Australian English (AusE) intonation is characterised by rises at the end of both questions and statements. This phenomenon has received much attention in sociolinguistic research where early studies found that high rising terminals (HRTs) occur more frequently in young female speakers [1], while later studies showed a shift in usage away from gender-based differences [2, 3]. Fletcher & Harrington [2] and Fletcher et al. [4] provided evidence that the phonetic realisation of most HRTs differs as a result of discourse function (question versus statement). In contrast, McGregor’s [3] study did not support this claim, but since she did not distinguish between L* and H* pitch accents, this may have obscured the effect of discourse function.

As part of the present study, we re-analysed McGregor’s data and divided HRT tokens according to L*/H* pitch accents. The results showed significant differences in the realised question- and statement-rises. Interestingly, male and female speakers differed in the realised HRTs: Male speakers produced significantly higher pitch values for questions (both in L* and H* accents) than for statements, but their boundary tones did not vary. Female speakers showed the opposite pattern, with significantly higher pitch in the boundary tones of but no difference in pitch accent.

We hypothesise that these may translate into gender-specific biases in the perception of HRTs that should manifest themselves in the ability to distinguish between questions and statements for pitch accent manipulations in the male speaker and for boundary manipulations in the female speaker. To test this, we carried out a perception experiment in which we shifted the pitch of a trisyllabic target word up or down in 2 semitone steps either at the pitch accent (Fig. 1) or at the boundary tone (Fig. 2) while keeping the carrier sentence neutral. In a reaction-timed forced-choice button-press experiment, listeners then had to decide whether the male and female utterances were questions/statements.

Results from 16 listeners (8 male, 8 female), analysed in a univariate ANOVA, show significant differences for the gender of the speakers in the recordings but no gender-based differences for the listeners. Specifically, the results for pitch accent manipulations showed that the female speaker’s sentences are more frequently associated with questions while the reverse is true for the male speaker (see Fig. 3). For boundary-tone manipulations, the top and the bottom two semitone steps did not show this gender based bias. However, the middle two pitch manipulations were more likely to be interpreted as questions for the female speaker and as statements for the male speaker (see Fig. 4).

The results suggest that statements and questions in Australian English are perceived differently, but only when the difference occurs at the boundary tone and when the rise is either very steep or very flat. More importantly, there appears to be a perceptual bias across listeners to perceive female HRTs as questions and male HRTs as statements.

These findings are important for L2 learners of AusE, especially if their mother tongue uses falls to mark statements.
References


