is statistically significant.

For women in the bottom panel of columns 4–6 of Table 4 we find less robust evidence of systematic differences in access to high status positions in the workplace. Column 4 indicates that lesbians are 2.8 percentage points *less* likely than otherwise similar heterosexual women to be in the managerial and professional occupations; this is the opposite of the managerial authority finding in the bottom panels of columns 1–3. Bisexual women are also estimated to be 3.5 percentage points less likely to be in managerial and professional occupations, and this estimate is statistically significant. Columns 5 and 6 of the bottom panel of Table 4 suggest that the lesbian disadvantage in occupation-based managerial authority is driven by their significantly lower likelihood of accessing the higher managerial and professional positions, consistent with a glass ceiling effect with respect to the highest status managerial positions¹⁵.

¹⁴ One possible concern with the interpretation of the gay glass ceiling is that gay men may systematically select into industries that lack managerial hierarchies that would permit advancement to the top managerial posts. In results not reported we found that the core finding of gay glass ceilings was robust to adding controls for interactions between firm size and industry dummies.

¹⁵ In results not reported we also found similar patterns when we excluded potentially endogenous controls (i.e., occupation, industry, firm size, and private sector).

Table 5

The gay glass ceiling effect is stronger for non-white men.
2009–2014 UK IHS males age 25–64 with full time employment.

Outcome is →	(1) Managerial authority	(2) Supervisory authority	(3) Managerial & supervisory authority	(4) Occupation is man- agerial/Professional occupations	(5) Occupation is 'Higher managerial occupations'	(6) Occupation is 'Lower managerial occupations'
White Men						
Gay	0.054*** (0.009)	0.055*** (0.010)	0.057*** (0.009)	0.055*** (0.008)	–0.017** (0.008)	0.072*** (0.010)
Bisexual	–0.035 (0.022)	–0.047* (0.025)	–0.031 (0.022)	–0.049** (0.021)	–0.035* (0.019)	–0.015 (0.021)
R-squared	0.172	0.094	0.149	0.381	0.255	0.171
N	156,476	156,476	156,476	156,476	156,476	156,476
Nonwhite Men						
Gay	0.100*** (0.030)	0.084*** (0.030)	0.098*** (0.030)	0.075*** (0.028)	–0.075*** (0.023)	0.151*** (0.030)
Bisexual	–0.001 (0.044)	0.024 (0.052)	–0.001 (0.045)	–0.104** (0.044)	–0.092** (0.036)	–0.012 (0.045)
R-squared	0.133	0.094	0.118	0.338	0.265	0.138
N	23,504	23,504	23,504	23,504	23,504	23,504

Notes:

* significant at 10%;

** significant at 5%;

*** significant at 1%. See notes to Table 4.

This result on glass ceilings – that gay men are more likely than heterosexuals to hold low level managerial posts, but less likely to hold high level managerial posts – differs from the raw data. In the raw data, gay men were more likely to hold both levels of managerial posts. The explanation is primarily to do with the role of educational attainment. As already observed in Table 2a and b, gay men are much more likely to hold degrees than heterosexual men in the same level of posts. We return to this point in our (Oaxaca, 1973) style decompositions below.

4.4. Findings related to intersections of sexual orientation with visible minority status

In Table 5 we investigate intersectionality and ‘double disadvantage’ in the gay glass ceiling effect. We focus on men, for whom the evidence of gay glass ceilings in Table 4 is strongest. Specifically, we ask whether the differential likelihood of having high or low managerial status for gay men varies with another marginalized characteristic: nonwhite race. Do non-white gay men do better or worse than white gay men? The format of Table 5 mirrors that of Table 4, except the sample is only men. We present results for white men in the top panel and nonwhite men in the bottom panel. We caution here that estimates are based on small samples of nonwhite sexual minority men.

