Who Wants to Sound Straight?

Sexual Majority and Minority Stereotypes, Beliefs and Desires About Auditory Gaydar

Fabio Fasoli[1,2], Peter Heagarty[1], Anne Maass[3], & Raquel Antonio[2]

[1] University of Surrey, School of Psychology, Guilford, United Kingdom

[2] Instituto Universitário de Lisboa (ISCTE-IUL), CIS-IUL, Lisboa, Portugal.

[3] University of Padua, Dipartimento di Psicologia dello Sviluppo e della Socializzazione, Padua, Italy

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Abstract

Research on the accuracy of ‘gaydar’ judgments has burgeoned but rarely considered targets’ perspectives on cues that signal a person’s sexual orientation to others. We examined sexual majority and minority speakers (N = 241) beliefs about the extent to which their voices act as a ‘gaydar’ clue to others, and speakers’ desire to be so disclosed. Men believed their voices were more revealing of their sexual orientation than women did. Moreover, sexual majority participants, particularly masculine-sounding heterosexual men, desired to be disclosed the most of all. Sexual majority participants perceived their voices as gender typical and sexual minority participants perceived their voices as gender atypical, and participants whose beliefs were most consistent with this pattern also believed most that their voices acted as gaydar cues. The findings suggested that group differences in beliefs about gaydar may complicate individuals’ attempts to judge each other’s sexual orientations from minimal cues.

Keywords: voice, sexual orientation, gaydar, self-perception, gender typicality

Highlights

1. Sexual majority and minority individuals self-stereotype their voices.
2. Men believe that their voices reveal their sexual orientation more than women do.
3. Sexual minority individuals do not desire that their voices signal their sexual orientations.
4. Heterosexual masculine-sounding men desire their sexuality to be disclosed the most.

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1. Introduction

Gaydar has been defined as the skill of detecting others' sexual orientations (SO henceforth). Conceptualized as a process of distinguishing gay/lesbian and straight individuals (Rule, 2017), gaydar research has often assumed that every individual belongs to, and identifies with, one and only one of these two sexual orientation categories. However, research has taken less account of why such categorization might matter in everyday life, or whether people desire to be so categorized by others at all (Fasoli, Maass, & Sulpizio, 2016). Here, we tested four hypotheses about diverse people's beliefs as to whether they become targets of others' gaydar, their desire to have their SO detected by others. We focused on *auditory gaydar* as vocal cues are partially under individual control. Consequently, group differences in beliefs and desire concerning auditory gaydar both describe the target's perspective on gaydar judgments and have the potential to inform gaydar accuracy research.

1.1. Voice as a cue of sexual orientation

As in other domains, stereotypes about voices cast gay/lesbian people as gender inverts (Kite & Deaux, 1987). Gay men are assumed to lisp and have soft, high-pitched voices, whilst lesbians are believed to sound 'masculine' and have deep and low-pitched voices (Barton, 2015; Shelp, 2003). Speakers whose voices confirm this gender inversion stereotype features are most likely to be judged to be gay/lesbian by others, regardless of their actual SO (Mack & Munson, 2012; Munson, 2007; Sulpizio et al., 2015). Sexual minority individuals self-stereotype in a gender-inverted manner, and sexual majority stereotype in a gender-conforming manner (Rieger

et al., 2010), even when judging their voices (see Kachel, Simpson, & Steffens, 2018). We first hypothesized that our sexual majority participants would also stereotype themselves and their voices in a gender-conforming manner (i.e., heterosexual men as masculine and heterosexual women as feminine) whereas sexual minority participants would self-stereotype consistent with the gender inversion stereotype (Hypothesis 1).

We next considered *who* would most likely believe that their voices were an effective cue to their SO. Auditory gaydar might be particularly salient to sexual minorities because they experience being the target of the "gay voice" stereotypes (Mack & Munson, 2012). In many social situations, individuals' heterosexuality is assumed rather than stated explicitly (Herek, 2007). In gaydar experiments, this assumption informs judgments about others' SO; more targets are categorized as straight than as gay in many of those experiments (Lick & Johnson, 2016; Sulpizio et al., 2015). Sexual majority individuals often do not need to take any conscious actions to signal their SO, but usually identify less strongly than sexual minorities do with their ingroup (Fasoli, Cadinu, Carnaghi, Galdi, Guizzo, & Tassara, 2018). Hypothesis 2 predicted that sexual minority participants would believe that their voices signaled their SO more than sexual majority participants did.

