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When voice signals nationality and sexual orientation: Speakers' self-perceptions and perceived stigmatization

Research has shown that individuals speaking low-prestige language varieties are often negatively evaluated and stigmatized by others. However, less is known about how speakers of such language varieties perceive their own speech. Here, we examined self-perceptions and perceived stigma of speakers who belong to multiple social categories signaled by auditory cues. Specifically, we examined beliefs of sexual minority and heterosexual male speakers who were either British nationals (native English speakers) or foreigners living in the UK (non-native English speakers). British speakers believed their voices cue their nationality more than foreigners. Heterosexuals believed their voices reveal their sexual orientation, but only when they self-perceived as sounding masculine. Sexual minority and foreign speakers felt more stigmatized because of the way they sound than did heterosexual and British speakers, respectively. These findings have implications for intergroup communication and voice-based stigmatization literature.

Key words: voice, accent, nationality, sexual orientation, stigmatization, stereotyping.

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Intergroup communication occurs when people in a social interaction define themselves and/or others in terms of their social group membership(s) (i.e., social identity) rather than their idiosyncratic characteristics (i.e., personal identity; Tajfel & Turner, 1979). Various factors can make people's social identity salient during social interaction, including language (Dragojevic & Giles, 2014; see also the Editorial of this special issue). Indeed, past research has shown that language, and more generally voice, is a highly salient cue to social group membership (Kinzler et al., 2010; Rakić et al., 2011). Unsurprisingly, a large body of research has considered how linguistic variation signals social variation and the evaluative consequences that follow from such inferences (Dragojevic et al., 2021). For instance, research on language attitudes, or people's evaluative reactions toward different language varieties and their speakers, has repeatedly shown that people readily make inferences about others' social group membership based on how they speak and attribute to them stereotypic traits based on those inferred group memberships (Dragojevic et al., 2021; Giles & Marlow, 2011). Such psychological processes, namely the social categorization of speakers as members of a given social category and the subsequent attribution of stereotypes (Dragojevic, 2017), define communication as intergroup and provide a framework to understand phenomena such as stigmatization.

However, extant research on this topic is limited in two important respects. First, past studies have primarily focused on the listeners' perspective, documenting how majority group listeners perceive others' speech. Yet, to fully understand intergroup communication, it is necessary to also adopt the speakers' perspective and examine how speakers perceive their own speech. Indeed, just as people use speech to socially categorize others, they also use speech to self-categorize and tend to be highly cognizant of the inferences others make about them based on the way they speak (Gluszek & Dovidio, 2010a). This may be particularly the case for individuals who belong to low status and minority groups, who may expect that disclosure of their group membership will expose them to stereotyping and stigmatization. For instance, research has shown that implicit gender self-categorization is stronger for women than men, and sexual orientation self-categorization is stronger for sexual minorities than heterosexual individuals (Fasoli, Cadinu et al., 2018), regardless of whether individuals are reminded of their gender or sexual orientation. This suggests that group membership for minority people may be salient even in the absence of explicit intergroup comparisons. Second, past studies have primarily been restricted to documenting attitudes toward regional and ethnic accents (Giles, 1970; Lippi-Green, 2012), whereas other ways of speaking, such as 'gay speech', have remained largely unexplored (but see, e.g., Fasoli et al., 2016). The present study attempts to address these limitations.

Namely, we sought to investigate the psychological processes involved in speakers' voice-based self-perceptions. In doing so, we adopted an intersectional approach that has been overlooked in the intergroup communication literature

(see Abrams, 2018). Specifically, we considered intersecting identities and tested the unique and combined effects of multiple social categories conveyed by voice. We examined whether self-identified gay and heterosexual British nationals (all of whom were native English speakers) and foreigners living in the UK (all of whom were non-native English speakers[1]) believed their voices cue their national and sexual orientation identities, have internalized stereotypes, and believed they are stigmatized because of the way they sound.

Voice as a Social Category Cue

Past research has examined how listeners categorize others based on their voices but has rarely examined what speakers themselves believe about their voices as social cues. Listeners can distinguish between native and non-native speakers of their own language with a high degree of accuracy (Kinzler & DeJesus, 2013; see also Hansen et al., 2017), but they struggle to accurately detect non-native speakers' actual nationalities (Dragojevic & Goatley-Soan, 2022; Eades et al., 2003). Consequently, foreigners who speak with a foreign accent may be recognized by others as non-native speakers because of their accent, but their actual nationality may remain unrecognized. This may be one reason why foreign-accented speakers tend not to consider their own accent as an accurate indicator of their national identity (Beinhoff, 2013), but rather as a general cue of foreignness. At the same time, non-native speakers consistently express negative attitudes toward their accent and a desire to sound more native (Derwing, 2003; see also Jenkis, 2007). Indeed, there is a general perception of native English accents, particularly standard varieties, as being prestigious and highlighting high-status compared to non-native English accents (Carrie & McKenzie, 2018; Fuertes et al., 2012; Marlow & Giles, 2008).