The results in Table 5 are striking and suggest that the phenomenon of gay glass ceilings is much stronger for nonwhite men than for white men. Specifically, we estimate that nonwhite gay men are 7.5 percentage points less likely than otherwise similar nonwhite heterosexual men to be in the highest status managerial occupations (column 5), but they are 15.1 percentage points more likely than otherwise similar nonwhite heterosexual men to be in the lower managerial occupations (column 6). We also find a much larger penalty for bisexual men in managerial and professional occupations among the sample of nonwhite men, and that is entirely driven by their lower likelihood of attaining the highest status managerial occupations. These patterns are consistent with our prediction of a double disadvantage – glass ceilings are particularly strong for non-heterosexual men who are also nonwhite¹⁶.

To provide even more direct evidence of differential access to the highest status managerial positions in the workplace, we present in Table 6 the results of analyses where we restrict attention only to individuals who are either high or low managers. That is, in Table 6 we eliminate the workplace processes that lead to access to any managerial post and focus only on what drives differences in access to the highest positions of power in the workplace. The format of Table 6 is as follows: each column is from a separate regression, and the outcome is an indicator for being in a high managerial post in the sample of higher and lower managers. Column 1 presents results on sexual orientation in the sample of men and columns 2 and 3 revisit the intersectionality of sexual orientation and visible minority status by reporting results separately for samples of white and nonwhite men.

The results in column 1 of Table 6 confirm that the glass ceiling we documented above for gay men relative to heterosexual men is robust to restricting attention to individuals in managerial posts. Moreover, the patterns in columns 2 and 3 of Table 6 confirm that the previous finding that the gay glass ceiling for men is stronger for nonwhites than for whites also obtains when we restrict attention to individuals in managerial posts. This is particularly strong evidence of differential

¹⁶ In results not reported we also considered heterogeneity across several other dimensions and found weaker evidence of heterogeneity in the gay glass ceiling effect by age, partnership status, education, firm size, or industry.

Table 6

Robustness to restricting sample to higher and lower managers.
2009–2014 UK IHS adults age 25–64 with full time employment
Sample is adults in high or low managerial positions.

	(1) Higher manager Men	(2) Higher manager White men	(3) Higher manager Non-white men
Outcome is: Sample is:			
Gay/Lesbian	–0.058*** (0.011)	–0.050*** (0.011)	–0.158*** (0.037)
Bisexual	–0.023 (0.034)	–0.006 (0.037)	–0.097 (0.086)
R-squared	0.109	.110	.114
N	92,391	80,921	11,470

Notes: * significant at 10%; ** significant at 5%;

*** significant at 1%. See notes to Table 4.

Table 7

Oaxaca decompositions.
2009–2014 UK IHS males age 25–64 with full time employment
Sample is High + Low Managers
Baseline specification, with demographic controls.

	(1) Total gap in access to higher managerial positions	(2) Difference due to characteristics (i.e., endowments)	(3) Difference due to coefficients (i.e., returns)	(4) Difference due to interactions between characteristics and coefficients
Gay men vs. heterosexual men	0.070 (0.012)	–0.015 (0.033)	0.058 (0.011)	0.027 (0.033)
Bisexual men vs. heterosexual men	0.018 (0.038)	0.001 (0.031)	0.023 (0.037)	–0.006 (0.030)
Lesbians vs. heterosexual women	–0.008 (0.014)	0.009 (0.013)	0.011 (0.014)	–0.028 (0.013)
Bisexual women vs. heterosexual women	–0.004 (0.024)	–0.008 (0.020)	0.018 (0.023)	–0.014 (0.019)

access to the highest status managerial posts in the workplace that is not simply about being suited for a managerial post in general.

4.5. Oaxaca-style decompositions

Finally, we present evidence from Oaxaca-style decompositions where we isolate the roles of different endowments (including education and skills) versus different returns to those endowments (commonly interpreted to be discrimination) in driving the managerial disadvantages faced by gay men. Specifically, we implement the decomposition for nonlinear regression models proposed by Daymont and Andrisani (1984), which is the extension of the Blinder–Oaxaca decomposition that can be applied to models with discrete and limited dependent variables and that yields consistent parameter estimates. We focus on individuals in any managerial post (as in Table 6) and decompose the difference in access to higher managerial positions for sexual minority men compared to heterosexual men. We present these results in Table 7.