Our third hypothesis was informed by consistent evidence that the assumption that others are straight is reliably interrupted by traits that are in line with the gender-inversion stereotype (Freeman, Johnson, Ambady, & Rule, 2010; Lick & Johnson, 2016). Kachel et al. (2018) have shown that people's perceptions of how gender-conforming they are can affect aspects of their speech that may become SO cues. We therefore hypothesized that any group difference in the belief that one's voice cues SO would be moderated by the extent to which participants self-stereotype their voices. In particular, we expected that the more the sexual majority participants

believed their voices sounded gender conforming, the more they would judge their voices as revealing their SO. In contrast, the more sexual minority participants perceived their voices as confirming the gender inversion stereotype, the more they would judge their voices as revealing their SO (Hypothesis 3).

1.2. The Desire for Disclosure

Our final hypothesis concerned the extent to which people *desire* to be a target of auditory gaydar. Sexual minority people face a double-bind in regard to the communication of their identity due to the dual threats of having their sexual minority status denied on the one hand and used as a basis for discrimination on the other hand (Morton & Postmes, 2009). When sexual minority individuals anticipate and experience discrimination, their well-being is rendered precarious, creating group differences in health outcomes (Meyer, 2003). Indeed, vocal cues that lead to inferences that a person is gay or lesbian can initiate very real discriminatory effects (Fasoli, Maass, Paladino, & Sulpizio, 2017). Sexual minority people must carefully gauge the costs and benefits of revealing their SO, together with the risks of group-based discrimination (see Herek & McLemore, 2013), and qualitative research suggests variation in the extent to which gay men like to 'sound gay' to others (Mann, 2012).

In marked contrast, sexual majority people, who are a higher status group, risk no discrimination when others accurately perceive their SO. Rather, they only risk a threatening loss of status from being *misperceived* as gay/lesbian. Several lines of research suggest that this threat from identity misperception is greater among heterosexual men than heterosexual women (Vandello & Bosson, 2013). Heterosexual men are more readily troubled than heterosexual women for being misperceived as gay/lesbian (Bosson, Weaver & Prewitt-Freilino, 2012), and more likely to enact gender identity in ways that require a distinct group boundary between gay

and heterosexual people (Falomir-Pichastor & Mugny, 2009). We therefore hypothesize that sexual majority people will show a greater *desire* that their voice signal their SO than sexual minority participants do, and that such preference will be strongest among those heterosexual men whose voices conform to the gender norm to be masculine-sounding (Hypothesis 4).

2. Method

2.1. *Participants*

Participants were 149 men, who identified as heterosexual (n = 74), gay (n = 67), bisexual (n = 8), queer (n = 3) and pansexual (n = 1), and 89 women, who identified as heterosexual (n = 46), lesbian (n = 27), bisexual (n = 13), and queer (n = 3). Heterosexual-identified participants were categorized as *sexual majority participants* and all others as *sexual minority participants*. Participants were single (n = 112), in relationships (n = 115) or did not report their relational status (n = 14), and sexual majority and sexual minority participants did not differ reliably in relationship status ($\chi^2 = 2.94$, $p = .09$). Participants were from Italy (n = 195) and Portugal (n = 46). Age ranged from 18 to 56 years ($M_{age} = 24.61$, $SD = 7.83$).

2.2. Materials

2.2.1. Personality self-stereotyping

Participants described their own masculinity and femininity on two items ranging from 1 (*does not describe me at all*) to 7 (*describes me completely*). As items were negatively correlated, $r(241) = -.81$, $p < .001$, we subtracted femininity ratings from masculinity ratings, creating an index of *masculinity* ranging from -6 (self-perceived femininity) to +6 (self-perceived masculinity). No group differences emerged regarding two filler items (i.e., honest, energetic) included on this scale. They were not analyzed further. Participants also described themselves in relation to their romantic partner (see Supplementary Materials).

