

Abstract

Like straight men, gay men may utilise stereotypically masculine attributes and behaviours in an attempt to accrue “masculine capital”, a term referring to the social power afforded by the display of traits and behaviours associated with orthodox, “hegemonic” masculinity. Previous research findings suggest that gay sexual self-labels – conveying position preferences in anal intercourse between men – muscularity and voice quality may contribute to gay men’s masculine capital. This study examined the relative contribution to gay men’s masculine capital made by sexual self-labels, voice quality (deep/high-pitched) and physique (muscularity/thinness). It also assessed the beliefs gay men and straight people hold regarding the gendered nature of gay sexual self-labels in anal intercourse. Results from a survey of 538 participants showed that gay and straight people perceived the anally-insertive sexual self-label as the most masculine and the anally-receptive self-label the least masculine. The findings also revealed that voice quality and physique are more strongly associated with perceptions of gay men’s masculinity than their sexual self-label, although gay men who have masculine attributes and are anally-receptive are perceived as less masculine than those who have the same attributes and are anally-insertive.

Perceptions of gay men's masculinity may be influenced by the position they typically adopt in anal intercourse with other men. Anally-insertive men ("tops") are often defined as stereotypically masculine (powerful, dominant, and physically strong), whereas receptive men ("bottoms") are typically ascribed the feminine characteristics of passivity and submission (Carballo-Diequez et al., 2004; Johns, Pingel, Eisenberg, Santana & Bauermeister, 2012; Kippax & Smith, 2001; Wilson et al., 2010). However, what is currently unknown is the extent to which sexual self-labels are associated with perceptions of gay men's masculinity compared with other gendered attributes.

The expectation that gay men have feminine vocal characteristics is a strong component of the culturally-dominant stereotype of gay femininity (Madon, 1997), and muscularity has been identified as strongly associated with perceptions of men's masculinity (de Visser, Smith & McDonnell, 2009; Drummond, 2005; Ravenhill & de Visser, 2016). Therefore, this study examined the relative contribution to perceptions of gay men's masculinity made by sexual self-labels compared with voice quality and physique.

Cultural ideals of masculinity

Perceptions and subjective experiences of masculinity may be associated with the extent to which men enact and endorse socially-constructed expectations of what makes a "real man" (Thompson, Pleck & Ferrera, 1992). According to Connell (1995), manhood is most successfully enacted by men who embody "hegemonic masculinity", a dominant form of masculinity that subordinates its alternatives. Hegemonic masculinity does not describe an archetype of man, although it may be embodied via the display of attributes associated with traditional, orthodox masculinity, including physical strength (de Visser et al., 2009), financial power (Edley & Wetherell, 1999), and overt heterosexuality (Connell, 1995). However, research has found that men may also convey stereotypically feminine behaviours

and still maintain a viable masculine identity (de Visser & McDonnell, 2013; de Visser, Smith & McDonnell, 2009).

Drawing on Bourdieu's (1977, 1984) concept of "symbolic capital", Anderson (2009) and de Visser et al. (2009) suggest that certain gendered characteristics and behaviours afford social power in the different "fields", or social contexts, where they are produced. The power conveyed by the display of these characteristics and behaviours can be conceived in terms of "masculine capital", which, like other forms of symbolic capital, can be lost, invested and traded (de Visser et al., 2009). Therefore, when men "fail" in a given domain of masculinity they can ameliorate their overall masculinity by acquiring masculine capital in alternative (masculine) domains.

Gay men are culturally-subordinated by hegemonic masculinity because homosexuality is a threat to the ideology that it is women, not other men, who are the objects of sex for men (Donaldson, 1993). Heterosexuality maintains cultural patriarchy, so homophobia and the stereotyping of gay men as feminine are at the core of hegemonic masculinity (Connell, 1995; Donaldson, 1993). Gay men may therefore be disadvantaged in terms of accruing masculine capital: homosexuality has a particularly profound negative influence on perceived masculinity (de Visser & McDonnell, 2013). As Eguchi (2009) argues, gay men must negotiate their masculine identities in a cultural context where heterosexual masculinities are more valued.

Muscularity and voice quality

Although some research evidence suggests that some gay men contest hegemonic (and therefore, anti-feminine) masculinity and value more balanced expressions of gender (Wilson et al., 2010), other work has shown how internalised scripts of hegemonic masculinity guide some gay men's behaviour. Characteristics associated with hegemonic masculinity are valued over expressions of femininity in gay culture (Bailey, Kim, Hills &

Linsenmeier, 2007; Borgeson & Valeri, 2015; Eguchi, 2009; Clarkson, 2006; Phua, 2007; Taywaditep, 2001). In particular, muscularity has been identified as an important component of some gay men's masculine identities (Barron & Bradford, 2007; Drummond, 2005, Kimmel & Mahalik, 2005). Hegemonic masculinity ideology may explain some gay men's attraction to more muscular, and therefore more masculine, men (Lanzieri & Hildebrandt, 2011). A muscular body has also been identified as a means by which gay men may embody a heteromale identity (Drummond, 2005): A muscular body is in itself "straight-acting" (Filiault & Drummond, 2008, p. 327).

Muscularity may afford gay men masculine capital, although findings from qualitative research suggest that it cannot compensate for the possession of a feminine, or "gay-sounding" voice (Ravenhill & de Visser, 2016). Gay men's voices are stereotyped as feminine, characterised by a high pitch and a soft tone (Madon, 1997; Ravenhill & de Visser, 2016). A number of studies have demonstrated that voice quality influences sexual orientation judgements of unknown people, based on how masculine or feminine their voice is perceived to be: Gaudio (1994) found that participants consistently judged short sections of speech as either "gay and effeminate", or as "straight and masculine"; Mack and Munson (2012) found that participants rated speech as more gay-sounding when the speaker produced hyperarticulated /s/ sounds, which have a higher peak frequency, similar to the /s/ produced by women; and Valentova and Havlíček (2013) identified positive correlations between perceived vocal femininity (a higher pitch) and presumed male homosexuality.