People also believe that a person's voice can reveal their sexual orientation. Indeed, both heterosexual and gay individuals tend to believe that a speaker's voice allows listeners to identify the speaker's sexual orientation and that some vocal differences are fixed and immutable (Fasoli et al., 2021). Beliefs of voice as cuing sexual orientation go hand in hand with beliefs that a speaker sounds gender typical. It has been found that heterosexual men who believed they sounded masculine, and sexual minority men who believed they sounded feminine, reported that their voices were likely revealing their actual sexual orientation (Fasoli, Hegarty et al., 2018). Moreover, heterosexual men particularly desire for their heterosexuality to be disclosed by their voices when meeting a stranger (Fasoli, Hegarty et al., 2018). Arguably, this may be because heterosexual men are often concerned about being misperceived as gay (Bosson et al., 2012; Vandello & Bosson, 2013), which would mean losing the high-status typically associated with heterosexuality. On the other hand, sexual minority men are less motivated to have their sexual

1 In the manuscript, we refer to "British speakers" to indicate British nationals who are also English native speakers and to "foreign speakers" to indicate foreigners living in the UK whose first language is not English, and hence, who are likely to have a foreign accent.

orientation disclosed by their voice, as such disclosure could lead to stigmatization and negative evaluation (see Fasoli et al., 2021; Herek & McLemore, 2013).

Stereotyping

Simply hearing a speaker say "hello" is sufficient for listeners to make an impression about the speaker's personality (McAleer et al., 2014). Person perception is generally organized around two main evaluative dimensions, namely, status/competence and solidarity/warmth (see Fiske et al., 2002), even when it is based on auditory cues (see Gluszek & Dovidio, 2010a; Schoel et al., 2013). Foreign-accented speakers are usually perceived as having less status/competence and solidarity/warmth than native speakers (Baquiran & Nicoladis, 2020; Dragojevic & Giles, 2016; Roessel et al., 2018). With regards to speakers' sexual orientation, gay-sounding male speakers tend to be perceived as less masculine (Daniele et al., 2020; Painter et al., 2021), and less competent (Fasoli & Hegarty, 2020) but warmer (Fasoli & Maass, 2020) compared to heterosexual-sounding speakers.

Research on speakers' self-perception has shown that foreign-accented speakers attribute lower status to themselves and their group compared to native speakers (see Kinzler & DeJesus, 2013; Lambert et al., 1960). Gay male speakers also report perceiving their voices and themselves as less gender typical than heterosexual male speakers do (Kachel et al., 2020; Rieger et al., 2010). These findings suggest that foreigners and sexual minority speakers may internalize stereotypes associated with their own group and low-prestige language variety. Minority speakers also have expectations about how others may perceive them, or so-called "meta-perceptions" (see Derwing, 2003). Foreign speakers expect others to struggle to understand them and, hence, attribute less competence/status to themselves (see Gluszek & Dovidio, 2010a). For instance, a study by Yzerbyt et al. (2005) examined meta-stereotypes in relation to high-prestige (French) and low-prestige (Belgian) language varieties. They found that French and Belgian speakers had similar impressions of the Belgian speakers, who were attributed lower competence but higher warmth than French speakers. Hence, regardless of their group membership, participants had similar expectations of how others would perceive members of their own linguistic group, as well as members of the linguistic outgroup. Concerning sexual orientation, a recent study found that gay men's beliefs about sounding gay and sounding masculine went hand in hand with their perception that other people would perceive them as gay-sounding and masculine-sounding (Fasoli et al., 2021), in line with work on self- and meta-stereotype endorsement in gay men (see Hinton et al., 2019).

However, these studies have not considered how intersecting categories signaled by voice may affect self- and meta-stereotypes. One study (Campbell-Kibler, 2007) manipulated speakers' vocal cues in order to signal a gay sexual orientation and/or a high social class and asked listeners to form an impression about the speakers. In doing so, they examined whether each vocal cue alone

or in intersection affected listeners' impression. It was found that speakers who sounded gay and high social class were attributed more status/competence than speakers who simply sounded gay, suggesting that vocal cues conveying high social class allow the speaker to gain status. At the same time, sounding gay allows working class speakers to gain in solidarity (Levon, 2014). These findings seem to suggest that different self- and meta-perception may occur as a function of group membership intersections conveyed by voice.

Stigmatization

Literature has shown that having a foreign accent and sounding gay can trigger stigmatization enacted by majority group listeners (i.e., native speakers and heterosexuals, respectively). Such stigmatization varies from being evaluated negatively (Fuertes et al., 2011; Nelson Jr et al., 2016), being discriminated against in contexts such as education (Gill, 1994; Taylor & Raadt, 2021), workplace (Rakić et al., 2011; Roessel et al., 2019), parenting (Fasoli & Maass, 2020), and interpersonal interactions (Bourhis, 1984; Fasoli et al., 2017). Some recent work has also shown that speakers whose voice signals that they belong to a double minority (i.e., a lesbian-sounding woman) can face stronger discrimination than speakers whose voice signals that they belong to a single minority (i.e., gay-sounding men, Fasoli & Hegarty, 2020). However, this is not always the case. For instance, foreign-accented speakers from low status countries are sometimes preferred over native speakers from high-status countries, perhaps because the former are seen as less threatening than the latter (Birney et al., 2020).

Less is known about speakers' own perceptions of stigmatization. Studies have shown that foreign-accented speakers report being stigmatized (Derwing, 2003; Gluszek & Dovidio, 2010b; Goto et al., 2002) and that gay-sounding men expect to be avoided, stigmatized, and discriminated against (Fasoli et al., 2021). This may lead them to try to modulate their voices or engage in other coping strategies to navigate possible stigmatization (see Moyer, 2007; Fasoli et al., 2021). Whether vocal cues signaling a speaker's double minority status elicit double stigmatization remains to be understood. Moreover, it is important to disentangle between perceived stigmatization and experiences of actual discrimination. Indeed, while the latter refers to explicit behaviors enacted by the majority group (e.g., treating someone with less respect, insulting someone), the former refers to the expectation of being considered and treated differently.