2.2.2. Voice-related beliefs

A single item ranging from 1 (*not at all*) to 7 (*completely*) assessed the extent to which participants believed their voices signaled SO ("*To what degree do you think your voice is revealing of your sexual orientation?*"). To check that the predicted effects were specific for voice as a SO cue, participants completed similar items about the extent to which their age, social class, and geographical background was revealed by their voices. Since no group differences were found, these items were not analyzed further.

2.2.3. Disclosure desire

A single item scale ranging from 1 (*not at all*) to 7 (*completely*) assessed the desire for SO to be cued to others ("*When you encounter a person for the first time, how much do you want him/her to immediately determine your sexual orientation?*"). Responses to similar items about age, social class, and geographical background did not differ by group and were not analyzed further.

2.2.4. Voice self-stereotyping

Participants judged their *vocal* cues along five dimensions using 7-point semantic differential scales; feminine/masculine, soft/loud, weak/strong, high/low pitched and unpleasant/pleasant. The choice of these dimensions was informed by previous studies of acoustic features that might vary with SO and common stereotypes about the "gay voice" (see Fasoli et al., 2016; Kachel et al., 2018). Items did not form a coherent factor and were analyzed separately.

2.2.5. Outness

Sexual minority participants also completed an adaptation of the Outness Inventory (Mohr & Fassinger, 2000). Participants reported outness on scales ranging from 1 (*this person probably*

does not know) to 4 (*this person knows about my sexual orientation because we have openly talked about it*) to 9 individuals/groups: mother, father, siblings, relatives, heterosexual childhood friends, current heterosexual friends, acquaintances, colleagues at work/university, and superiors at work/university. Scores were averaged to form a reliable measure ($\alpha = .71$). For the moderating role of outness on voice-related beliefs and disclosure desire see Supplementary Materials.

2.3. Procedure

All participants were recruited through snowball sampling to take part in studies in which their voices were recorded as audio stimuli. After recording, the measures described above were completed, in Italian in Italy, and in Portuguese in Portugal. Demographic information such as gender, age, relationship status, and SO were reported last. All participants consented both prior to completing the materials and after debriefing.

3. Results

Overall, the sexual minority participants were somewhat out to others ($M = 2.95$, $SD = .63$, with the mean exceeding the scale midpoint of 2.5 significantly, one-sample $t[116] = 7.75$, $p < .001$). Men and women did not differ in outness ($M = 3.00$, 2.85 respectively, $SD = .57$, .73 respectively), $t(115) = 2.23$, $p = .24$. No differences by participant nationality were found.

Each dependent variable was submitted to a 2 (Gender: female vs. male) x 2 (SO: minority vs. majority) between factors ANOVA. We used pairwise comparisons with Bonferroni correction to interpret interactions (means of each dependent variable are reported in Table 1).

3.1. Personality self-Stereotyping.

Unsurprisingly, men scored higher on the masculinity index than did women (Ms = -2.37, 2.71 respectively, $SD = 2.62$, 2.24 respectively), $F(1, 237) = 290.18$, $p < .001$, $\eta_p^2 = .55$. There

was no main effect of SO, $F(1, 237) = 1.27$, $p = .26$, $\eta_p^2 = .005$, but a significant interaction between gender and SO emerged, consistent with the gender inversion stereotype, and confirming Hypothesis 1, $F(1, 237) = 37.54$, $p < .001$, $\eta_p^2 = .14$. Sexual majority men scored higher on the masculinity index than sexual minority men did, and sexual minority women scored higher on the masculinity index than sexual majority women did.