The results in Table 7 provide strong evidence that the gay glass ceilings faced by gay men are more consistent with discrimination than with differences in endowments and productivity. Specifically, column 1 of the top row shows that gay men face a raw 7 percentage point gap in the likelihood of being a high manager compared to heterosexual men. The top panel of column 2 of Table 7 shows that this gap would have been even larger if gay men had the same characteristics as heterosexual men; this is intuitive given the patterns from Tables 1 and 2, above which showed that gay men had higher educational qualifications than heterosexual men at both low and high managerial levels. The top panel of column 3 of Table 7 indicates that the majority of the observed gap is attributable to differential returns to endowments; that is, heterosexual men are rewarded more strongly with advancement to the highest status managerial positions in the workplace for their observable skills than are gay men¹⁷. Finally, the top panel of column 4 of Table 7 indicates a nontrivial role for the

¹⁷ Separate regression models by sexual orientation group confirm that the returns to advanced degrees are much larger for heterosexual men than for gay men in models predicting higher managerial positions.

interaction of differential endowments and differential returns in driving the gay glass ceiling documented in Tables 4 and 6 above.

The results of the Oaxaca decompositions point to discrimination as the key factor behind gay men's lower likelihood of attaining higher managerial positions. Notably, the decomposition exercise shows smaller but sizable gaps in higher managerial positions for bisexual men than for gay men (both when compared to heterosexual men), though the bisexual differential is also attributed mainly to differential returns to characteristics than differential characteristics themselves. Table 7 also returns smaller gaps in higher managerial positions for sexual minority women compared to heterosexual women.

5. Discussion and conclusion

This paper makes important contributions to the literature on work-related inequality by providing the first large-scale evidence on the understudied sexual orientation gap in key indicators of workplace advantage. Importantly, and perhaps counterintuitively, we find that lesbians and gay men are markedly *more* likely than otherwise comparable heterosexual adults to possess managerial authority and supervisory responsibilities in the workplace. This is true net of their differential distribution across occupations and taking account of observable characteristics.

However, the story is not a simple one. The advantages held by gay men in particular stem solely from their higher likelihood of being low-level managers. In fact, gay men are significantly less likely to hold 'high manager' positions that come with increased status and pay. These patterns are consistent with a glass ceiling effect for gay men. Further, the Oaxaca decomposition suggests that the underlying cause is a lower return to education and other observed skills and characteristics for gay men in attaining managerial posts. This is consistent with the raw data that show that gay men have higher levels of educational attainment than heterosexuals in both low and high level managerial posts. We also found evidence of important dynamics between race and sexual orientation: the evidence for glass ceilings for gay men was much stronger for nonwhites than for whites. Finally, we find that bisexuals of both sexes are significantly less likely than otherwise similar heterosexual adults to have various types of workplace authority.

Our findings on differential access to top managerial positions for gay men should be considered in the context of major improvements in attitudes toward sexual minorities over the past few decades. The fact that self-identified gay men were substantially younger than heterosexual men – this was true overall and in managerial posts – is consistent with the idea that access to workplace authority could be improving quickly for gay men. That is, the situation may have been worse (e.g., lower access even to low-level managerial positions for gay men compared to heterosexual men) prior to the window of our data. A notable limitation of our data is that we cannot rule out that there are unobserved factors correlated both with the decision to identify as a sexual minority on the survey and the outcomes under study, and this may also vary in intersectional ways (e.g., if nonwhite gay men are particularly unlikely to reveal their sexual orientation to the survey interviewer).

Our results complement existing work that has focused primarily on wage and earnings gaps between sexual minorities and heterosexuals. However, access to managerial authority, and particularly high-level managerial posts, is not just about the individual. Those holding these posts are the exemplars, the mentors and the decision-makers on who will be the next generation of senior leaders. Bringing more sexual minorities, women and non-whites into managerial posts potentially increases the access for those further down the managerial/supervisory ladder – with similar characteristics – to be promoted. As with representation of women and minority groups on Corporate Boards, there is the potential to shift to a more representative outcome more broadly within the organization.