Study Overview and Hypotheses

The current study examined how speakers whose voice simultaneously signals multiple social categories self-perceive based on the way they sound. In particular, we focused on speakers who simultaneously belong to groups defined by nationality (i.e., British or foreign) and sexual orientation (i.e., heterosexual or sexual minority). Being British and/or heterosexual implies belonging to a

majority group associated with high status. On the contrary, being a foreigner and/or sexual minority implies belonging to a minority or a double minority group associated with low status. In the present study, we examined beliefs concerning voice as a social category cue that reflect social categorization expectations and self-attribution of traits reflecting stereotyping. Moreover, we assessed perception and expectancy of voice-based stigmatization.

British and foreign participants, who were either heterosexual or belonged to a sexual minority group, were asked to report the extent to which they believed their voices revealed their nationality and sexual orientation, as well as their desire to have those group memberships revealed by their voice. Based on the literature presented above, we advanced several predictions. First, given that listeners are highly accurate at identifying foreign-accented speakers' non-native status but are much less accurate at identifying the specific country they come from based on voice alone, we predicted that:

H1a: Foreign speakers would be less likely than British speakers to believe that their voice reveals their actual nationality.

Related, to the extent that listeners stereotypically associate masculine-sounding voices with heterosexuality and feminine-sounding voices with homosexuality, we predicted that:

H1b: The more masculine sounding heterosexual men believed their voices to be, the more they would believe their voices accurately reveal their heterosexual sexual orientation. Conversely, the more feminine sounding sexual minority men believed their voices to be, the more they would believe that their voices accurately reveal their sexual minority orientation.

Second, since native-accented speakers are typically attributed higher status than foreign-accented speakers, and heterosexual men are typically attributed higher status than sexual minority men, we predicted that:

H2a: British speakers would express more desire than foreign speakers for their voices to disclose their nationality to strangers.

H2b: Heterosexual men would report a greater desire than sexual minority men for their voices to accurately signal their sexual orientation to strangers.

RQ1: We also explored whether the nationality and sexual orientation intersection would affect beliefs of voice as a cue of group memberships and the possibility that sexual minority foreigners would be the most reluctant to have their voices reveal their group memberships, as that would highlight their double minority status.

Next, we assessed speakers' self-perception in terms of status/competence, solidarity/warmth, and gender typicality to examine the extent to which speakers have internalized the stereotypes listeners typically attribute to their groups. Based on the foregoing, we hypothesized that:

H3a: Foreign speakers (vs. British speakers) would attribute to themselves and would expect others to attribute to them less status and solidarity.
H3b: Sexual minority men (vs. heterosexual men) would perceive themselves and expect others to perceive them as less gender typical.
RQ2: Additionally, since stereotyping has not been studied in the context of nationality and sexual orientation simultaneously, we explored whether nationality and sexual orientation would interact to produce unique patterns of self and meta-perceptions in speakers.

Finally, we assessed discrimination experiences, expectations of stigmatization, and consciousness for foreign and 'gay' accent stigmatization. In light of the preceding literature review, we advanced the following predictions:

H4a: Foreign and sexual minority speakers would report more experiences of discrimination and higher perceived stigmatization than would British and heterosexual speakers, respectively.
H4b: Participants belonging to a double minority (i.e., sexual minority foreigners) signaled by voice would report the highest level of discrimination and perceived stigmatization compared to all the other groups.
RQ3: We were also interested in whether belonging to a double minority group would enhance consciousness for specific types of stigmatizations. Thus, we explored whether sexual minority (vs. heterosexual) foreigners would report more national accent-based stigmatization and whether foreign (vs. British) sexual minority speakers would report greater stigmatization for sounding gay.

Method

Participants

Two hundred and seven male participants completed the study and provided consent to data use. We excluded one participant who was under 18 years old. To avoid possible confounds due to nationality and/or language, we only retained (a) self-identified British nationals whose first language was English and (b) foreigners living in the UK whose first language was not English in the sample. The final sample (M_{age} = 31.77, SD = 11.66) consisted of British nationals, all of whom were native English speakers (n = 107, 57.5%), and foreigners, all of whom were non-native English speakers (n = 79, 42.5%). The foreign participants spoke different languages (i.e., Arabic, Bengali, Bulgarian, Chinese, Czech, Dutch, Filipino, Flemish, French, Greek, Hebrew, Hungarian, Indonesian, Italian, Lithuanian, Mandarin, Marathi, Nepalese, Persian, Polish, Portuguese, Russian, Slovak, Spanish, Tamil, Thai, and Turkish). The sample consisted of heterosexual (n = 101, 54.3%) and sexual minority participants (n = 85, 45.7%; gay: n = 57; bisexual: n = 28). Sexual orientation assessed on a Kinsey-like scale

(1 = *exclusively heterosexual*; 7 = *exclusively gay*) showed that heterosexuals self-rated on the heterosexual pole of the scale (M = 1.31, SD = .80), whereas sexual minority participants self-rated on the gay pole of the scale (M = 5.80, SD = 1.63), $t(183) = 24.37$, $p < .001$. Sexual minority participants reported moderate levels of coming out (M = 2.70, SD = .99; scale 1 = *The person does not know*, 4 = *the person knows, and we have talked about it*).

A G*Power (Faul et al., 2007) sensitivity analysis ($\alpha = .05$, power .80) for a 2 × 2 analysis of variance (ANOVA) that was conducted on most of our dependent variables indicated that our final sample of 186 allowed us to detect small to medium effect sizes equal to .21 (see Cohen, 2013).