3.2. Voice self-stereotyping.

As predicted, men perceived their voices to be more masculine than women did (*Ms* = 5.03, 3.01 respectively, *SD* = 1.61, 1.54 respectively), $F(1, 237) = 113.92$, $p < .001$, $\eta_p^2 = .32$. Again, there was no main effect of SO, but a significant interaction with gender consistent with the gender inversion stereotype emerged, $F(1, 237) = 46.49$, $p < .001$, $\eta_p^2 = .16$. Among men, sexual majority participants perceived their voices to be more masculine, whilst among women, sexual minority participants perceived their voices to be more masculine.

Self-stereotyping was associated with perceptions of vocal pitch. No significant main effects of gender, $F(1, 237) = .35$, $p = .55$, $\eta_p^2 = .001$, or SO, $F(1, 237) = .07$, $p = .79$, $\eta_p^2 = .00$, were found. However, a significant interaction between gender and SO was observed, $F(1, 236) = 8.33$, $p = .004$, $\eta_p^2 = .03$. Among men, sexual majority men perceived their voices as lower in pitch. Among women, sexual majority women perceived their voices as higher in pitch. Ratings of the loudness, strength or pleasantness of the voice did not vary across groups, as shown by no significant main effects or interactions, all $F < 1.45$, all $p > .23$.

3.3. Voice-Related Beliefs

Analysis revealed that men believed that their voices revealed their SO more than women did (*M* = 4.26, 2.84 respectively, *SD* = 1.67, 1.80 respectively), $F(1, 236) = 37.84$, $p < .001$, $\eta_p^2 = .14$. However, disconfirming Hypothesis 2, there was no significant effect of SO on these voice-

related beliefs, $F(1, 236) = .04$, $p = .85$, $\eta_p^2 = .000$, nor any interaction between gender and SO, $F(1, 236) = .30$, $p = .58$, $\eta_p^2 = .001$. Contrary to Hypothesis 2, men, not sexual minorities, showed the greatest belief that their voice conveyed information about their sexual orientation.

Hypothesis 3 stated that participants would judge that their own voices signaled their SO to others to the extent that their voices confirmed gender inversion stereotypes. To test this hypothesis, we examined if the relationship between vocal masculinity and the voice-related belief that one's voice signaled SO was moderated by participant gender in each sexual orientation group. We conducted moderation analysis using Hayes (2013) PROCESS macro (bias corrected intervals - 5000 bootstrap resamples). Rating of vocal masculinity were entered as the independent variable, participants' gender as the moderator, and the belief that voice signaled SO as the dependent variable. Vocal self-stereotyping was operationalized by rating of the voice's masculinity, as overall vocal masculinity has been found to be causally related to auditory gaydar, whilst vocal pitch has not (Munson, 2007). We conducted separate analyses for sexual minority and sexual majority participants because Hypothesis 3 implied different relationships between these variables for these groups.

Among sexual majority participants, gender significantly moderated the relationship between voice-related masculinity and the belief that voice signals SO, $b = -.90$, $SE = .25$, $t = -3.49$, $p < .001$. As predicted by Hypothesis 3, sexual majority men who perceived their voices as masculine-sounding also believed most strongly that their voices signaled their heterosexual orientation, $b = .58$, $SE = .18$, $t = 3.22$, $p < .001$. Similarly, sexual majority women who perceived their own voices as feminine-sounding tended to believe their voices signaled their heterosexuality but the effect was weaker and not statistically significant, $b = -.31$, $SE = .18$, $t = -1.72$, $p = .08$. Among sexual minorities, as predicted, the opposite relationship between vocal

masculinity and the belief that voice signaled SO was found, as shown by the significant interaction between gender and self-reported voice-masculinity, $b = 1.09$, $SE = .17$, $t = 6.20$, $p < .001$. Sexual minority men who perceived their own voices as sounding less masculine, $b = -.60$, $SE = .10$, $t = -5.90$, $p < .001$, and sexual minority women who perceived their own voices as sounding more masculine, $b = .48$, $SE = .14$, $t = 3.39$, $p < .001$, believed that their voices signaled their SO to others. In sum, Hypothesis 3 was confirmed; participants believed that their voices signaled their SO to the extent that they considered their voices to confirm the gender inversion stereotype.