References

- Ahmed, A., Hammarstedt, M., 2010. Sexual orientation and earnings: a register data based approach to identify homosexuals. *J. Popul. Econ.* 23, 835–849.
- Ahmed, A., Hammarstedt, M., 2009. Detecting discrimination against homosexuals: evidence from a field experiment on the internet. *Economica* 76, 588–597.
- Ahmed, A.M., Andersson, L., Hammarstedt, M., 2011. Sexual orientation and occupational rank. *Econ. Bull.* 31 (3), 2422–2433.
- Aksoy, C., Carpenter, C., Frank, J., 2018. Sexual orientation and earnings: new evidence from the UK. *Ind. Labor Relat. Rev.* 71 (1), 242–272.
- Allegretto, S., Arthur, M., 2001. An empirical analysis of homosexual/heterosexual male earnings differentials: unmarried and unequal? *Ind. Labor Relat. Rev.* 54 (3), 631–646.
- Antecol, H., Jong, A., Michael, S., 2008. Sexual orientation wage gap: the role of occupational sorting and human capital. *Ind. Labor Relat. Rev.* 61 (4), 518–543.
- Arabsheibani, G.R., Marin, A., Wadsworth, J., 2005. Gay pay in the UK. *Economica* 72, 333–347.
- Arabsheibani, G.R., Marin, A., Wadsworth, J., 2004. In the pink: homosexual-heterosexual wage differentials in the UK. *Int. J. Manpow.* 25 (3/4), 343–354.
- Badgett, M.V.L., 1995. The wage effects of sexual-orientation discrimination. *Ind. Labor Relat. Rev.* 48 (4), 726–739.
- Bartley, M., Carpenter, L., Dunnell, K., Fitzpatrick, R., 1996. Measuring inequalities in health: an analysis of mortality patterns using two social classifications. *Sociol. Health Illn.* 18 (4), 455–475.
- Baxter, J., Wright, E.O., 2000. The glass ceiling hypothesis: a comparative study of the United States, Sweden, and Australia. *Gender Soc.* 14, 275–294.
- Bell, L.A. 2005. "Women-led firms and the gender gap in top executive jobs," IZA Working Paper #1689.
- Carpenter, C., 2008a. Sexual orientation, income, and non-pecuniary economic outcomes: new evidence from young lesbians in Australia. *Rev. Econ. Househ.* 6 (4), 391–408.
- Carpenter, C., 2007. Revisiting the earnings penalty for behaviorally gay men: evidence from NHANES III. *Labour Econ.* 14 (1), 25–34.
- Carpenter, C., 2005. Self-reported sexual orientation and earnings: evidence from California. *Ind. Labor Relat. Rev.* 58 (2), 258–273.
- Carpenter, C., Eppink, S.T., 2017. Does it get better? Recent estimates of sexual orientation and earnings in the United States. *South. Econ. J.* 84 (2), 426–441.
- Cohen, P.N., Huffman, M.L., 2007a. Black under-representation in management across U.S. labor markets. *Ann. Am. Acad. Political Soc. Sci.* 609, 181–199.
- Cotter, D.A., Hermesen, J.M., Ovadia, S., Vanneman, R., 2001. The glass ceiling effect. *Soc. Forces* 80 (2), 655–681.
- Daymont, T.N., Andrisani, P.J., 1984. Job preferences, college major, and the gender gap in earnings. *J. Hum. Resour.* 19 (3), 408–428.