Procedure

Participants were recruited on Prolific Academic and rewarded £1.50. They were pre-screened to ensure that they identified as either heterosexual or sexual minority, and as either British or foreigners living in the UK. They were invited to participate in a study on voice self-perception and everyday social interactions. After agreeing to participate in the study, participants completed a survey containing the dependent measures, were debriefed, and provided final consent to data use. Filler items and additional measures (i.e., participants' attempts to conceal their nationality and sexual orientation) are reported in the Supplementary Information.

Measures

Voice Self-Perception

Participants were asked to indicate how they perceived their own voices. One item (i.e., "How strong do you think your national accent is?") measured participants' perception of their national accent (Gluszek et al., 2011). Two items (i.e., "How much do you think your voice sounds masculine?," "How much do you think your voice sounds feminine?" reverse-coded, $\alpha = .79$; see Fasoli et al., 2021) assessed perceived voice gender typicality. Answers were provided on a scale from 1 (*not at all*) to 7 (*very*). Ratings on the two gender typicality items were averaged. Higher scores indicated higher voice gender typicality.

Voice as a Social Category Cue

Participants were asked to think about the way they normally speak and to indicate the degree to which they believed their voice was revealing of their nationality and sexual orientation (voice-related beliefs). Next, they were asked to indicate the extent to which they would desire their voice to disclose their nationality and sexual orientation when encountering a person for the first time (disclosure desire). These single-item scales (see Fasoli et al., 2018) used 7-point scales (1 = *not at all*; 7 = *completely*).

Self- and Meta-Perception

Participants were asked to rate themselves as individuals on different traits corresponding to status, solidarity, and gender typicality, based on how they think their voices sounded. We used five traits to assess status (i.e., competent, intelligent, smart, educated, successful; α = .91) and five traits to assess solidarity (i.e., friendly, nice, sociable, pleasant, warm; α = .87), as done in previous research on language attitudes (see Dragojevic et al., 2017). We assessed self-perceived gender typicality on two traits (i.e., masculine, feminine, reverse-coded, Fasoli & Hegarty, 2020; α = .76). Answers were provided on a scale from 1 (*not at all*) to 7 (*very much*). Items comprising each scale were averaged. Higher scores corresponded to higher self-perceptions of status, solidarity, and gender typicality.

Participants also rated how they thought other people would rate them on the same traits based on their voices using the same answering scale (1 = *not at all;* 7 = *very much*). Reliability (status: α = .91, solidarity: α = .90, and gender typicality: α = .77) and average scores were calculated for each construct. Higher scores corresponded to higher meta-perceptions of status, solidarity, and gender.

Everyday Discrimination and Perceived Stigmatization

To assess everyday discrimination, we adapted eight items (e.g., "People treat me rudely or disrespectfully because of how I sound," "People make comments and joke because of how I sound," α = .90) from previous scales assessing discriminatory behaviors that happen in everyday interactions (Williams et al., 2002). Answers were provided on a scale form 1 (*strongly disagree*) to 7 (*strongly agree*). Ratings were averaged to form a score of everyday discrimination. The higher the score, the higher the experience of discriminatory behaviors in everyday interactions.

Perceived stigmatization was assessed with the voice perceived stigmatization scale by Gluszek and Dovidio (2010a). The scale consisted of 6 items (e.g., "I feel like an outsider because of how I sound," "I think that others are biased against me because of how I sound," α = .76). Answers were provided on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Ratings were averaged to form a score of perceived stigmatization. The higher the score, the higher the perceived stigmatization.

Foreign Accent and "Gay Voice" Stigma Consciousness

We adapted items of the stigma consciousness scale by Pinel (1999) to foreign accent and gay-sounding voices. Hence, seven items ("My national accent does influence how British people act with me;" α = .83) assessed stigma consciousness for having a foreign accent among participants who were foreigners. Moreover, sexual minority participants completed seven items ("Sounding gay does influence how heterosexual people act with me;" α = .83) assessing stigma consciousness for sounding gay. Answers were provided on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) and ratings were averaged

to form scores of stigma consciousness for having a non-standard accent among foreigners, and for having a gay sounding voice among sexual minority participants, respectively.

Results

Correlations between variables completed by all participants, means, and standard deviations across groups are reported in Tables 1 and 2. Nationality was operationalized as belonging to two main groups: British participants (i.e., those who reported being British nationals and English native-speakers) and foreigners (i.e., those who reported a nationality other than British and to be non-native English speakers; see participants' description for the languages they spoke). Sexual orientation referred to two main groups: participants who identified as heterosexual and participants who identified as a sexual minority (i.e., gay or bisexual).

Voice Self-Perception

Although no specific hypotheses were advanced on these variables, we examined the differences in voice self-perception.

Since self-perceived accent strength was assessed with a single item, a multiple ordinal regression analysis including nationality (British vs. foreigner), sexual orientation (heterosexual vs. sexual minority), and their interaction term as predictors was carried out. Foreigners and sexual minorities were included as reference groups. The model showed a good fit, $\chi^2(3) = 14.14$, $p = .003$, as also shown by the goodness of fit test, Pearson: $\chi^2(15) = 5.53$, $p = .99$, with pseudo-R^2 (Nagelkerke) equal to .03. Results showed a statistically significant main effect of nationality on self-perceived accent strength, $B = -1.10$, $SE = .39$, 95% CI [–1.87, –.03], $p = .040$, indicating that foreigners reported lower cumulative for scores than British participants. No other effects were statistically significant, Bs < .44, ps > .40.

