Lesbian Pitch Level and Span: A Case Study of Cameron Esposito

Aimee Herubin

1Victoria University of Wellington, New Zealand
Research conducted at Lancaster University, United Kingdom
aimee.herubin@vuw.ac.nz

Abstract

This study investigates the pitch level and span of comedian Cameron Esposito in conversation with four groups of interlocutors: straight women, lesbian women, gay men, and straight men. While lesbian women have their own unique linguistic behaviors (e.g. [1]), speakers, regardless of sexual orientation, often accommodate to their interlocutor to signify a common social identity ([2], [3]). Research suggests that pitch level and span may be a source of phonetic variation between straight and lesbian women ([1], [4]). Furthermore, recent research shows that queer speakers can modulate stereotypically queer acoustic variants based on their interlocutor ([5]), in line with [6], who proposed that differences in speech between queer and straight speakers would only be found where community solidarity is desired. This research endeavors to answer the following questions: does Cameron Esposito alter her pitch level and span when speaking with interlocutors of different sexualities; does this vary between different discourse contexts?

Cameron Esposito was chosen for this study because she is a prominent lesbian in the entertainment industry and is actively involved with members of LGBTQ+ communities. She has hosted her own podcast since 2017 where she routinely uses professional audio recording equipment while interviewing guests from the LGBTQ+ community. Speech was collected from podcasts in which Esposito speaks on a variety of topics with a single interlocutor. Speech produced with the two queer groups of interlocutors, gay men and lesbian women, was collected from Esposito’s podcast Queery. Speech produced with the straight interlocutors, straight men and women, was collected from podcast episodes in which Esposito was a guest. A total of 414 speech tokens of 5-10s were coded by interactions structure and macro speech act, modified from [7]. Coding was done in Elan and exported to Praat. Minimum and maximum pitch measurements in Hertz were extracted every 10ms using a Praat script with a maximum pitch setting of 500Hz. Tokens that fell within the upper or lower 5% were removed to eliminate extreme values. Calculations of average pitch level in Hertz and span in semitones, as well as statistical analysis, were conducted in R.

A multiple linear regression analysis suggests significant results are present for pitch level and span with straight male interlocutors across discourse contexts, see Figure 1. Esposito both lowers her average pitch level and speaks with a narrower pitch span when in conversation with the straight male podcasters used in this study. There is no significant difference between queer interlocutors in pitch level or span. These results are discussed in the context of communication accommodation ([8]) and linguistic markers of sexual orientation (e.g. [9]).

Index Terms: pitch variation, lesbian language, gender and sexuality

1. Introduction

This study seeks to investigate the ability of lesbian comedian Cameron Esposito to modulate pitch level and span in conversation with different interlocutors across discourse contexts. Esposito was chosen for this analysis because a large portion of her career centers around her sexuality, which she discusses candidly on many platforms, and for her routine involvement with other members of the LGBTQ+ community.

2. Background

Studies suggest that there are perceivable phonological differences between the speech of lesbian and straight women. [10] found that listeners were able to judge women’s sexuality with greater than chance accuracy, with lesbian and bisexual women judged as sounding more LGB(TQ)+ than straight women. Additionally, a review of literature on perceptions of queer voices conducted by [11] determined that differences between queer and straight speakers are perceptible to listeners.

LGBTQ+ language is detectable to the untrained ear despite the straight categorization bias suggested by [12] where listeners assume a speaker is straight (see also [9]) – this is especially true for women (see [13]) – until their assumptions are disconfirmed by a recognizably gay trait, be it linguistic or otherwise. However, as [14] suggests, the primary stereotype of lesbian language is the “use of narrow pitch range and generally ‘flat’ intonation patterns” (pp. 240), which is an observation made from her personal discussions with lesbian speakers. At this time, the author is aware of only 4 studies focusing on prosodic features in English-speaking lesbians. [1] finds that the lesbian speakers in her study speak with lower pitch levels and had narrower pitch spans than the straight women. In her study, the speakers are paired to elicit a shared identity such as a lesbian woman with a lesbian interlocutor or a straight woman with a straight interlocutor. In her 2009 dissertation, [15] finds that lesbian speakers use significantly lower pitch levels than straight women. The speech data for her study was conducted via sociolinguistic interview in which the lesbian speakers discussed their views on women and homosexuality in Japan. [4] show that lesbian speakers use lower pitch levels and had narrower pitch spans than straight women. The authors collected speech data from a reading passage after obtaining information regarding age of coming out and the participants’ perceptions of their own speech, for example whether the lesbian women thought their speech differed from that of straight women. All three of these studies designed a situation in which the lesbian speakers would be more likely to perceive their identity as lesbians to be socially relevant, and therefore be more likely to display features of lesbian language.