- Drydakakis, N., 2011. Women's sexual orientation and labor market outcomes in Greece. *Fem. Econ.* 17 (1), 89–117.
- Erikson, R., Goldthorpe, J.H., 1992. Individual or family? Results from two approaches to class assignment. *Acta Sociol.* 35 (2), 95–105.
- Frank, J., 2006. Gay glass ceilings. *Economica* 73, 485–508.
- Goldthorpe, J.H., 1980. Class mobility in modern Britain: a reply to Crompton. *Sociology* 14 (1), 121–123.
- Hammarstedt, M., Ahmed, A., Andersson, L., 2015. Sexual prejudice and labor market outcomes of gays and lesbians: evidence from Sweden. *Fem. Econ.* 21, 90–109.
- Heilman, M.E., 1983. Sex bias in work settings: the lack of fit model. *Res. Organ. Behav.* 5, 269–298.
- Huffman, M.L., Cohen, P.N., 2004. Occupational segregation and the gender gap in workplace authority: national versus local labor markets. *Sociol. Forum* 19 (1), 121–147.
- Hultin, M., 2003. Some take the glass escalator, some hit the glass ceiling: career consequences of occupational sex segregation. *Work Occup.* 30, 30–61.
- Humphrey, J.C., 1999. Organizing sexualities, organized inequalities: lesbians and gay men in public service occupations. *Gend. Work Organ.* 6 (3), 134–151.
- Joloza, T., Evans, J., O'Brien, R., Potter-Collins, A., 2010. Measuring sexual identity: an evaluation report. Official report from the UK Office for National Statistics.
- Lewis, G.B., Pitts, D.W., 2009. Representation of lesbians and gay men in federal, state, and local bureaucracies. *J. Public Adm. Res. Theory* 21, 159–180.
- Maume, D.J., 1999. Glass ceilings and glass escalators: occupational segregation and race and sex differences in managerial promotions. *Work Occup.* 26 (4), 483–509.
- Matsa, D., Miller, A.R., 2013. A female style in corporate leadership? Evidence from quotas. *Am. Econ. J. Appl. Econ.* 5 (3), 136–169.
- Matsa, D., Miller, A.R., 2011. Chipping away at the glass ceiling: gender spillovers in corporate leadership. *Am. Econ. Rev.* 101 (3), 635–639.
- Kunze, A., Miller, A.R., 2017. Women helping women? Evidence from private sector data on workplace hierarchies. *Review of Economics and Statistics* 99 (5), 769–775.
- Mize, T., 2016. Sexual orientation and the labor market. *Am. Sociol. Rev.* 81 (6), 1132–1160.
- Oaxaca, R., 1973. Male–female wage differentials in urban labor markets. *Int. Econ. Rev.* 14 (3), 693–709.
- Plug, E., Berkhout, A., 2004. Effects of sexual preference on earnings in the Netherlands. *J. Popul. Econ.* 17 (1), 117–131.
- Plug, E., Webbink, D., Martin, N., 2014. Sexual orientation, prejudice, and segregation. *J. Labor Econ.* 32 (1), 123–159.
- Rose, D., Pevalin, D.J. 2001. "The national statistics socio-economic classification: unifying official and sociological approaches to the conceptualisation and measurement of social class." Institute for Social and Economic Research Working Paper Number 2001–4.
- Rose, D., Pevalin, D.J., O'Reilly, K., 2005. *The National Statistics Socio-Economic Classification: Origins, Development and Use*. Palgrave Macmillan, Basingstoke.
- Schein, V.E., 2001. A global look at psychological barriers to women's progress in management. *J. Soc. Issues* 57, 675–688.
- Smith, R.A., 2012. Money, benefits, and power: a test of the glass ceiling and glass escalator hypotheses. *Ann. Am. Acad. Political Soc. Sci.* 639, 149–172.
- Tilcsik, A., 2011. Pride and prejudice: employment discrimination against openly gay men in the United States. *Am. J. Sociol.* 117 (2), 586–626.
- Tilcsik, A., Anteby, M., Knights, C.R., 2015. Concealable stigma and occupational segregation: toward a theory of gay and lesbian occupations. *Admin. Sci. Q.* 60 (3), 446–481.
- Ueno, K., Pena-Talamantes, A.E., Roach, T.A., 2013. Sexual orientation and occupational attainment. *Work Occup.* 40 (1), 3–36.
- Wright, E.O., Baxter, J., Birkelund, G.E., 1995. The gender gap in workplace authority: a cross-national study. *Am. Sociol. Rev.* 60, 407–435.
- Zeng, Z., 2011. The myth of the glass ceiling: evidence from a stock-flow analysis of authority attainment. *Soc. Sci. Res.* 40, 312–325.