

## Use and Perception of Creaky Voice Quality in US Women's Speech

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This study explores the contexts in which US women use creaky voice and what characteristics listeners assign to creaky voice. A variety of context-dependent reasons for US women's use of creaky voice have been posited: (i) to indicate emotional toughness (Chicanas, Mendoza-Denton 2011); (ii) to show authority (college women, Lefkowitz & Sicoli 2007); (iii) to show boredom (Laver 1980); (iv) to illustrate a change in rhetorical voice (Podezva 2013); and (v) to mark exchanges as intimate (Pennock-Speck 2005). In contrast, Yuasa (2010) argues that creaky voice use is not dependent on context. Perception of creaky voice quality is less understood. Burkhardt and Sendlmeier (2000) and Gobl and Ní Chasaide (2003) conducted perception studies with synthesized speech. They found that creaky voice is associated with boredom, a relaxed state, and high levels of intimacy. Yuasa (2010) conducted a perception study with two non-synthesized audio files, one in creaky voice and one in modal voice, from the same speaker. She found that the speaker was considered more educated, informal, genuine and non-aggressive when using creaky voice.

The current study has two parts: (i) an examination of voice quality used by women in a reality TV show, The Learning Channel's *Say Yes to the Dress*, and (ii) a modified matched guise task with audio from the show. This study is unique because (i) we use data that was not collected by a researcher, which reduces speaker monitoring of linguistic markers and (ii) we use non-synthesized audio from 15 "speakers" in the perception task. Confessional monologues were coded impressionistically for voice quality with 0.002% agreement. Disagreements were discarded. We found that women of varying ages (29 and younger; 30 and older), dress budgets (\$3,500 and under; \$3,501 and over), and regions (upper east coast, non-upper east coast) all use creaky voice quality. We also found that speakers tend to use creaky voice quality for emotionally charged topics; however, older women are more likely than younger women to use creaky voice for emotional topics. Also, younger women were more likely than older women to use creaky voice to communicate authority.

Twenty traditional-aged college students participated in the modified matched guise task, which included creaky and modal voice quality clips from speakers of different ages, budgets, regions, and ethnicities. Since the speakers did not say exactly the same string twice during the episode, the clips did not match for linguistic context. The participants associated creaky voice with the following attributes: casual, emotional, not confident, and not competitive. Interestingly, an ANOVA yielded an interaction between voice quality and budget (but not age or ethnicity) for the following attributes: emotional, genuine, educated, and competitive. Women with lower budgets who used creaky voice were judged as more educated, more genuine, more emotional, and less competitive than when they use modal voice or women with higher budgets in general. This is the first study to find an interaction between voice quality and a marker of socioeconomic status.

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