

Women, but not men, perceive declarative rises (uptalk) more positively than falls

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Research on the production of uptalk has identified patterns of variability predicted by gender, age, social class and speech act type (Daly & Warren, 2001). Moreover, uptalk has been discussed in popular media for negative meanings it can carry (Davis, 2010). But perhaps surprisingly, little work has tested varying perceptions of uptalk, including the possibility that it carries negative meanings. Existing work has explored uptalk's effect on perceptions of speaker certainty, confidence, completion and deference (Guy & Vonwiller, 1984; Shokeir, 2008), dimensions which are not transparently interpretable as positive or negative. Uptalk production has also shown gendered patterns, with women producing more and larger rises (Ritchart & Arvaniti, 2013). In perceptual work, Shokeir (2008) showed men perceived falls as more final, confident and certain than women, but it is unclear whether women and men perceive rises and falls differently in terms of positivity.

This research seeks to fill these gaps through two studies testing relative positivity of perceptions of rises and falls between men and women. It was predicted that women would have more positive perceptions of rises given the findings that they produce rises more often. The results shed light on whether uptalk stigmatization is a gendered phenomenon.

Methodologically, these two studies used an indirect way of assessing potential stigma, modeled on Boroditsky et al. (2003). Participants listened to sound files and provided the first three adjectives that came to mind; then, independent raters coded those adjectives as negative/neutral/positive, giving each adjective a positivity score. Moreover, the final contour was isolated as a source of variation by synthetically converting a final rise into a linear fall from the last stressed syllable to 20% lower at the end (e.g. 200Hz to 160Hz). In addition, listeners were asked to rate the naturalness of the sound clip. All listeners (n=40 per study) and raters (n=20 per study) were recruited through Amazon Mechanical Turk.

Study 1 used a counterbalanced within-subjects design, where each subject heard two files with female speakers, one with a rise and one with a fall. A mixed model showed that rise/fall does not ($t=-.07$) predict positivity but listener gender ($t=3.61$) and their interaction ($t=-4.27$) do. Results show the rise/fall contrast did not consistently affect men's judgments, but women did perceive the rise more positively than the fall.

Study 2, another within-subjects design, used four new speech samples produced by two male and two female speakers. Listeners were also asked how masculine and feminine the male and female speakers sounded, respectively. A mixed model showed main effects of listener gender ($t=2.04$), naturalness ($t=2.26$), masculinity/femininity ($t=2.82$), and an interaction effect for listener gender and final contour ($t=-3.30$). Of particular interest is the interaction effect, which shows women, but not men, viewed rises more positively than falls.

These results show no evidence of overall stigmatization of uptalk. Instead, rises received more positive perceptions, but only among women. Moreover, the effect of perceived masculinity/femininity suggests gender normativity is implicated in the meaning of rising pitch.

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