Another study conducted by [6] measured the differences in pitch between groups of lesbian and straight women describing
the plot to the movie The Wizard of Oz. Though her analysis finds no significant differences between the groups, she suggests that lesbian women may only speak differently from straight women when community solidarity is desired. For example, when speaking with another lesbian, a lesbian woman may use a lower pitch level or narrower span as a way of accommodating her interlocutor and expressing her sexuality. Thus, pitch variation employed by lesbian women may be context dependent.

The above research supports the theory that there are certain speech patterns employed by queer speakers that set them apart from straight speakers. Further studies have found that these features are malleable. As suggested by [6], [16] and [8] find that the gay men in their studies alter the way they speak depending on context and interlocutor, sounding gayer – that is, using more linguistic features associated with gay men – in less formal situations and with people they are comfortable sharing their identities with. Lesbian women may change their speech and use more LGBTQ+ variants to show community solidarity with an interlocutor by communication accommodation ([17]). In conversation with other members of the LGBTQ+ community, a lesbian speaker may employ linguistic variants stereotypically associated with lesbians, such as speaking with a lower pitch level or a narrower pitch span.

In the present study, speech from Cameron Esposito was collected from podcast episodes in which she is paired with one of four types of interlocutors. Each interlocutor self-identified as either a straight woman, a lesbian woman, a gay man, or a straight man. This was to assess whether Esposito could change her speech in different contexts and whether this was potentially guided by communication accommodation to demonstrate a shared social identity with the other self-identified queer groups of speakers or either of the straight groups of speakers.

3. Methods

Speech data were collected from podcast episodes in which Esposito spoke with one of four types of interlocutors, either a gay man, a lesbian woman, a straight man, or a straight woman. In each episode, the speakers were meeting each other for the first time. This was to regulate the level of familiarity between the speakers, as Esposito may speak differently with close friends than with strangers. Episodes were also controlled for conversation structure – two speakers in an informal interview – and broad topic of conversation, for example career highlights, romantic relationships, or life goals. For the purpose of phonetic analysis, Esposito’s speech was coded using a modified version of the Discourse Context Analysis coding system developed by [7] to ensure the comparability of natural speech. Speech was coded in Elan ([18]) by Macro Speech Act, which was divided into two categories: Facts and Opinions. Facts were considered when Esposito said something she knew to be true, while Opinions were considered when Esposito shared her feelings and emotions associated with a particular topic. These categories were chosen to assess the differences between the expanded pitch span and higher pitch maximum used for emotionally involved topics covered by a speaker when giving their opinion ([19]). This is in contrast to the narrower pitch span and lower pitch maximums on topics with minimal emotional involvement, such as the topics covered by a speaker when stating a fact. Approximately 40 tokens of 5-10s each were analyzed from both categories for each of the four types of interlocutors. Pitch extraction was conducted in Praat ([20]) using a script to extract pitch every 10ms, with limitations set for 75Hz-500Hz.

Measurements that fell within the upper or lower 5% were removed to eliminate extreme values. Pitch level was calculated as the average of the pitch minimums and maximums for each token. Pitch span was calculated as the distance between the minimum and maximum pitch and converted to Semitones in R ([21]) with the formula used by [22]):

$$39.86314 \times \log_{10}(F_{\text{max}}/F_{\text{min}})$$

4. Results

Linear models assessed variation in pitch level and span by interlocutor and discourse context. There was a significant interaction between pitch level and straight male interlocutors (p<0.001). These results suggest that Esposito uses a lower pitch level when speaking with the straight male interlocutor than with the other three types of interlocutors. Furthermore, there was a significant interaction between pitch span and male interlocutors (p<0.01). This indicates that Esposito uses a narrower pitch span when speaking with male interlocutors. Additionally, the results of the regression indicated a significant relationship between pitch span and the expression of opinions (p<0.01), suggesting that Esposito utilizes a narrower pitch span when expressing opinions compared to when stating facts.

