Vocal characteristics play a part in formulating the attractiveness of a possible mate. The effect of fundamental frequency, in particular, has been examined as a probable influence on attractiveness judgments, with some researchers suggesting a negative linear relationship between fundamental frequency and attractiveness for males (Feinberg et al. 2005, Riding et al. 2006, Saxton et al. 2006) and a positive linear relationship for females (Feinberg et al. 2008). This study examines the effect in changes of fundamental frequency on the responses of listeners of both genders to many questions pertaining to a speaker’s suitability as a mate to understand what aspects of attractiveness may change due to changes in fundamental frequency and whether both male and female listeners respond similarly to these queries.

Four male and four female speakers were recorded in casual interviews about a single topic. From these recordings three excerpts were taken from each speaker. The excerpts were digitally manipulated for fundamental frequency so that there were three guises for each speaker: lowered, unchanged, and raised. These excerpts were played in pseudo-random order to 92 listeners who were asked to answer a few open-ended questions about the speakers and to rate the speakers according to ten statements pertaining to characteristics of a future mate.

Mixed effect models fit to these responses show different results for male speakers than female speakers, but show similar trends across both male and female listeners. For female speakers, there is a positive correlation between higher guises and sexiness (p<.0001), good-looks (p<.0001), attractiveness to both sexes (p<.0001), and dateability (p<.0001). In addition, there is a positive correlation between speakers in the highest guise and their likelihood to have many friends (p<.0004), and there is a negative correlation between the highest guise and the likelihood the speaker would be faithful to her spouse (p<.05). In contrast, male speakers received the most positive evaluations in the middle guise. There is a positive correlation between the neutral guise and listeners’ evaluation of a male speaker’s sexiness (p<.0001), good-looks (p<.0001), attractiveness to both sexes (p<.0001), dateability (p<.001), and likelihood to have many friends (p<.0001). There is also a positive correlation between this middle guise and a perception of arrogance (p<.0001). Additionally, there is a positive correlation between the highest guise and a perception of intelligence for male speakers (p<.0001).

These results suggest that higher fundamental frequency causes a female voice to be perceived as more likely to have several traits that would make a person more attractive and that this correlation may be linear, while these positive traits are ascribed to male speakers with mid-range fundamental frequency with no linear negative correlation. However, there are certain traits that could be considered negative in a future mate that are also correlated with these guises, such as unfaithfulness for females and arrogance for males. A change in a single linguistic variable can have multi-faceted effects on the perception of listeners, and it is important to attempt to understand the complex social