INTRODUCTION

Several studies have demonstrated that infants are sensitive to the extralinguistic characteristics of speech. One important finding is that infants prefer high pitched infant-directed speech, in contrast to adult-directed speech (Fernald, 1985, 1991). Recent research further suggests that what infants find more attractive in infant-directed speech is the exaggerated vocal expression of emotion that is not quite as marked in typical adult-directed speech (Singh, Morgan & Best, 2002; Trainor, Austin & Desjardins, 2000).

Fernald (1992) proposed that in the first year of life maternal intonation in the form of infant-directed speech acts as an attention elicitor for infants, as it modulates arousal and affecr and communicates emotional meaning. In addition, social referencing studies have suggested that vocal cues might be more informative to infants as they have a greater effect at regulating infant behavior than facial cues (Mumme, Fernald & Herrera, 1996; Vaish & Striano, 2004).

With the current studies we wanted to examine whether intonation can provide additional information for the mental states of others, such as their intentions. In the current study, we utilized a paradigm developed by Carpenter, Akhtar and Tomasello (1998) to investigate whether intonation is a salient cue to infants when inferring intentionality.

METHOD - STUDY 1

22 infants (M = 16 months, 15 days)
• Accidental actions = “Whoops”
• Intentional actions = “There!”
The end result followed about 1 second after the second action.
• During children’s responses end-result activated only when child had produced the intentional action regardless of whether the child had also reproduced an accidental action.
• During the children’s response end-result followed between 1 and 2 seconds of the children’s reproducing the intentional action.

METHOD - STUDY 2

41 infants (M = 16 months, 8 days)
• Greek words Ochi and Nato.
• Half the children heard Nato as intentional and Ochi as accidental and the other half Ochi as intentional and Nato as accidental.

DISCUSSION

The results of these two studies suggest that infants, regardless of their ability to understand the words for an intentional or accidental message, are able to infer intentions from intonation alone. The capability to infer intentions paired with the sensitivity to information carried by intonation allows toddlers to gain insight into the mental states of others. In theoretical models of mental state understanding (Tomasello, Carpenter, Call, Behne & Moll, 2005; Wellman, 1990), intonation is encompassed within the final stage of the process, the stage referred to as “reaction.” This stage includes both verbal and nonverbal evaluations for actions, e.g., expressions of satisfaction for when one achieves their goal and expressions of disappointment and frustration (among others) for when one fails to achieve their goal. Being able to evaluate and discriminate the intentional intonation allows children to predict and re-enact the intention behind the two similar actions.