

## ACOUSTICS2008/2385

### Articulatory exaggerations during infant directed speech

Jordan Green<sup>a</sup>, Ignatius Nip<sup>b</sup>, Erin Wilson<sup>c</sup> and Antje Mefferd<sup>a</sup>

<sup>a</sup>University of Nebraska, 318O Barkley Center, Lincoln, NE 68583-0738, USA

<sup>b</sup>San Diego State University, 5500 Campanile Dr., San Diego, CA 92182-1518, USA

<sup>c</sup>Waisman Center, 1500 Highland Avenue, Madison, WI 53705-2280, USA

Although a growing body of literature suggests a principal role for observational learning in the acquisition of speech, the facial movements of infant directed speech (IDS) have rarely been studied. Identifying both the auditory and visual features of IDS is an essential step toward understanding the contribution of environmental stimulation to the development of speech and language. The current project uses 3-dimensional motion capture technology to describe how parents modify their articulatory movements when communicating with their infants. The following three experimental questions will be addressed: (1). Do parents exaggerate articulatory gestures during IDS?; (2). If so, are there individual differences among parents in the degree of IDS?; and (3) Is there a strong association between acoustic and movement characteristics of IDS? Mouth movements were recorded from twenty-four mothers while speaking to their infants and to an unfamiliar adult. Mouth shapes during four target vowels were measured for differences in maximum vertical separation, maximum horizontal spread, and duration across speaking conditions. The result indicated that the majority of mothers exaggerated their lip movements when speaking to their infants. Speculation is made regarding the potential role of articulatory exaggerations in early speech learning.