A 2 (Nationality: British vs. foreigner) × 2 (Sexual orientation: heterosexual vs. sexual minority) ANOVA was performed on self-perceived voice gender typicality. It showed a statistically significant main effect of sexual orientation, $F(1, 182) = 32.79$, $p < .001$, $\eta_p^2 = .15$, indicating that heterosexual participants perceived their voices as more gender typical ($M = 5.46$, $SE = .12$) than did sexual minority participants ($M = 4.41$, $SE = .13$). No other statistically significant effects emerged (Fs < 1.82, ps > .18).

Voice-related Beliefs and Disclosure Desires

We conducted a series of multiple ordinal regressions including nationality (British vs. foreigner), sexual orientation (heterosexual vs. sexual minority), and their interaction term as predictors since the dependent variables consisted of single items and were analyzed separately. Foreigners and sexual minorities were included as reference groups.

Table 1. *Means (Standard Deviations) and Correlations Between Variables*

	M (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Accent strength	4.80 (1.71)	-													
2. Voice gender typicality	5.00 (1.35)	.17*	-												
3. Voice-related belief: nationality	5.51 (1.70)	.48***	.11	-											
4. Voice-related belief: sexual orientation	4.17 (1.86)	.03	−.06	.20**	-										
5. Disclosure desire: nationality	3.89 (1.87)	.33***	.02	.36***	.28***	-									
6. Disclosure desire: sexual orientation	3.22 (2.03)	.12	.07	.10	.50***	.36***	-								
7. Status self-perception	4.61 (1.11)	.08	.12	.14	.11	.04	.05	-							
8. Solidarity self-perception	4.90 (1.27)	.19*	.01	.11	.12	.05	.07	.60***	-						
9. Gender typicality self-perception	4.68 (1.11)	.15*	.80***	.06	−.05	.06	.07	.15*	.08	-					
10. Status meta-perception	4.73 (1.09)	−.004	.10	.13	.12	.02	.03	.79***	.46***	.12	-				
11. Solidarity meta-perception	4.86 (1.09)	.09	−.03	.07	.07	.01	−.01	.41***	.78***	.08	.46***	-			
12. Gender typicality meta-perception	4.69 (1.38)	.11	.78***	.08	−.12	−.02	.03	.13	.05	.85***	.12	.06	-		
13. Everyday discrimination	2.40 (1.17)	.01	−.13	−.06	.04	.16*	.12	−.21**	−.25***	−.05	−.24**	−.29***	−.08	-	
14. Perceived stigma	2.85 (1.11)	−.01	−.21**	−.08	.04	.10	.08	−.09	−.22**	−.14	−.09	−.24**	−.15*	.75***	-

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 2. *Means (Standard Deviations) of all Variables Across Participants' Nationality and Sexual Orientation*

	British		Foreigners	
	Heterosexual	Sexual Minority	Heterosexual	Sexual Minority
Accent strength	5.24 (1.53)	5.02 (1.66)	4.62 (1.85)	4.00 (1.65)
Voice gender typicality	5.65 (1.00)	4.47 (1.32)	5.27 (1.30)	4.35 (1.37)
Voice-related belief: nationality	5.80 (1.59)	5.67 (1.74)	5.21 (1.73)	5.19 (1.73)
Voice-related belief: sexual orientation	4.24 (2.03)	3.60 (1.83)	4.62 (1.61)	4.27 (1.74)
Disclosure desire: nationality	4.17 (1.97)	3.81 (2.03)	4.08 (1.90)	3.32 (1.33)
Disclosure desire: sexual orientation	3.44 (2.15)	2.60 (1.82)	4.02 (2.03)	2.78 (1.78)
Status self-perception	4.49 (1.15)	4.55 (.99)	4.85 (1.04)	4.63 (1.25)
Solidarity self-perception	4.63 (1.06)	4.73 (1.13)	4.77 (1.11)	4.58 (1.17)
Gender typicality self-perception	5.43 (1.08)	4.42 (1.13)	5.26 (1.18)	4.28 (1.35)
Status meta-perception	4.45 (1.29)	4.74 (.92)	4.97 (.89)	4.91 (1.07)
Solidarity meta-perception	4.66 (1.13)	4.99 (1.08)	5.03 (.94)	4.80 (1.16)
Gender typicality meta-perception	5.23 (1.20)	4.19 (1.29)	5.07 (1.23)	4.07 (1.50)
Everyday discrimination	2.40 (1.14)	2.25 (1.14)	2.33 (1.16)	2.68 (1.23)
Perceived stigma	2.52 (.98)	2.63 (1.05)	2.98 (1.06)	3.51 (1.15)
Foreign accent stigma consciousness	-	-	4.73 (1.07)	4.16 (1.11)
"Gay voice" stigma consciousness	-	4.69 (1.19)	-	4.33 (1.32)

Voice-related Beliefs

We first examined perceptions of voice as a cue to nationality. The model did show a small fit, $\chi^2(3) = 7.43$, $p = .059$, with pseudo-R^2 (Nagelkerke) equal to .04. However, the goodness of fit test (Pearson: $\chi^2[15] = 12.93$, $p = .61$) indicated that the data are consistent with the fitted model. Results showed a significant main effect of nationality, $B = -.75$, $SE = .37$, 95% CI [–1.47, –.03], $p = .040$. Foreigners reported lower cumulative scores than British participants concerning beliefs of voice as a cue revealing their nationality, confirming H1a. No other effects were significant, Bs < –.03, ps > .94.