Masculinity and sexual positioning in anal intercourse

The sexual position that gay men typically adopt in anal intercourse may influence others' perceptions of their masculinity. Prior research has shown that men who self-label as anally-insertive "tops" are commonly defined (and may identify) in hegemonic masculine terms – powerful, dominant and physically strong – whereas self-labelled, anally-receptive

“bottoms” are often described and identify as passive and effeminate (Johns et al., 2012; Kippax & Smith, 2001; Moskowitz & Roloff, 2008; Wilson et al., 2010; Zheng, Hart & Zheng, 2012). It has also been found that men who are perceived as stereotypically masculine – i.e., are muscular and have stereotypically masculine facial characteristics – are more likely to be perceived as tops than bottoms, whereas more feminine gay men are assumed to be bottoms (Ravenhill & de Visser, 2016; Tskay & Rule, 2013).

The endorsement of gender stereotypes may be related to the adoption of a particular sexual self-label. For example, bottoms are more likely than tops to have been gender nonconforming (i.e., more feminine) in childhood (Weinrich et al., 1992). Further, Moskowitz and Roloff (2016) found that identification as a bottom was related to the desire for a gender typical (i.e., masculine) partner, when the men were concerned about the physical strength and psychological dominance of the partner. Tellingly, partner gender typicality was negatively related to identification as a top. Having a large penis may be related to adoption of the top self-label: Tops report having larger penises than bottoms (Groves, Parsons, & Bimbi, 2010; Moskowitz & Hart, 2011), which may reflect beliefs conflating penis size with masculinity (Drummond & Filiault, 2007), although there may be alternative explanations for this difference (e.g., Moskowitz & Roloff, 2016).

Research has revealed intersections between sexual self-label, masculinity and other aspects of identity. For example, Lick and Johnson (2015) found that black men, who were perceived as more masculine than Asian and white men, were more likely to show a preference for the top position. Black men are also more likely to engage in insertive anal intercourse than men of other ethnicities (Groves, Rendina, Ventuneac & Parsons, 2016). Additionally, “bears” (gay men characterised by large physiques and hirsute bodies) are less likely to report receptive intercourse than those who identify as younger and more feminine “twinks” (Lyons & Hosking, 2014).

For men who may adopt either position in a given occasion of anal intercourse (“versatile” men), perceptions of relative masculinity may influence position decision-making. Versatile men are more likely to be receptive in intercourse with a comparatively more “macho”, more aggressive partner who is physically larger and has a larger penis, and to be insertive if the partner is comparatively smaller, has a smaller penis and less stereotypically masculine (Carballo-Diequez et al., 2004; Johns et al., 2012; Moskowitz & Hart, 2011). On the other hand, versatility in sexual positioning may offer some men the opportunity to eschew the gender stereotypes associated with sexual self-labels. Kippax and Smith (2001) identified versatility as an opportunity for gay men to share power in their sexual relations, and others have identified interpretations of versatility as a more egalitarian arrangement between sexual partners (Carballo-Diequez et al., 2004; Johns et al., 2012). For some, versatility may reflect a desire to balance both masculinity and femininity as part of an alternative gender expression (Johns et al., 2012; Wilson et al., 2010). Versatile men may therefore “exist outside of gender scripts” (Johns et al., 2012, p512).

Some studies have reported findings that negate the relevance of gender stereotypes in anal intercourse, or indicate that the masculine-top, feminine-bottom binary does not capture the complex dynamics of anal intercourse between men. Although the sexual positioning of the men in their study was often guided by beliefs about gender, Caballo-Diequez et al. (2004) noted that some gay men contested the gender stereotypes, recognising them as heterosexist constructs. Furthermore, it has been identified that the power in anal intercourse can belong to the anally-receptive partner, because he controls the top's pleasure and determines the degree of power the top is afforded (Hoppe, 2011; Kiguwa, 2015; Kippax & Smith, 2001). Moreover, some predominantly anally-receptive men self-label as “power bottoms” and experience intercourse as masculine because they dominate their sexual partner during intercourse, and/or because they can endure prolonged and intense anal penetration

(Johns et al., 2012; Kippax & Smith, 2001; Ravenhill & de Visser, 2016). Being anally penetrated may also be perceived as masculine if it occurs without the use of a condom (Dowsett, Williams, Venteneac & Carballo-Dieiguez, 2008; Wheldon, Tilley & Klein, 2014).

The present study

The association between sexual self-labels and gender may reflect gay men's sense-making of the positions in anal intercourse in a cultural context of hegemonic, heteromale normativity. One of the aims of this study was to assess how gay men perceive the masculinity of different gay sexual self-labels, and also to establish whether straight people also perceive these self-labels as gendered.

If sexual self-labels are associated with perceptions of masculinity, then gay men's self-labels may be related to their engagement in other masculine behaviours (de Visser & McDonnell, 2013). Therefore, a second aim of this study was to identify the relative contribution to perceptions of gay men's masculinity of sexual self-labels compared to voice quality and physique. The attribute that is most strongly associated with perceptions of masculinity might be seen as contributing the most to gay men's masculine capital.

Although it has been found previously that voice quality is one of the strongest components of the gay male femininity stereotype, it is unknown how voice quality is related to perceptions of gay men's masculinity compared to physique and sexual self-label. Neither is it known whether straight people would perceive sexual self-labels as gendered. Therefore, only one hypothesis is appropriate:

Hypothesis 1: The top sexual self-label will be perceived by gay men as more masculine than any other and the bottom sexual self-label will be perceived as less masculine than any other. The versatile label will be perceived as less masculine than the top label, but more masculine than the bottom label. The power bottom label will be perceived as more masculine than the bottom self-label.

Method

Participants

Demographic information about the participants is provided in Table 1. The sample comprised 538 respondents aged 18 years and over, who lived in the UK. Of these, 202 were gay men, 88 were straight men, and 248 were straight women. Participants were recruited from across the UK. Checks were conducted to ensure that all participants were located in the United Kingdom when they participated. Data from participants who were not located in the UK were excluded from the analysis.

Participants were recruited through various means: an advertisement placed on the host university's participant database; advertisements placed on social media sites; advertisements placed in gay venues in the city local to the host university; and word of mouth. Advertisements promoting the study appealed for participants for an "Online Questionnaire about Identity and Lifestyle". Sixty-six per cent of participants who started the questionnaire proceeded to answer all questions. The majority of those who withdrew from the questionnaire before completing it did so before responding to the first key measure. Duplicate responding to the questionnaire was not possible.