- Figure 1 –

3.4. Disclosure desire

We next considered who most desired to be disclosed. Consistent with Hypothesis 4, sexual majority participants showed a greater desire for their SO to be disclosed in a first encounter than did sexual minority participants (*M*s = 4.42, 3.69 respectively, *SD* = 2.08, 1.75 respectively), $F(1, 236) = 6.81$, $p = .01$, $\eta_p^2 = .03$. No significant main effect of gender, $F(1, 236) = 1.25$, $p = .26$, $\eta_p^2 = .005$, or interaction on this desire emerged, $F(1, 236) = 1.00$, $p = .32$, $\eta_p^2 = .004$.

Next, a moderation analysis was performed to test whether this SO difference was moderated by the extent to which participants perceived their voices as confirming gender inversion stereotypes. We tested whether vocal masculinity moderated this SO difference for men and women separately, treating SO as the independent variable, vocal masculinity as a moderator variable, and desire for disclosure as the dependent variable. There was no significant interaction between SO and voice-related masculinity on disclosure desire among women, $b = .21$, $SE = .28$, $t = -.74$, $p = .46$. Among men, a significant interaction between participants' SO

and voice-related masculinity was observed, b = .55, SE = .24, t = 2.26, p = .02 (see Figure 2). Among men who perceived their voices as feminine-sounding, desire for disclosure was lower, regardless of men's SO, b = -.44, SE = .59, t = -.75, p = .45. Among men who perceived their voice as masculine-sounding, sexual majority men reported greater desire for disclosure than did sexual minority men, b = 1.32, SE = .46, t = 2.84, p = .05. Sexual majority men who perceived that their voices sounded masculine wanted to be disclosed the most (see Figure 2).

- Figure 2 -

4. Discussion

Dozens of studies have now investigated the accuracy of gaydar judgments, but ours is the first in which diverse people were systematically asked to report their perspectives on being the target of others' gaydar. Participants, regardless of gender and SO, aligned their self-perception with stereotypic expectancies (gender-stereotypical for majority and gender-inverted for minority participants), thereby confirming previous work (Rieger et al., 2010). This self-stereotyping applied not only to the masculinity/femininity of their personality, but also to their voices (see Kachel et al., 2018). Indeed, sexual majority men rated themselves as more masculine and as more masculine-sounding than sexual minority men, while sexual majority and sexual minority women showed the equivalent pattern with regard to their own femininity and the femininity of their voices. Hypothesis 2, derived from the assumption that only sexual minorities consciously monitor information about SO in social interaction was not confirmed; instead we found that men believed that their voices are more revealing of their SO than women did. It is possible that stronger stereotypes about gay voice exist for men than women, triggering the belief that men's SO is easier to detect than women's (see Barton, 2015). Beside such gender difference, and in line with Hypothesis 3, sexual majority participants who perceived themselves as sounding

gender-conforming and sexual minority participants who perceived themselves as sounding gender-atypical were those who also considered their voices most revealing of their SO.

Our status-based hypothesis was also confirmed; heterosexual people most desired that their voices signal their SO, and among heterosexual men this desire was greatest among those who perceived their voices as masculine-sounding. Sexual minority participants showed no particular desire that their voices disclose their SO, regardless of gender or of individual differences in how stereotypical their voices sounded. Rather than looking among sexual minorities for the explanation of this effect, our results argue for placing greater importance on the disclosure desires of heterosexual people. The greater desire to be a target of auditory gaydar shown among heterosexual people here might be usefully investigated for other (e.g. visual) gaydar cues, and with more detailed measures than those that revealed these differences here. Researchers have also recently debated whether people with different SOs intentionally present themselves in different ways in social situations creating confounds in gaydar research (Cox et al., 2016; Rule, 2017). Our research does not resolve this debate but suggests that it should be conducted in a way that pays attention to the fact that heterosexual people want to signal their sexual identities which may translate into both habitual and consciously chosen attempts to communicate their SO to others.