The model for perceptions of voice as a cue to sexual orientation did not show a good fit, $\chi^2(3) = 5.56$, $p = .087$, and no statistically significant main or interaction effects were observed, Bs < –.28, ps > .43. However, we proceeded to test H1b by running an ordinal regression analysis including sexual orientation, self-perceived voice gender typicality, and their interaction as predictors. The model showed a good fit, $\chi^2(3) = 29.69$, $p < .001$; goodness of fit test: Pearson: $\chi^2(129) = 140.26$, $p = .23$, with pseudo-R^2 (Nagelkerke) equal to .15. The interaction between sexual orientation and voice gender typicality was statistically significant, $B = 1.08$, $SE = .22$, 95% CI [.64, 1.51], $p < .001$. To better understand the interaction, we ran an ordinal regression analysis with voice gender typicality as the only predictor for heterosexual and sexual minority participants separately. Both models showed a good fit, $\chi^2 > 5.18$, ps > .023; pseudo-R^2 (Nagelkerke) > .23. For heterosexual participants, the effect of voice gender typicality was positive and statistically significant, $B = .36$, $SE = .16$, 95% CI [.05, .67], $p < .021$, indicating that the more

masculine-sounding they believed their voices to be, the more they believed their voices revealed their heterosexual orientation. Conversely, for sexual minority participants, the effect of voice gender typicality was statistically significant but negative, $B = -.78$, $SE = .16$, 95% CI [–.1.10, –.46], $p < .001$. The more feminine-sounding sexual minority participants believed their voices to be, the more they believe their voices revealed their sexual orientation. Hence, H1b was confirmed.

Disclosure Desire

The model for nationality disclosure desire showed a lack of good fit, $\chi^2(3) = 5.36$, $p = .147$, and no statistically significant effects of nationality or any other variable (Bs < .41, ps > .08), disconfirming H2a.

The model for sexual orientation disclosure desire showed a good fit, $\chi^2(3) = 12.68$, $p = .005$, Pearson: $\chi^2(15) = 13.61$, $p = .55$, with a pseudo-R^2 (Nagelkerke) equal to .07. A statistically significant effect of sexual orientation, $B = 1.03$, $SE = .41$, 95% CI [.23, 1.84], $p = .012$, showed that the cumulative score was higher for heterosexual than sexual minority participants, confirming H2b. No other statistically significant effect or interaction were found (Bs < .30, ps > .58).

Self- and Meta-Perception

To examine the effects of nationality and sexual orientation on self- and meta-perceptions of status, solidarity, and gender typicality, we submitted each outcome to a 2 (Nationality: British vs. foreigner) × 2 (Sexual orientation heterosexual vs. sexual minority) × 2 (Perception: self vs. meta) mixed ANOVA, with the first two factors treated as between-subjects, and the third factor treated as within-subject.

Perceived Status

A statistically significant main effect of perception, $F(1, 182) = 6.72$, $p = .01$, $\eta_p^2 = .04$, showed that participants believed others would attribute more status to them ($M = 4.77$, $SE = .08$) than they attributed to themselves ($M = 4.63$, $SE = .08$). No other effects were statistically significant (Fs < 3.38, ps > .07). Since the main effect of nationality was not statistically significant, H3a was disconfirmed.

Perceived Solidarity

A significant main effect of perception, $F(1, 182) = 12.70$, $p < .001$, $\eta_p^2 = .06$, indicated that participants believed others would attribute more solidarity to them ($M = 4.87$, $SE = .08$) than they attributed to themselves ($M = 4.68$, $SE = .08$). No other statistically significant effects emerged (Fs < 1.90, ps > .17). Hence, since the main effect of nationality was not statistically significant, H3a was disconfirmed.

Perceived Gender Typicality

A statistically significant main effect of perception, $F(1, 182) = 14.14$, $p < .001$, $\eta_p^2 = .07$, indicated that participants believed others would perceive them

as less gender typical (M = 4.64, SE = .10) than they perceived themselves (M = 4.85, SE = .09). Moreover, a statistically significant main effect of participants' sexual orientation, $F(1, 182) = 33.20$, $p < .001$, $\eta_p^2 = .15$, indicated that sexual minority participants perceived themselves and believed others would perceive them as less gender typical (M = 5.25, SE = .12) than did heterosexual participants (M = 4.24, SE = .13). Hence, H3b was confirmed. No other significant effects emerged (Fs < .68, ps > .41).

Discrimination Experiences and Perceived Stigma

A 2 (Nationality: British vs. foreigner) × 2 (Sexual orientation: heterosexual vs. sexual minority) ANOVA, with both variables being between-participants factors, was performed on discrimination experiences and perceived stigma.

No statistically significant effects were found on discrimination experiences, Fs < 2.07, ps > .15, indicating that the different groups had similar experiences of discrimination.

Regarding perceived stigma, a statistically significant main effect of nationality, $F(1, 182) = 18.22$, $p < .001$, $\eta_p^2 = .09$, showed that foreign participants experienced more voice-based stigmatization (M = 3.24, SE = .12) than did British participants (M = 2.57, SE = .10). Moreover, a statistically significant main effect of sexual orientation, $F(1, 182) = 4.19$, $p = .04$, $\eta p2 = .02$, indicated that sexual minority participants experienced more voice-based stigma (M = 3.07, SE = .11) than did heterosexual participants (M = 2.75, SE = .11). These results are in line with H4a. However, since no statistically significant interaction between nationality and sexual orientation occurred, $F(1, 182) = 1.72$, $p = .19$, $\eta_p^2 = .01$, H4b was not confirmed.

Stigma Consciousness

Foreign Accent Stigma Consciousness

Foreigners experienced moderate stigmatization due to sounding foreign (M = 4.47, SD = 1.12, one sample t test against the scale midpoint: $t[77] = 3.69$, $p < .001$, $d = .42$), and sexual minority foreigners experienced less accent-based stigmatization (M = 4.23, SD = 1.12) than heterosexual foreigners (M = 4.76, SD = 1.07), $t(76) = -2.32$, $p = .02$, $d = .53$.