The questionnaire was hosted online, on a secure server. The welcome page contained details of consent procedures, data protection and assurances of anonymity. Participants could opt into a draw to win one of two prizes of £25, and students of Psychology at the host institution could instead choose to receive research participation credits. All data were kept in password protected files accessible only to the researchers. Ethical approval was acquired from the host institution.

Measures

Participants rated on two separate scales of 0-10 (anchors: “not at all”; “extremely”) the masculinity and femininity of four gay sexual self-labels: bottom, top, versatile, and power bottom, which were defined as follows: “In penetrative (anal) sex between men, a man who penetrates his sexual partner is often referred to as a ‘top’. A man who is penetrated is often referred to as a ‘bottom’. A man who adopts either sexual role is often known as ‘versatile’. A man who is a bottom and who directs high-intensity, prolonged anal penetration with his sexual partner is often referred to as a ‘power bottom’”.

Order of exposure to the “How masculine...?” questions and “How feminine...?” questions was randomised to control for order effects. Femininity scores were subtracted from masculinity scores for each sexual self-label to generate an overall relative gender score: positive scores indicated that the self-label was perceived as more masculine than feminine, and negative scores the reverse. Consequently, scores indicated masculinity ratings relative to femininity ratings. Scores of zero indicated that the self-label was considered gender-neutral (de Visser & McDonnell, 2013).

Adapting a measure used previously by de Visser and McDonnell (2013), participants rated on a scale of 0-10 (anchors: “not at all”; “extremely”) the masculinity of eight men who were identified as either top or bottom, muscular or thin, and who had either a deep or high-pitched voice. In this 2 x 2 x 2 design, the men were described as: “A [top / bottom] who has a [large, muscular / small, thin] physique and a [deep / high-pitched] voice.” An additional description of a straight man was added, who was muscular, had a deep voice, and received “insertive anal stimulation from a female sexual partner.”

Ratings of the four bottoms were subtracted from the ratings of the four tops to assess the contribution sexual self-labels made to perceptions of masculinity. The same calculation was performed with ratings from the four muscular men and four thin men, and the four deep-voiced men and four high-voiced men. These “Masculine Difference Scores” indicated

the masculine capital accredited to self-label, voice quality and physique (de Visser & McDonnell, 2013).

Gay men were asked the following questions: 1) "In a perfect world, if it were only up to you, which sexual role would you consistently adopt in sex with another man?" 2) "In reality, with actual male sexual partners, which role do you consistently adopt?" For both questions, the response options were "bottom" / "versatile" / "top" / "I do not have anal sex or do not have anal sex consistently enough to answer". The answers to these questions reflected the participants' position preferences and the positions they adopted most frequently in actuality (Moskowitz & Hart, 2011).

Data Analysis

The analyses explored within-subject differences in relative masculinity ratings of the four sexual self-labels and masculinity ratings of the nine hypothetical men. Within-subject analyses are presented for the responses of gay men, straight men and straight women, respectively. Between-subject analyses were performed to identify differences in relative masculinity ratings of the sexual self-labels and in masculinity ratings of the nine hypothetical men, between gay men, straight men and straight women. Owing to differences in the mean age of the gay men, straight men and straight women ($F(2, 277.98) = 75.10, p < .001$) and the disproportionate number of straight women who were current undergraduates, between-subject analyses were based on group means adjusted for age and status as a student/nonstudent.

Robust methods were used for the analyses. Robust repeated measures analyses of variance (ANOVA) and corresponding post hoc tests were conducted in R i3.2.3 (R Core Team, 2015) using the WRS2 package for robust methods (Mair, Schoenbrodt & Wilcox, 2015). A significance level of $p = .001$ was applied. Both the main test and post hoc tests and were based on 2,000 bootstrapped samples and 20% trimmed means, which are suitable for

data that violate the assumption of normality and which can control the probability of a type 1 error (Wilcox, 2012). Post hoc tests used the default alpha of $p = .05$, which cannot be altered in functions from the WRS2 package.

Robust multiple regression and robust analyses of covariance (ANCOVA) were conducted in IBM SPSS 22.00 (IBM Corp, 2013). Robust analyses were based on 1,000 bootstrapped samples to compute bias-corrected and accelerated 95% confidence intervals (Efron & Tibshirani, 1993). ANCOVA post hoc tests used the Bonferroni correction.

Results

Sample

Participant demographic information is provided in Table 1. The total age range of participants was 18-67 years although the majority (61.2%) were aged 18-30 years. Most participants were white (88.7% of N). 154 participants (28.6%) were current undergraduate students.

> Table 1 here <

The masculinity of gay sexual self-labels

Table 1 shows the group means, adjusted for participant age and student/non-student status, of the masculinity ratings of the four sexual self-labels.

> Table 2 here <

Robust analyses of covariance (ANCOVA) were conducted to identify the effect of group (sexual identity) on beliefs regarding the masculinity of gay sexual self-labels. Age was significantly related to masculinity ratings for the bottom ($F(1, 533), = 9.20, p = .003$, partial $\eta^2 = .02$). The main effects of group on relative masculinity ratings of the four sexual self-labels are shown in Table 2: Gay men gave significantly higher ratings of relative masculinity than straight men for all of the sexual self-labels, and significantly higher relative

masculinity ratings than straight women for all but the power bottom. Straight women gave significantly higher relative masculinity ratings than straight men for all but the bottom.

Robust repeated measures analysis of variance (ANOVA) were conducted to examine within-subject differences in the relative masculinity ratings between the four sexual self-labels. Significant within-subject differences were found in relative masculinity ratings given by gay men ($F(1.86, 225.57) = 62.12, p < .001, F_{crit} = 3.13, \eta^2 = .55$), straight men ($F(2.21, 117.03) = 22.09, p < .001, F_{crit} = 2.83, \eta^2 = .60$) and straight women ($F(1.83, 272.23) = 74.55, p < .001, F_{crit} = 3.33, \eta^2 = .59$). The results of post hoc tests that identified within-subject differences are given in Table 3. Gay men, straight men and straight women rated the top significantly higher in relative masculinity than the other self-labels. The bottom was rated the lowest in relative masculinity by straight participants; gay men rated the bottom lower in relative masculinity than the versatile, but there was no difference in gay men's relative masculinity ratings between the bottom and power bottom. There were no significant differences in gay men's, straight men's or straight women's relative masculinity ratings between the versatile and power bottom.

