Prosodic prominence production in the babbles of Cochlear Implanted (CI) and normally hearing (NH) infants: A perceptual experiment

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A recent acoustical study of prominence production has shown that infants with CI differentiate less between syllables in terms of fundamental frequency and intensity, even from babbling on [1]. The present study investigates if this acoustical difference between infants with CI and NH infants is also perceivable by listeners.

The stimuli used in this study were disyllabic babbles produced by Dutch-acquiring infants with CI (n=9) and NH infants (n=9). The stimuli (n=527) were presented one by one to adult judges (n=30) in a perceptual rating task. The raters had to indicate the prosodic differentiation between the two syllables by moving a slider on a visual analogue scale (VAS).

The first analysis on the entire dataset showed that the babbles of the CI infants were not perceived as having less differentiated prominence. A second analysis was conducted on the ratings at the extremes of the VAS. The results showed that NH babbles were more likely to be rated at the extremes and thus as having differentiated prominence. It is concluded that even in prelexical utterances there is a slight perceivable discrepancy between the prominence production of CI and NH infants, confirming previous acoustical findings [1].