Moreover, our findings confirmed the hypothesis that heterosexual men who perceived their own voices as masculine-sounding particularly desired their voices to disclose their heterosexuality. Such normative heterosexual men may have the most status to defend by signaling their heterosexuality clearly to others (see Bosson & Michniewicz, 2013; Falomir-Pichastor & Mugny, 2009) making their enactments of gender and sexuality particularly relevant for understanding SO group differences and gaydar judgments. An alternative explanation may

be that these heterosexual men desire to disclose their SO to optimize the chances of finding a female partner. Indeed, when mating interests are salient, women have been found to look for SO cues (Rule, Rosen, Slepian, & Ambady, 2011).

This research also poses questions about the accuracy of auditory gaydar. Interestingly, the participants self-stereotyped with regards to vocal pitch but not with regards to other vocal characteristics (but see Kachel et al., 2018). In fact, the vocal characteristics did not form a single factor. Research has generally shown that gay/lesbian and heterosexual speakers do not differ with respect to pitch (Munson, 2007; Waksler, 2001). Hence, our finding aligns with recent claims that there is a disparity between stereotype and reality regarding auditory gaydar, and there may be no clear 'kernel of truth' to auditory gaydar (Kachel et al., 2018). Rather, stereotypes about auditory gaydar may be consensual among people of diverse SO, grounded in gender inversion theory, and used to extrapolate features of one's own voice, such as pitch, in accord with those stereotypes.

As vocal cues are somewhat under personal control, individuals may accentuate these features to practically accomplish sexual identity in social contexts. For instance, individuals may modulate their voices depending on the person they are interacting with. It is possible that vocal cues are more controlled when talking with strangers, but more malleable when the interlocutors are ingroup members (see Kachel et al., 2017). Also, vocal SO cues may change when individuals interact with people of different genders and with potential mating partners (see Puts, Gaulin, & Verdolini, 2006). Moreover, sexual minority people's voices may make them into unwanted targets of others' gaydar judgments, and vulnerable to discrimination (Fasoli et al., 2017). These hypotheses are germane to the discrimination that can follow from auditory gaydar because individuals showing gender atypical behaviors are perceived as intentionally

conveying SO and are judged negatively (Fasoli et al., 2017; Lick, Johnson, & Gill, 2014). The interplay between targets' self-stereotyping and targets' preferences are important issues for future research on gaydar accuracy. Like radar itself, 'gaydar' may involve hitting an active moving target, whose beliefs and desires to evade detection to a greater or lesser extent complicate the task of detecting targets with accuracy.

Limitations and future directions

The major limitations of the current research lie in our use of convenience sampling and correlational design. This research has opened up new ways of conceptualizing the motives of diverse people to signal or conceal their SO from others in public but can only suggest causal models by which such motivations drive behavioral differences and perceivers' judgments. Given the unexpected importance of gender in predicting beliefs and desires here, we urge careful consideration of gender-balanced samples and of avoiding samples that over-represent men (as was the case here).

Our results are consistent with the possibility that both sexual majority and minority participants consciously modify their voices to affect whether they are the target of others' gaydar, and raise questions about how diverse people might act to change the likelihood that they become others' gaydar targets. Hitherto, targets in gaydar studies have been stimuli collected from dating websites or from individuals aware of the study purposes, making possible that the speakers modulated their voices in order to reveal their SO to participants (Fasoli et al., 2016). Such experiments are informative about the gaydar accuracy but may overlook important group differences in the beliefs that one may become a gaydar target, and about actions that one might take to change the likelihood that one is targeted by others.

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Table 1. Means and (Standard Deviations) across Gender and Sexual Orientation