For gay men, multiple regression were run to establish whether masculinity ratings for sexual self-labels were associated with the participants' own self-labels or positioning behaviour in actuality. Neither Ideal Position (self-label) nor Actual Position were significantly related to gay men's ratings of the self-labels (see Table 6).

>Table 3 here<

The masculinity of top/bottom, muscular/thin, and deep/high-voiced men

Figure 1 and Table 4 display the adjusted mean masculinity ratings of the nine hypothetical men who varied in the characteristics they exhibited. One-way analyses of covariance (ANCOVA) were conducted to identify between-subject differences in beliefs regarding the masculinity of the nine hypothetical men. Analyses were conducted on means

adjusted for age and for participant student/non-student status. Age was significantly related to the masculinity ratings of the hypothetical men described as top, muscular, deep-voiced ($F(1, 533) = 4.15, p = .04, \text{partial } \eta^2 = .01$) and top, muscular, high-voiced ($F(1, 533) = 7.03, p = .008, \text{partial } \eta^2 = .01$). Table 3 shows the between-subject differences in masculinity ratings of the nine hypothetical men.

>Figure 1. Between-subject differences in masculinity ratings of nine hypothetical men<

Robust repeated measures ANOVA revealed significant within-subject differences in masculinity ratings between the hypothetical men, given by gay men ($F(3.50, 423.94) = 77.13, F_{\text{crit}} = 2.48, p < .001, \eta^2 = .86$), straight men ($F(4.21, 223.03) = 23.04, F_{\text{crit}} = 2.25, p < .001, \eta^2 = .69$) and straight women ($F(3.19, 475.90) = 79.72, F_{\text{crit}} = 2.59, p < .001, \eta^2 = .72$). Post hoc tests were conducted to identify significant differences in the masculinity ratings between the hypothetical man rated as the most masculine and other, less masculine men, and significant differences between the hypothetical man rated as the least masculine and other, more masculine men.

Results from the post hoc tests revealed that gay men rated the top, muscular, deep-voiced man significantly higher in masculinity than the bottom, muscular, deep-voiced man ($\hat{\Psi} = 1.23, 95\% \text{ CI } [0.68, 1.79], d = 0.35$). The top, muscular, deep-voiced man was therefore rated by gay men as significantly more masculine than every other hypothetical man. The hypothetical man described as bottom, thin, high-voiced was rated by gay men as significantly less masculine than the man described as top, thin, high-voiced ($\hat{\Psi} = -0.66, 95\% \text{ CI } [-1.11, -0.20], d = 0.22$). Gay men therefore rated the bottom, thin, high-voiced man as the least masculine hypothetical man.

Straight men's masculinity ratings of the top, muscular, deep-voiced man were not significantly higher than their ratings of the bottom, muscular, deep-voiced man ($\hat{\Psi} = 0.69, 95\% \text{ CI } [-0.06, 1.43]$) or the hypothetical man described as straight and anally-receptive to a

female partner, muscular and deep-voiced ($\hat{\Psi} = 0.41$, 95% CI [-0.38, 1.20]). Straight men rated the hypothetical men described as top, muscular, deep-voiced and straight, muscular, deep-voiced as significantly more masculine than the top, thin, deep-voiced man ($\hat{\Psi} = 1.31$, 95% CI [0.55, 2.08], $d = 0.60$; $\hat{\Psi} = 0.91$, CI [0.08, 1.73], $d = 0.46$). There was no significant difference in straight men's masculinity ratings of the bottom, thin, high-voiced man and the top, thin, high-voiced man ($\hat{\Psi} = -0.33$, 95% CI [-0.80, 0.13]), but the former was rated by straight men as less masculine than the hypothetical man described as bottom, muscular, high-voiced ($\hat{\Psi} = -0.76$, 95% CI [-1.46, -0.05], $d = 0.53$).

Straight women rated the top, muscular, deep-voiced man significantly higher in masculinity than the bottom, muscular, deep-voiced man ($\hat{\Psi} = 0.75$, 95% CI [0.47, 1.02], $d = 0.28$), and therefore significantly more masculine than any other hypothetical man. The bottom, thin, high-voiced man was rated by straight women as significantly lower in masculinity than the top, thin, high-voiced ($\hat{\Psi} = -0.42$, 95% CI [-0.67, -0.17], $d = 0.19$), and therefore was rated as the least masculine hypothetical man.

As shown in Table 4, the Masculinity Rating Range—representing the difference between ratings for man with the most masculine credentials and the man with the fewest—was significantly greater for gay men than it was for straight men, ($M_{diff} = 1.96$, $p < .001$, BCa 95% CI [0.72, 3.19], $d = 0.51$) and straight women ($M_{diff} = 1.44$, $p < .001$, CI [0.48, 2.39], $d = 0.37$). There was no significant difference in the Masculinity Rating Range between straight men and straight women ($M_{diff} = -0.52$, $p = .51$, CI [-1.64, 0.60]).

> Table 4 here <

Masculinity Difference Scores for sexual self-label, voice quality and physique

Robust ANCOVA were conducted on Masculinity Difference Scores, adjusting for age and student / non-student status. Age was related to Masculinity Difference Scores for

physique ($F(1, 533) = 18.22, p < .001, \text{partial } \eta^2 = .03$). Table 3 conveys between-subject differences in Masculinity Difference Scores.