Gay voice Stigma Consciousness

Sexual minority participants experienced moderate stigmatization due to sounding gay (M = 4.54, SD = 1.26, one sample t-test against the scale midpoint: $t[84] = 3.94$, $p < .001$, $d = .43$). No statistically significant differences between British (M = 4.69, SD = 1.19) and foreign (M = 4.34, SD = 1.32) sexual minority participants emerged, $t(83) = 1.30$, $p = .20$, $d = .28$.

Discussion

The current study considered the role of speakers' perspective in relation to psychological processes involved in intergroup communication (i.e., social categorization beliefs, stereotyping, and stigmatization). Understanding the expectations speakers have about their voices is important in making sense of language attitudes and intergroup communication (see Giles & Marlow, 2011). First, we showed that speakers differ in their beliefs about voice as a social category cue. In line with H1a, British participants believed their voices were more revealing of their nationality than foreign participants. This supports the idea that foreigners do not believe that their voices are clear cues of their actual nationality (see also Beinhoff, 2013). Indeed, while a foreign accent may be a clear cue to foreignness, it may not lead to accurate categorization of actual nationality (see Dragojevic & Goatley-Soan, 2022). However, it is worth noting that our participants varied a lot in their first language, with many belonging to small linguistic minorities (e.g., Flemish) whose language background would likely be relatively unfamiliar to most British nationals and, therefore, render their true nationality relatively undetectable. When looking at sexual orientation, the more heterosexual men self-perceived as masculine-sounding, and the more sexual minority men self-perceived as feminine-sounding, the more they believed their voices accurately revealed their true sexual orientation, supporting H1b and replicating previous work (Fasoli et al., 2018). Hence, participants appeared to be aware of the association between gender stereotyping and sexual orientation assumptions that has been observed in past auditory gaydar research (see Fasoli et al. 2016; Kachel et al., 2020).

Second, we examined participants' social identity disclosure desires, given that such expectations can define intergroup communication dynamics (Giles et al., 2010). One's desire to have their voice reveal their group membership(s) implies that they wish their status to be known, and potentially guide the communicative exchange. We did not find support for the prediction that British nationals would express a higher desire than foreigners to have their voices disclose their nationality, disconfirming H2a. However, in line with H2b, heterosexual men desired to have their voices to disclose their sexual orientation when meeting a stranger more than sexual minority men did. Hence, heterosexual men wished their high-social status and belongingness to the normative group to be subtly conveyed by their voices (see Fasoli, Hegarty et al., 2018). The fact that heterosexual speakers, but not British speakers, desired for their group membership to be disclosed suggests that being miscategorized as gay may be perceived as a greater threat by heterosexual men (see precarious manhood, Bosson et al., 2008) than being miscategorized as a foreigner by British men.

Overall, these findings concerning voice-related beliefs and disclosure desire contribute to a better understanding of what speakers think about their own voices and complement existing literature showing that listeners use voice

to socially categorize speakers (Dragojevic et al., 2021). This suggests that speakers are highly cognizant that their voices are not neutral, but are rather cues of their social group membership, even in the absence of explicit intergroup comparisons. This implies that while social categorization defines one of the first steps of intergroup communication, speakers' beliefs, expectations, and desires can influence interactions (see Gluszek & Dovidio, 2010b).

Third, we found that neither speakers' nationality nor sexual orientation influenced speakers' self- and meta-stereotypes concerning status/competence and solidarity/warmth, disconfirming H3a. British participants did not attribute nor expect others to attribute to them more status and solidarity than did foreign participants. This is in contrast with previous work that found foreign speakers to report more internalized negative stereotypes and attribute lower competence to themselves than do native speakers (Kinzler & DeJesus, 2013; Lambert et al., 1960). Instead, participants expected others to attribute to them more status and solidarity than they attributed to themselves, regardless of their nationality. This suggests that participants may expect a general positive bias toward them when status/competence and solidarity/warmth are concerned. However, this unexpected result may be explained by a methodological issue. Indeed, the measure concerning status/solidarity was assessed by asking participants to think about how their voices sounded without asking them to think about their nationality or native/non-native accent. However, we found gender typicality self- and meta-stereotyping to be consistent with previous work (Fasoli et al., 2018; Kachel et al., 2018). Indeed, in line with H3b, heterosexual men believed themselves to be more masculine and for others to perceive them as more masculine on the basis of how they sounded like than did sexual minority men. This shows once again that sexual minority men have internalized the stereotype of being and sounding less masculine.

Fourth, we did not find experiences of actual everyday discrimination to differ based on participants' group memberships. Overall, our sample did not report experiencing many instances of discrimination, making it difficult to detect differences across groups. Instead, we found that belonging to a sexual minority or foreign group elicited higher perceptions and expectations of being stigmatized. Indeed, foreign and sexual minority men were more likely than British and heterosexual men, respectively, to believe that they would be stigmatized because of their voices, in line with H4a. This extends the work by Gluszek and Dovidio (2010a), who showed that foreign-accented speakers reported more voice-based stigmatization than native-accented speakers, as well as more recent findings associating sounding gay with stigmatization (see Fasoli et al., 2021). Hence, although our groups of speakers had experienced a similar low incidence of actual discriminatory behaviors, being a foreign or sexual minority speaker elicited higher expectations of being judged differently or being rejected because of one's voice. This result is particularly important, as it not only extends research on intergroup communication but also more general research on stigmatization. On

the one hand, it shows that intergroup communication not only involves actual voice-based stigmatization enacted by listeners (see Dragojevic et al., 2021), but also speakers' own expectations of stigma. Stigma expectancies represent a social stressor that can have consequences for mental and physical health (see Frost, 2011, for a stigma model), as well as engagement in other behaviors like being vigilant or engaging in various coping strategies (see Fasoli et al., 2021).

