Supplementary material 7

Proportion of accented versus unaccented words in Sec. VI D

We calculated whether ADS and IDS differed in the proportion of accented versus unaccented words. If it were the case that a significantly larger proportion of ADS words were accented than IDS, then the larger pitch range in the ADS BODY could be the result of more frequent pitch falls per unit time in ADS, rather than the greater length. Counter to this prediction, a significantly smaller proportion of ADS words were accented (29.58% of SUW, SD 1.72) than IDS words (31.60%, SD 2.80) [t (20) = 3.09***] on average.

The difference in the proportion of accented versus unaccented words comes from an asymmetrical distribution of content words and function words in ADS and ID. In IDS, 60.00% (SD 3.41) of all words (SUW) were content words while only 45.42% (SD 2.27) of ADS words were content words [t (20) = 16.42***]. Among content words, accented and unaccented words occur almost equally both in ADS and IDS: 51.15%, (SD 3.29) of all words (SUW) in ADS and 49.28% (SD 4.12) in IDS are accented [t (20) = -1.46, n.s.]. In contrast, only 11.60% (SD 1.50) of function words in ADS and 5.16% (SD 1.59) in IDS are accented [t (20) = -16.65***]. Since almost 90% of all function words are unaccented, and a significantly larger proportion of ADS words are function words, proportionally more ADS words were unaccented.

We also calculated the frequency of accents per unit time, namely, the number of accents per mora in an IP, and found that there was no significant difference between ADS (0.18, SD 0.02) and IDS (0.18, SD 0.09) [t (20) = 1.33, n.s.] These results show that the larger pitch range in the ADS BODY is not attributable to the more frequent occurrence of accented words in ADS.

Note: This is a supplemental material to the following paper. Please refer to it when referring to the information contained in this Supplemental Material.

Igarashi, Y., Nishikawa, K., Tanaka, K., & Mazuka, R. (2013).Phonological theory informs the analysis of intonational exaggeration in Japanese infant-directed speech. The Journal of Acoustical Society of America, 134(2), 1283-1294.