Robust repeated measures ANOVA were undertaken on Masculinity Difference Scores, which convey the extent to which perceptions of masculinity were associated with sexual self-label (top-bottom), physique (muscular-thin), and voice quality (deep-high). Results revealed significant within-subject differences in gay men's Masculinity Difference Scores ($F(1.87, 226.40) = 43.51, p < .001, F_{\text{crit}} = 3.23, \eta^2 = .50$); those of straight men ($F(1.76, 93.39) = 9.07, p < .001, F_{\text{crit}} = 3.41, \eta^2 = .48$); and those of straight women ($F(1.91, 285.01) = 312.55, p < .001, F_{\text{crit}} = 2.98, \eta^2 = .47$). As shown in Table 5, post hoc tests showed that gay men's Masculinity Difference Scores were significantly greater for voice quality and physique than they were for sexual self-label. The same was found for the Masculinity Difference Scores of straight men and straight women. Gay men's Masculinity Difference Scores for voice quality were significantly greater than they were for physique. This difference was not found in the straight participants' Masculinity Difference Scores.

Multiple regression on gay men's Masculinity Difference Scores with Ideal and Actual Position produced non-significant results: Masculinity Difference Scores were not significantly related to gay men's own sexual self-labels or sexual positioning in practice (see Table 6).

>Table 5 here<

>Table 6 here<

Discussion

The study contributes to the literature on gay sexual self-labels by providing quantitative evidence for what has been identified previously in qualitative research using gay men only: sexual self-labels are associated with gender attributions (Kippax & Smith, 2001; Ravenhill & de Visser, 2016). Further, this study has demonstrated that straight people

perceive gay sexual self-labels as gendered, but have different perceptions to gay men. It has also shown that despite the strong connotations of gender attached to gay sexual self-labels, voice quality and physique make a greater contribution to perceptions of gay men's masculinity. However, gay men's known sexual self-label can impact on their perceived masculinity notwithstanding their display of other masculine attributes.

The masculinity of gay sexual roles

In accordance with previous research findings (e.g., Carballo et al., 2004; Kippax & Smith, 2001; Ravenhill & de Visser, 2016) and in support of this study's hypothesis, the top label was perceived as the most masculine sexual self-label and the bottom the least masculine. Gay men tended to view gay sexual self-labels as higher in masculinity than did straight men and straight women.

Like the straight participants, the gay men in this study rated the top as higher in masculinity than other sexual self-labels, suggesting that scripts of hegemonic masculinity are pervasive in gay sexual relations (Bartholeme, Tewskbury & Bruzzone, 2000; Clarkson, 2006; Doswett et al., 2008; Taywaditep, 2001). The insertive and receptive positions in anal sex between men may have symbolic similarity to the penetrative and penetrated roles taken respectively by men and women in vaginal intercourse (Johns et al., 2012; Ravenhill & de Visser, 2016). Being anally-insertive rather than receptive may therefore be perceived as in greater accordance with heterosexual masculinity, and endorsed as a more masculine behaviour (Pachankis, Battenwieser, Bernstein & Bayles, 2013).

Connell (1995) opined that insertive anal stimulation is inextricably associated with homosexuality, which is positioned in opposition to hegemonic masculinity. This might explain why the straight men in this study rated all but the top label as more feminine than masculine: behaviours that do not accord with hegemonic masculine ideology are perceived as nonmasculine or feminine (de Visser et al., 2009).

Gay men (alone) rated the bottom label as more masculine than feminine, supporting findings from qualitative research that being anally-receptive can be perceived as masculine (e.g., Dowsett et al., 2008; Ravenhill & de Visser, 2016). Gay men who identify as masculine may be less willing to consider the potential femininity of being anally-receptive if they are bottom at least on occasion (Kippax & Smith, 2001). However, in this study, neither gay men's sexual self-labels nor the position they adopted most frequently were associated with their masculinity ratings of sexual self-labels. This might be because over half of the gay participants reported to be "ideally versatile", and existing research suggests that versatile men have exist outside of the gender stereotypes associated with sexual self-labels (e.g., Johns et al., 2012). It may also suggest that there is a separation between gay men's gender-stereotyped understanding of positions in anal intercourse and their experiences of, and identification with, a particular position. Future qualitative research might determine whether this speculative explanation is valid.

The masculine capital provided by self-label, voice quality and physique

Previous research has found that the more masculine characteristics a man possesses, the more masculine he is perceived to be (de Visser et al., 2009; de Visser & McDonnell, 2013). The results from the gay men and straight women in this study reflect what has been found previously: The hypothetical man who embodied all three masculine characteristics (top, muscular and deep-voiced) was rated as the most masculine by gay men and straight women, and the hypothetical man who conveyed all three feminine characteristics (bottom, thin, high-voiced) was rated as the least masculine. There was lower statistical power to identify significant within-subject differences in straight men's ratings of the hypothetical men because their Masculinity Rating Range scores (ratings for the bottom, thin, high-voiced man subtracted from ratings for the top, muscular, deep voiced man) were significantly smaller.

The relative contribution of different characteristics to perceptions of men's masculinity can be conceived in terms of masculine capital. This study's findings accord with those from previous research, suggesting that different characteristics are not equal in the masculine capital they afford (de Visser et al., 2009; de Visser & McDonnell, 2013). Both gay men's and straight people's perceptions of gay men's overall masculinity were associated to a greater extent with their voice quality and their physique than with their sexual self-label. Therefore, having a deep voice and/or a muscular body may afford more masculine capital to gay men than being known as a top, may provide sufficient masculine capital to compensate for being known as a bottom. In line with previous research, the findings suggest that from the perspective of gay men, muscularity may not provide gay men with sufficient masculine capital to compensate for having a high-pitched voice (Ravenhill & de Visser, 2016).

Being known as a bottom reduces others' perceptions of gay men's masculinity. Therefore, the sexual self-labels that gay men convey may influence their engagement in other masculine behaviours, if they were sufficiently concerned about their masculine identities to seek compensatory masculine capital in alternative domains. This might be explored further in future research, and already has some support from past research: muscularity has been identified as a potential source of compensatory masculinity for gay men who are concerned with maintaining a masculine identity and are receptive in anal intercourse (Ravenhill & de Visser, 2016). Affecting a deeper voice may also provide masculine capital in compensation for behaviour that might be perceived as feminine (de Visser & McDonnell, 2013).

Limitations

This study has some limitations that should be acknowledged. Firstly, the sample is limited by the irregular distribution of gay men and straight women to straight men, by the disproportionate number of current undergraduate students in the sample of straight women,

and by the higher mean age of the gay participants. However, analyses were conducted on means adjusted for age and student status. No significant differences were identified between students and nonstudents, and age was a significant covariate in only four of the analyses.

