Gender and its Perceptions of Certainty with Clause-Initial Falsetto

By: Emily Walters

Introduction
Numerous top stories from renowned sources like NPR, the New York Times, and the Washington Post have recently highlighted how women are consistently criticized for the way they speak: They are told they sound insecure, uncertain, and as though they are seeking affirmation. In her article “Language and Women's Place” (1975), Robin Lakoff generated a list of features she argues women use in their speech that cause this kind of criticism, hereafter called Lakoff's List: uptalk, hedging, tag questions, adjective specificity, and more. Women use all of these “women's language” features to avoid being too assertive, resulting in perceived uncertainty and insecurity. A feature on Lakoff's List is “uptalk,” which is rising intonation at the end of sentences, making even declaratives sound like questions. Something that isn't discussed in gendered language literature is the use of clause-initial falsettos and how it may be related to uptalk in terms of perceived uncertainty.

I'm interested in whether or not listeners perceive certainty with clause-initial falsetto differently between a male speaker and a female speaker. My study will focus on this feature of speech that has not been assessed in the realm of “women's speech,” but may have the same significance as uptalk.

Background
Lakoff's work was the first to label specific features of speech as “woman's language,” and it caused some stir afterwards. Her research did not include much quantitative data, but had many observations and speculations instead. However, her list has been the basis for much of the gendered language research that has been conducted since. Pamela Fishman studies some of these features of Lakoff's List in her paper “Interaction: The Work Women Do” (1978). Although she does not directly address women's falsetto usage or uptalk, Fishman discusses the way the women in her study used questions: Her data showed that men asked 59 questions over the course of the study and that women asked 150. She references Lakoff, saying that women asking questions indicates a level of insecurity in what they're saying. This stems from the psychological effects of being oppressed throughout history.

Fishman argues there is a simple, non-psychological explanation for why women ask more questions than men: Questions require a “worthy” response, and the absence of one is quite noticeable. This is a direct attempt to get men to interact. Uptalk serves as a question-forming intonation, which lends to the idea of trying to elicit worthy responses. I argue that falsetto does as well, leading to women being perceived as more uncertain and insecure.

Vanessa Shokeir analyzed uptalk in her paper "Evidence for the Stable Use of Uptalk in South Ontario English." She studied the use of uptalk in both men and women and found that women use uptalk more than men across all ages, while older people use uptalk just as much as younger people. Men rated falling intonation as having finality and certainty and the opposite for rising intonation, but women did not rate intonations this way. Shokeir found “that women, who uptalk more than men, are less likely to ascribe contours [i.e. rising/falling intonation] with their conventional meanings, such as finality and certainty for falling contours and the opposite for rising ones” (Shokeir 16). Women aren't rating voices in what would be considered socially expected in terms of certainty in women and men. It is interesting that in Shokeir's study, women were rating rising intonation unconventionally. This could mean, in terms of clause-initial falsetto and certainty in general, that men are using rising/falling intonation as a way to express certainty in terms of how they understand it. However, women don't consider certainty in the same way men do, and therefore do not rate the men in the expected way. Uptalk isn't what I'm looking at specifically, but it is similar in that it considers intonation and perceptions of certainty.

Uptalk is rising intonation at the end of sentences. I am looking at clause-initial falsetto: a higher intonation at the beginning of a sentence than the end. Falsetto is the rapid vibration of the vocal folds in which the fundamental frequency, or F0, ranges from 240 Hz to 634 Hz for men. It is “a phonatory setting in which the vocal folds are adducted tightly and stretched lengthwise, resulting in a high fundamental frequency” (Podesva 479).

Both Robert Podesva and Rasmus Nielsen looked at falsetto as a way to construct identity through speech. In his paper “Phonation Type as a Stylistic Variable: The Use of Falsetto in Constructing a Persona,” Podesva analyzes the speech of Heath, an openly gay medical student, in different settings and his use of falsetto in each. Podesva found that Heath's use of falsetto was the most frequent and high-pitched when with his friends at a barbeque. Podesva posits that Heath uses falsetto to construct his “diva” persona and build a gay identity. Podesva doesn't look at certainty in falsetto, but rather argues that speakers use falsetto to create their own identities. He argues that falsetto is used an expressive style, all lending to the persona the speaker wants to assume.

Nielsen concludes with the same sentiment in his paper “‘I Ain't Never Been Charged with Nothing!’: The Use of Falsetto Speech as a Linguistic Strategy of Indignation.” In this study, Nielsen analyzed the speech of “Michael,” a 14-year-old African American boy. Nielsen was studying falsetto use and its role in African American Vernacular English

References
(AAVE). He found that Michael used falsetto most extremely and frequently when in disagreement with the interviewer and expressing anger, frustration, or indignation.

Both Podesva and Nielsen found that falsetto was used in order to create an identity for the speaker—they wanted their interlocutor to make a specific judgment based on their speech. But do listeners perceive falsetto-speakers the way the speakers want to be perceived? Neither study analyzed the perceptions of this falsetto usage with either Heath's or Michael's interlocutors to see if their intended identities sounded genuine or certain of themselves—this is what my study is doing.

