Purpose: Prosody is the pattern of stress and intonation that occurs in language. Studies have shown that children are capable of producing some forms of prosody that differ between linguistic intonations and emotional changes in the voice. This study examined the prosodic development of typically developing children by evaluating their prosody perception and production capability.

Method: This study included typically developing 4-, 7-, and 11-year-old participants, who performed two tasks to compare two types of prosodic elements, pitch accents and boundary tones. Contrasts were specifically targeted on the second-to-last and last word of a sentence. The first task was a vocal imitation (IM) and the second task was a non-vocal repetition using the Prosodic Marionette (PM) synthesizer interface. We investigated the difference between prosody produced by vocal and nonvocal means and to what degree each was successful for each age group. Results from both tasks were examined using acoustic and statistical analyses. Transcriptions of IM and PM contrasts by a second analyzer and myself were compared using a Kaplan analysis.

Results: A General Linear Model was used to determine whether statistically significant differences exist in the acoustic measures per word in stimulus, accounting for three factors: age, method (IM or PM), and type of contrast (pitch accent placement or question versus statement). We found that subjects used different levels of intonation for the different contrasts and their effectiveness varied by age. This is illustrated by a statistically significant difference between method, contrast, and the interaction between contrast and age for intonation on the second-to-last and last word in a stimulus sentence.

Conclusions: Gathered from the results, it can be reasoned that linguistic prosody progressively improves with age. The oldest group of participants used both intonation types at near adult-like levels while the youngest group was less consistent. The manner in which younger children use the PM is inconclusive and requires further study.