A second limitation is the possibility that straight people do not account for a gay man's likely sexual self-label when they appraise their masculinity in the real world, using instead more readily available, directly observable behaviour like body movements (e.g., Ambady, Hallahan & Conner, 1999; Johnson, Gill, Reichman & Tassinari, 2007; Rule & Ambady, 2008). Similarly, it is acknowledged that the relationships identified in this study are reversible: It is only when a gay man's sexual self-label is known that it can influence others' perceptions of his masculinity. Otherwise, people may infer a gay man's likely sexual self-label by appraising their overall masculinity, using attributes such as voice quality and physique as indicators (Ravenhill & de Visser, 2016).

A third limitation is that the perceived masculinity of other, more nuanced categories—such as vers-top and vers-bottom, describing men who identify as versatile with a particular preference for one position—was not assessed. Further, for clarity, “top” and “bottom” were treated as discrete and unitary categories, when research has shown that self-labels are in reality fluid and internally diverse (Moskowitz & Roloff, 2016; Pachankis et al., 2013; Wei & Raymond, 2011). Future research may be directed towards identifying perceptions of a broader range of sexual self-labels, and examining which other masculine behaviours afford gay men masculine capital where it is lost owing to being anally-receptive, or owing to any other aspect of being gay.

Finally, although gay men's position preferences and typical positions were measured, the study did not measure the homosexual experience of the straight participants. It has been shown that identifying as heterosexual does not preclude the possibility of engaging in same-sex sexual relations (Smith, Rissel, Richters, Grulich & de Visser, 2003). This should be

addressed in future research, as straight people's perceptions of the masculinity of gay sexual labels may be influenced by their own homosexual experiences.

Conclusion

The findings reported here support existing evidence from qualitative research that gay sexual self-labels are steeped in gender connotations. The study extends the literature by showing that straight people also perceive gay sexual self-labels as gendered. Although the pattern of masculinity ratings between gay and straight participants was similar, there was one notable difference: For gay men, all sexual self-labels were perceived as more masculine than feminine, whereas for straight men, only the top conveyed masculinity. Therefore, from the perspective of straight men, gay men may only be considered masculine if their sexual self-label is known to be top. Straight women may consider gay men less masculine if their sexual self-label is known to be bottom. From the perspective of gay men, there may be possibilities for gay men to be perceived as masculine irrespective of which sexual self-label they convey.

In a cultural context where hegemonic masculinity is the aspiration for the majority of men (Connell & Messerschmidt, 2005), gay men may use certain masculine behaviours to accrue masculine capital and avoid the stereotype of gay femininity (Drummond, 2005; Filiault & Drummond, 2008; Lanzieri & Hildebrandt, 2011; Ravenhill & de Visser, 2016). However, this study has shown that gay men's capacity to accrue and trade masculine capital may depend on the combination of characteristics and behaviours they exhibit. A deep voice and a muscular physique may provide more potential for masculinity than being known as a top (alone); and being a bottom may reduce perceived masculinity notwithstanding the possession of a deep voice and muscular physique. Therefore, it is suggested that sexual self-labels may be related to some gay men's engagement in gendered behaviours both within and

outside the field of sex between men, as they attempt to manage and maintain their masculine identities.

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Table 1: *Description of the sample*

	Gay men (<i>n</i> =202)	Straight men (<i>n</i> =88)	Straight women (<i>n</i> =248)
Mean age (<i>SD</i>)	36.25 (10.41)	24.76 (7.36)	25.67 (10.77)
Ethnicity (%):			
White	90	91	87
Black	1.5	0	2
Chinese or Other Asian	2	6	6
Mixed	5.5	2	4
Other	<1	1	1
Education (%)			
No formal qualifications	2	1	1.6
High School qualifications	26.7	33	25.8
Current undergraduate	7.4	25	47.2
Completed undergraduate	33.7	20.5	13.3
Postgraduate qualifications	30.2	20.5	12.1
Ideal position (%):			
Top	16.8	-	-
Versatile	52.5	-	-
Bottom	19.8	-	-
No anal intercourse	10.9	-	-
Actual position (%):			
Top	30.2	-	-
Versatile	28.7	-	-
Bottom	29.7	-	-
No anal intercourse	11.4	-	-

Note: Ideal Position = the position in anal intercourse that the participant would ideally adopt consistently (either top, versatile, bottom, power bottom, or no anal intercourse). Actual Position = the position in anal intercourse most frequently adopted (either top, versatile, bottom, power bottom, or no anal intercourse). Ideal and Actual Position measures taken for gay men only. High School qualifications include GCSE qualifications (normally taken at age 16) and A-Level qualifications (normally taken at age 18).

PERCEPTIONS OF GAY MEN'S MASCULINITY

Table 2

Between-Subject Differences in Beliefs Regarding the Relative Masculinity of Gay Sexual Self-Labels

	Adjusted Mean (<i>SE</i>)			
	Gay Men (<i>n</i> = 202)	Straight Men (<i>n</i> = 88)	Straight Women (<i>n</i> = 248)	
Top	4.67 ^a (0.30)	0.80 ^b (0.41)	2.35 ^c (0.24)	$F_{(2, 533)} = 34.07, p < .001, \eta^2 = 0.11$
Versatile	2.37 ^a (0.28)	-0.52 ^b (0.39)	0.66 ^c (0.22)	$F_{(2, 533)} = 21.46, p < .001, \eta^2 = 0.08$
Power Bottom	1.09 ^a (0.35)	-0.73 ^b (0.47)	1.21 ^a (0.27)	$F_{(2, 533)} = 7.34, p = .001, \eta^2 = 0.03$
Bottom	0.49 ^a (0.35)	-2.02 ^b (0.48)	-1.08 ^b (0.28)	$F_{(2, 533)} = 10.74, p < .001, \eta^2 = 0.04$

Note. Response scales 0-10 (anchors: “not at all masculine/feminine”; “extremely masculine/feminine”). Scores from femininity scale subtracted from scores from masculinity scale. Positive scores indicate that the self-label was perceived as more masculine than feminine, negative scores the reverse. Range of possible scores -10 to 10. Top is anally-insertive; bottom is anally-receptive; versatile has no proclivity for a particular position and be either anally-insertive or receptive; power bottom is anally-receptive and directs high intensity, prolonged anal penetration. Partial η^2 effect sizes reported.