Methodology

I recorded one male and one female each saying four different sentences twice. The sentences were: “I like chocolate way too much,” “Red is the worst color ever,” “It helps if you read the prompt before writing,” and “I’ll probably go to the store later.” The recorded speakers said a sentence in their normal, unguided speech and then I asked them to say the sentence again using a clause-initial falsetto. I demonstrated clause-initial falsetto and they mimicked me to the best of their ability. This generated a total of 16 sentences: eight recorded sentences in normal speech (four male, four female) and eight recorded sentences with clause-initial falsetto (four male, four female). Survey participants filled out an online survey created with Qualtrics. Participants listened to one sentence, and then were asked to rate the speaker on certainty, education, and the femininity/masculinity of the voice on a 5-point scale: “most certain,” “somewhat certain,” “neither,” “somewhat uncertain,” and “most uncertain.” There was a space for participants to write their comments if they had anything else to say about the speaker. The survey was distributed as a link via Facebook. 30 surveys were completed in two days.

Results & Discussion

Using data from the 30 completed surveys, I first looked at the differences in certainty perception between the sentences with clause-initial falsetto and the sentences without clause-initial falsetto. I wanted to see if there was any effect on certainty from clause-initial falsetto alone—perhaps gender has nothing to do with it. To find an average “certainty score,” I gave each level of certainty a numerical value: Most certain is 1, somewhat certain is 2, and so on. These assignments can be seen in the graphs. I was not surprised to see that the sentences without clause-initial falsetto had the most votes for “most certain,” but the rest of the results surprised me. Shown in Figure 1, the “most certain” ranking was the only one where no falsetto was ranked higher than falsetto.

![Perceptions of Certainty Overall](image)

Figure 1

Participants ranked falsetto higher than no falsetto with “somewhat certain” and “neither.” It was unsurprising to me that the falsetto was considered more uncertain than the no falsetto. This is shown on the right hand side of Figure 1. For certainty overall, I found that the falsetto was given an average certainty score of 2.42 and no falsetto was given an average
certainty score of 2.03. Although falsetto was ranked as being only slightly more uncertain than no falsetto, I believe this is evidence that falsetto has some effect on perceptions of certainty, regardless of gender.

When speaking without the falsetto, the male voice was ranked lower than the female voice in terms of being “certain,” and higher than the female voice in terms of being “uncertain,” as shown in Figure 2. The male voice was given an average score of 2.22 for certainty, and the female voice was given a much more certain average score of 1.84. This is somewhat surprising, considering the literature indicating that female speakers are more insecure and more uncertain than male speakers. The female voice was ranked higher by almost 4 average votes for “certain,” but the rankings immediately average out for “somewhat certain.” The male voice is ranked higher for all subsequent categories, meaning it is considered more uncertain than the female voice.

![Perceptions of Certainty without Falsetto](image)

Figure 2

When speaking with the falsetto, the male voice was ranked lower than the female voice in terms of being “certain” and higher than the female voice in terms of being “uncertain,” as shown in Figure 3. The male voice was given an average certainty score of 2.58, and the female voice was given an average certainty score of 1.87. The female voice was ranked higher than the male voice for “certain” and “somewhat certain” by 1 vote to 1.5 votes. This changes after “neither:” the male voice was then ranked higher in being “somewhat certain” and “uncertain.”
These results are fascinating. Both clause-initial and the gender using it effect certainty. What is interesting is that based on this small pilot study, it seems as though men are penalized more than women for using this clause-initial falsetto than women are.

I found that my hypothesis of falsetto female voices being ranked as less certain was not upheld. The data shows that, when considering falsetto and no falsetto, 37.2% of participants ranked the male voice as being most certain, and 49.9% of participants ranked the female voice as being the most certain.

The normal, no falsetto male voice received an average of 11.25 votes (42.2%) for most certain and the female voice received an average of 15.5 votes (64.4%) for most certain. It becomes interesting when looking at the rankings of the falsetto voices: The falsetto male voice received an average of 7 votes (32.2%) for most certain. The falsetto female voice was ranked slightly higher, receiving an average of 8.75 votes (35.5%) for most certain. As shown in Figure 3, the perception of certainty was greatly influenced by gendered falsetto use; however, not in the way I was expecting it to. My hypothesis was that the female voice would be ranked as being more uncertain than the male voice both when using falsetto and when not using falsetto. Based on the results I have, the opposite appears to be true. Figure 4 shows the average certainty rankings for the gendered voices using both falsetto and no falsetto. The female voice is clearly ranked as being more certain overall, regardless of falsetto use.

![Perceptions of Certainty with Falsetto](image-url)
It is interesting that the male voice is considered so much more uncertain than the female voice in all aspects: falsetto use does not seem to matter. However, this is only a very small set of data. It would be fruitful to gather more recordings of voices and get a more comprehensive study with more results. Because there was only one male speaker and one female speaker, it was likely easy for participants to recognize that the same two voices were used for the whole study. Therefore, participants likely already had perceptions after the first few sentences of the study, and those perceptions were probably carried into the judgment of the other sentences. This may have skewed the data towards the female voice being more certain.

This is only a small representation of how society ranks speech and voice intonation. A more comprehensive study would add more voices to the recordings, and would get a much larger sample size to complete the survey. Then a more definitive conclusion could be reached.

Conclusion

Based on previous research on the subject, especially Lakoff’s List, I hypothesized that a female voice using clause-initial falsetto would be perceived as being more uncertain than a male voice using clause-initial falsetto. However, this small pilot study shows that the male voice is ranked as being more uncertain than the female voice, regardless of whether or not the male is using clause-initial falsetto. To come to a more definitive conclusion, a larger variety of male and female voices should be recorded, and more survey responses should be collected to solidify any perceptions that come with clause-initial falsetto. Overall, the largest difference in perception does not come from which gender using clause-initial falsetto, but simply from the speaker’s gender alone.