	Women		Men	
	Sexual minority	Sexual majority	Sexual minority	Sexual majority
Masculinity	-1.25 (2.76)[a]	-3.41 (2.02)[b]	1.98 (2.21)[c]	3.47 (2.01)[d]
Vocal Masculinity	3.51 (1.58)[a]	2.54 (1.36)[b]	4.24 (1.64)[c]	5.87 (1.08)[d]
Vocal Loudness	4.50 (1.71)	4.42 (1.27)	4.20 (1.43)	4.14 (1.06)
Vocal Strength	5.51 (1.50)	4.54 (1.20)	4.49 (1.54)	4.83 (1.22)
Vocal Pitch	3.74 (1.59)[a]	4.41 (1.77)[b]	4.23 (1.60)[b]	3.67 (1.44)[a]
Vocal Pleasantness	4.78 (1.17)	4.48 (1.16)	4.36 (1.10)	4.33 (1.53)
Voice-related Beliefs	2.88 (1.83)[a]	2.80 (1.79)[a]	4.18 (1.63)[b]	4.35 (1.72)[b]
Disclosure Desire	3.67 (1.78)[a]	3.70 (1.75)[a]	3.70 (1.75)[a]	4.63 (2.06)[b]

Note: Means who do not share the same superscript in each raw are significantly different from each other ($p < .05$). When no letters are reported, the main effects or interaction between gender and sexuality were not significant.

Figure 1. Moderation of voice self-stereotyping on the effect of gender on voice-related beliefs in sexual minority (left) and sexual majority participants (right).

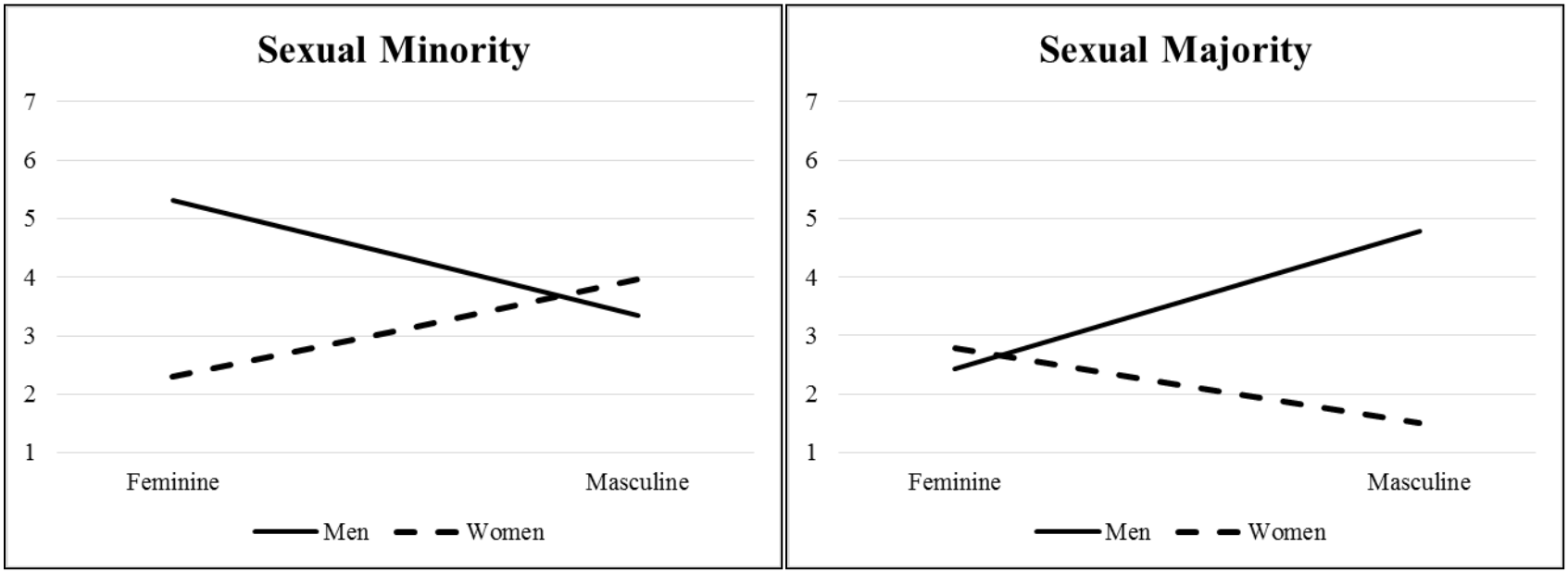

Figure 2. Moderation of voice self-stereotyping on the effect of sexuality on disclosure desire in women (left) and men (right).