^{a, b, c}denote significant between-subject differences

PERCEPTIONS OF GAY MEN'S MASCULINITY

Table 3

Within-Subject Differences in Relative Masculinity Ratings of Sexual Self-Labels in Anal Intercourse Between Men

	Gay Men (<i>n</i> = 202)			Straight Men (<i>n</i> = 88)			Straight Women (<i>n</i> = 248)		
	$\hat{\Psi}$	95% CI	<i>d</i>	$\hat{\Psi}$	95% CI	<i>d</i>	$\hat{\Psi}$	95% CI	<i>d</i>
Top vs Versatile	3.01	[2.27, 3.74]	0.61	1.28	[0.41, 2.15]	0.36	1.71	[1.18, 2.23]	0.54
Top vs Power bottom	3.49	[2.56, 4.42]	0.80	1.67	[0.52, 2.81]	0.41	1.25	[0.71, 1.79]	0.37
Top vs Bottom	4.04	[2.95, 5.13]	0.90	2.94	[1.70, 4.19]	0.77	3.33	[2.47, 4.19]	0.99
Versatile vs Power bottom	0.48	[-0.12, 1.09]	-	0.39	[-0.50, 1.27]	-	-0.45	[-0.91, 0.01]	-
Versatile vs Bottom	1.03	[0.47, 1.60]	0.37	1.67	[0.83, 2.50]	0.44	1.63	[1.16, 2.09]	0.58
Power bottom vs Bottom	0.55	[-0.07, 1.17]	-	1.28	[0.53, 2.02]	0.33	2.08	[1.41, 2.75]	0.65

Note. $\hat{\Psi}$ = psihat; CI = bootstrapped confidence interval. Effect sizes given for significant results only.

PERCEPTIONS OF GAY MEN'S MASCULINITY

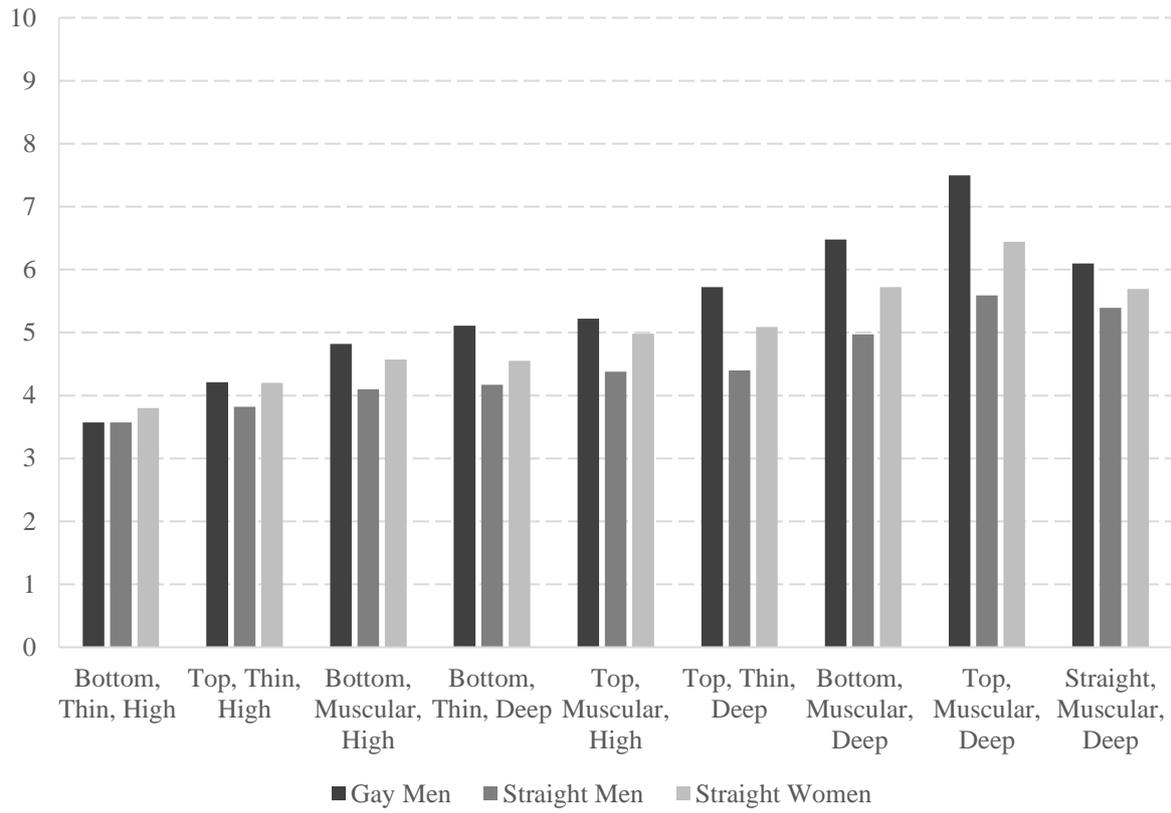
Table 4

Differences in Beliefs Regarding the Masculinity of Gay Sexual Self-Labels, Physique and Voice Quality

