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Fundamental frequency role in Speech to Song illusion

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The aim of the study was to examine how the mean fundamental pitch (F0) of sounding vowels of spoken sentences is linked to the induction of the Speech-to-Song illusion. The Speech-to-Song (S2S) illusion, discovered by Diana Deutsch, occurs when a spoken sentence is perceived as sung after being repeated several times. We extracted mean F0 from the original recording of the phrase 'they sometimes behave so strangely' made by Deutsch, as well as from recordings of six people speaking this phrase during Deutsch's experiment. We examined the relationship between the mean F0 of phrases and their ability to induce the S2S illusion by conducting a listening test on 70 subjects. The general results of the experiment showed that after ten repetitions, sentences with higher F0 were more often recognized as singing rather than speaking. Similarly, applying the time shape of F0 of a phrase highly rated as resembling singing, to a phrase initially perceived as not resembling singing, caused a radical change in its perception towards singing.