5. Discussion

Esposito speaks with a lower pitch level in conversation with the straight male interlocutor which could suggest that she accommodates to her straight male interlocutor, speaking with a lower pitch level than the measured levels with the groups of female and gay male interlocutors (Figure 1).

![Figure 1: Esposito’s pitch level with each interlocutor, across discourse context. She speaks with a lower pitch level when speaking with a straight man. Pitch level shown in Hertz.](image)

One way this can be explained is by accommodation to express solidarity, thus supporting the theory that homosexuals mimic the opposite sex (Rendall et al., 2008), in this case, a lesbian lowering her voice to sound more masculine. In conversation with male interlocutors, Esposito’s lowered pitch level could be seen as her expressing her homosexuality by adopting and emphasizing a male-coded speech trait, one that she would imitate from her male interlocutor. While masculinized speech is a stereotype of lesbian language, as well as other aspects such as dress and behavior, previous research suggests that queerspeak is more complex than simple imitation and likely has its own unique social meanings ([24]; [25]; [4]; and others).
Thus, I suggest a second explanation, that by speaking with a lower pitch level with male speakers, Esposito is engaging in non-accommodation. She uses a lower pitch to position herself outside of the gendered expectation of women having higher voices ([26]). By speaking with a lower pitch than she does with women and gay men, she could be emphasizing that she is, as a lesbian, rejecting traditional gender roles. It is important to note that I do not suggest that she speaks at the same pitch level as her straight male interlocutors, only that she speaks with a lower pitch level than with gay men and straight and lesbian women. Similarly, Esposito may be overcompensating by using a narrower pitch span when speaking with her male interlocutors (Figure 2).

This is further magnified by her use of a narrower pitch span when expressing opinions (Figure 3), which may be in an effort to distance herself from the perception of women as “shrill” and “overemotional” ([6]). If Esposito had used a wider pitch span when expressing her opinions, she may have thought it would be perceived by her audience as an overreaction or extreme sensitivity on the subject, especially when discussing her sexuality and its impact on her career. Note that in several episodes, Esposito theorizes that her sexuality has led her to be promoted less on major entertainment networks and has made it more difficult for her to succeed in comedy. This active use of a narrower pitch span could be a manifestation of Esposito’s effort to expand her career in the straight male-dominated comedy sphere by distancing herself from the negatively connotated speech styles that women are commonly associated with.

6. Conclusions
The results of this study suggest that Cameron Esposito can modify the way she speaks and that it is context dependent. She modulates her speech most with male interlocutors, using a lower pitch level and a narrower pitch span. I suggest that she is attempting to reject gender stereotypes that women speak in higher pitches with wider spans and that this is non-accommodation with her male interlocutors. This further supports that phonological variation associated with sexuality is malleable and can be modulated by a speaker to show community solidarity when it is socially relevant. For a lesbian woman, using a lower pitch level or narrower pitch range can be used to make her sexuality more visible by distancing herself from traditional gender norms. This may be further magnified by a lower level or narrower span when expressing opinions, as it rejects the use of a wider span for emotionally involved topics to avoid adhering to the stereotype that women are overemotional.

Another possible explanation for this variation is that podcasts are inherently performative. Both Esposito and her interlocutors are aware of their listening audiences and may be changing the way they speak for the entertainment of their fans. It is possible that in conversation outside of podcasts or other performative platforms, Esposito may use a wider pitch span when expressing opinions to indicate heightened emotional involvement, though she does not demonstrate this while podcasting.

7. Acknowledgements
The author would like to thank Claire Nance for her excellent supervision of my MA Dissertation, of which this study was part and to Lancaster University for supporting my research during my MA program. Thank you as well to the podcasters and Cameron Esposito for their creation of a valuable and dynamic resource to explore sociolinguistics.

8. References