	Adjusted Mean (SE)			
	Gay Men (<i>n</i> = 202)	Straight Men (<i>n</i> = 88)	Straight Women (<i>n</i> = 248)	
Top, Muscular, Deep voice	7.50 (0.20) ^a	5.59 (0.28) ^b	6.44 (0.16) ^c	$F_{(2, 533)} = 18.07, p < .001, \eta^2 = .06$
Bottom, Muscular, Deep voice	6.48 (0.20) ^a	4.97 (0.28) ^b	5.72 (0.16) ^c	$F_{(2, 533)} = 10.89, p < .001, \eta^2 = .04$
Top, Thin, Deep voice	5.72 (0.19) ^a	4.40 (0.25) ^b	5.09 (0.15) ^c	$F_{(2, 533)} = 9.77, p < .001, \eta^2 = .04$
Top, Muscular, High voice	5.22 (0.19) ^a	4.38 (0.25) ^b	4.98 (0.15) ^a	$F_{(2, 533)} = 3.96, p = .02, \eta^2 = .02$
Bottom, Thin, Deep voice	5.11 (0.19) ^a	4.17 (0.26) ^b	4.55 (0.15) ^b	$F_{(2, 533)} = 5.02, p = .00, \eta^2 = .02$
Bottom, Muscular, High voice	4.82 (0.19)	4.10 (0.26)	4.57 (0.15)	$F_{(2, 533)} = 2.71, p = .07$
Top, Thin, High voice	4.21 (0.19)	3.82 (0.26)	4.20 (0.15)	$F_{(2, 533)} = 1.00, p = .37$
Bottom, Thin, High voice	3.57 (0.20)	3.57 (0.27)	3.80 (0.16)	$F_{(2, 533)} = 0.56, p = .57$
Straight, Muscular, Deep voice	6.10 (0.21)	5.39 (0.29)	5.69 (0.17)	$F_{(2, 533)} = 2.23, p = .11$
Masculinity Rating Range	3.93 (0.26) ^a	2.02 (0.35) ^b	2.64 (0.20) ^b	$F_{(2, 533)} = 12.47, p < .001, \eta^2 = .05$
Masculinity Difference Score:				
Sexual role (Top-Bottom)	0.67 (0.09)	0.34 (0.12)	0.52 (0.07)	$F_{(2, 533)} = 2.68, p = .07$
Voice quality (Deep-High)	1.74 (0.13) ^a	0.82 (0.17) ^b	1.06 (0.10) ^b	$F_{(2, 533)} = 13.08, p < .001, \eta^2 = .05$
Physique (Muscular-Thin)	1.35 (0.12) ^a	0.77 (0.16) ^b	1.02 (0.09) ^b	$F_{(2, 533)} = 4.89, p = .008, \eta^2 = .02$

Note. Possible range of masculinity scores for hypothetical men: 0 to 10. Masculinity Rating Range = the difference between ratings for men with the most and fewest masculine attributes. Possible range of Masculinity Rating Range: 0 to 10. Masculinity Difference Scores = calculated by subtracting masculinity ratings for the men with the least masculine attribute (bottom; thin; high voice) from those for the men with the most (top; muscular; deep voice). Possible range of Masculinity Difference Scores: -10 to 10. Data from the hypothetical straight man are omitted from the Masculinity Difference Score calculation. Partial η^2 effect sizes reported for significant results only.

^{a, b, c}denote significant between-subject differences



PERCEPTIONS OF GAY MEN'S MASCULINITY

Table 5

Within-Subject Differences in Masculinity Difference Scores for Sexual Self-Label, Voice Quality and Physique

	Gay Men (<i>n</i> = 202)			Straight Men (<i>n</i> = 88)			Straight Women (<i>n</i> = 248)		
	$\hat{\Psi}$	95% CI	<i>d</i>	$\hat{\Psi}$	95% CI	<i>d</i>	$\hat{\Psi}$	95% CI	<i>d</i>
Sexual role vs Voice quality	-1.06	[-1.36, -0.77]	-0.71	-0.31	[-0.55, -0.07]	-0.41	-0.48	[-0.63, -0.32]	-0.42
Sexual role vs Physique	-0.51	[-0.74, -0.27]	-0.51	-0.44	[-0.76, -0.12]	-0.43	-0.53	[-0.71, -0.35]	-0.42
Voice quality vs Physique	0.56	[0.26, 0.85]	0.17	-0.13	[-0.37, 0.12]	-	-0.06	[-0.24, 0.12]	-

Note. Masculinity Difference Scores = calculated by subtracting masculinity ratings for the men with the least masculine attribute (bottom; high voice; thin) from those for the men with the most (top; deep voice; muscular). Ratings for the hypothetical straight man are omitted from the Masculinity Difference Score calculation. $\hat{\Psi}$ = psihat; CI = bootstrapped confidence interval. Effect sizes given for significant results only.

Table 6

Multiple Regression on Gay Men's Masculinity Ratings and Masculinity Difference Scores

		<i>B</i>	<i>S.E. B</i>	β
Top	Constant	4.96	0.73	
	Ideal position	0.19	0.38	.05, <i>p</i> =.61
	Actual position	-0.22	0.33	-.06, <i>p</i> =.51
Versatile	Constant	3.38	0.81	
	Ideal position	-0.25	0.38	-.06, <i>p</i> =.52
	Actual position	-0.07	0.32	-.02, <i>p</i> =.82
Power Bottom	Constant	2.76	1.03	
	Ideal position	-0.38	0.51	-.07, <i>p</i> =.47
	Actual position	-0.20	0.40	-.04, <i>p</i> =.60
Bottom	Constant	1.45	1.02	
	Ideal position	-0.17	0.51	.03, <i>p</i> =.74
	Actual position	0.01	0.42	.00, <i>p</i> =.99
MDS: Top-bottom	Constant	0.58	0.32	
	Ideal position	0.20	0.13	.14, <i>p</i> =.13
	Actual position	-0.18	0.10	-.15, <i>p</i> =.06
MDS: Muscular-thin	Constant	1.59	0.30	
	Ideal position	-0.12	0.15	-.07, <i>p</i> =.41
	Actual position	-0.06	0.13	-.04, <i>p</i> =.62
MDS: Deep-high	Constant	1.61	0.38	
	Ideal position	0.06	0.20	.03, <i>p</i> =.78
	Actual position	0.03	0.16	.02, <i>p</i> =.85

Note: MDS = Masculinity Difference Score, calculated by subtracting masculinity ratings for the men with the least masculine attribute (bottom; high voice; thin) from those for the men with the most (top; deep voice; muscular). Ratings for the hypothetical straight man are omitted from the Masculinity Difference Score calculation. Ideal Position = the position in anal intercourse that the participant would ideally adopt consistently (either top, versatile, bottom, power bottom, or no anal intercourse). Actual Position = the position in anal intercourse most frequently adopted (either top, versatile, bottom, power bottom, or no anal intercourse).