Finally, we explored the role of intersecting social categories signaled by voice on our dependent variables (RQ 1, 2, and 3). Our data suggest that intersectionality did not play a major role in terms of voice-related beliefs, disclosure desire, stereotyping, or perceived stigmatization. We found that each social category elicited separate effects rather than triggering double stigmatization (see Remedios & Akhtar, 2019). The only effect that seemed to suggest intersectionality was that heterosexual foreigners reported more accent-based stigma consciousness than sexual minority foreigners, but no effect occurred when comparing British and foreign sexual minority men regarding sexual orientation voice-based stigma consciousness. Heterosexual men, whose heterosexuality indexes high status, may be conscious and afraid that their foreign accent could threaten their social status more than sexual minority foreigners, who already belong to a (sexual) minority group. Overall, these findings suggest a prominence effect, with one social category assuming perceptual dominance over another. In other words, speakers do not appear to think about their voices in intersecting terms, but rather as a cue of one category at a time. This may suggest an inhibitory process that has been observed in person perception research but has not been studied much from the targets' perspective (see Macrae et al., 1995). To the best of our knowledge, this is the first study to test intersectionality in the voice domain from the speakers' perspective. Thus, it provides useful evidence to fill this gap in the literature (see Abrams, 2018). Previous work showed that listeners' perceptions of speakers can be influenced by vocal cues signaling contrasting social categories (see Campbell-Kibler, 2007; Levon, 2014), at least in terms of stereotyping. Our data suggest a more complex picture when considering intersectionality from the speakers' perspective, which requires more research.

The fact that speakers believe their voices to convey information about their social group membership and that those belonging to foreign and sexual minority groups expect to be stigmatized because of their voices can have consequences for intergroup communication. Research has shown that group membership guides communication. Communication accommodation theory (CAT, Giles, 2016), initially developed around speech, suggests that individuals make shifts in their communication and speech in social encounters. Indeed, the desire to gain social approval and attempt to emphasize common group membership often leads minority group speakers to converge to the communication style (and speech) of majority group interlocutors. In some cases (e.g., sexual orientation), such convergence may reflect a desire to conceal one's minority status and, instead, be perceived as belonging to the majority group (see Daniele et al.,

2020; Mann, 2012). On the contrary, some speakers may engage in divergence that accentuates differences between interlocutors. This may be particularly the case for individuals belonging to high-status groups who, by emphasizing and making their distinct group membership salient, can maintain a positive image of themselves and define status dynamics in the exchange (see also Gallois et al., 2005). For instance, heterosexual individuals maintain a physical distance when interacting with someone perceived as gay (Knöfler & Imhof, 2007), with the aim of dissociating themselves from gay minority individuals, but also use conversational schemas that reinforce stereotyping about homosexuality (see Hajek & Giles, 2005). Therefore, speakers' self-perceptions and expectations are key in influencing these intergroup communication dynamics. Expecting to be stigmatized because of the way speakers sound may create boundaries to positive intergroup exchanges (see Gallois et al., 2005).

Limitations and Future Directions

This study has several limitations. First, our sample included foreign speakers who spoke different languages. Since different languages are perceived differently (Schoel et al., 2013) and some are associated with more status than others, future research should replicate these results by examining or comparing specific foreign languages. Second, we only included men in our sample, which did not allow us to consider how speakers' gender may interact with their nationality and sexual orientation. This is an important direction for future research. For instance, lesbian women expect to be less stigmatized because of their voices than gay men (Fasoli et al., 2021) and voice femininity in men and women affects perceptions of competence (Ko et al., 2009). Third, it would be important to integrate speakers' voice self-perceptions with listeners' perceptions and social categorization to understand the extent to which the two converge (see Kachel et al., 2020). This would provide a better understanding of the relative role speakers and listeners play in defining intergroup communication. Fourth, we assumed that British and heterosexual speakers would perceive themselves as high-status group members and foreigners and sexual minorities as low status. However, we did not explicitly assess participants' perceptions of their ingroup's status compared to relevant outgroups. Fifth, our study focused on understanding general perceptions and expectations of speakers in the absence of explicit intergroup comparisons. Accordingly, the effects observed herein may be even stronger, and those not observed may emerge, in contexts that involve explicit intergroup comparisons which may further increase the salience of people's social group memberships.

Conclusion

This research shows that it is important to consider speakers' perspective when analyzing communication. Speakers endorse beliefs about their voices

as cues of their group membership, which leads foreigner and sexual minority speakers to expect to be stigmatized because of how they sound; such beliefs and expectations can influence intergroup communication and relations.

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Conflict of Interest Disclosure

The Authors have no conflicts of interest to declare.

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Research Ethics Statement

This study has received ethical approval from the University of Surrey Ethics Committee (A1 UEC 2016 092 FHMS).

Authorship Details

Fabio Fasoli:research concept and design, collection and/or assembly of data, data analysis and interpretation, writing the article, critical revision of the article, final approval of the article.

Marko Dragojevic: research concept and design, writing the article, critical revision of the article, final approval of the article.

Tamara Rakić: research concept and design, critical revision of the article, final approval of the article.

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