

Infant Learning Project

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**We are on the web:
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Thank You

We thank our families for your participation. Without your support, our research would not be possible!

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Depressed Mothers May Affect Object Perception

By Sapna Sharma

A recent study by Bornstein and his colleagues (2012) found that infants with mothers who were depressed were less able to see the difference between new and familiar objects, whereas children with non-depressed mothers were better at discriminating between the new and familiar objects. A similar conclusion was made with facial expressions (Bornstein et al., 2011). Infants of clinically depressed mothers and infants of non-depressed mothers were shown pictures of a person smiling or making a neutral facial expression. The children of the clinically depressed mothers were unable to discriminate between the neutral and smiling faces, whereas the children with non-depressed mothers noticed the difference.

The difference between these groups of infants may be attributed to the interactions between the child and mother, as well as the home



environment and other social

experiences available to the child. These factors may affect

the child's cognitive, or thinking, abilities. Similarly, the

depression experienced by the mother may also affect her

own cognitive skills. The chemical imbalance underlying

depression may be transferred over to the baby, affecting the

baby's brain functioning. Infants of depressed mothers have

also been found to have higher stress hormones, which may

somehow contribute to their inability to differentiate between a

new and familiar object.

Read the full article:

Bornstein, M. H., Maash, C., Arterberry, M. E., Manian, N. (2012). Object perception in 5-month-old infants of clinically depressed and nondepressed mothers. *Infant Behavior and Development*, 35 (1), p. 150-157.

New Professor Studies Family Relationships & Emotional Development

Dr. Jackie Nelson, assistant professor, joined the School of Behavioral and Brain Sciences in Fall 2011.

Dr. Nelson graduated from the University of North Carolina at Greensboro. She is the director of the Family Research Lab, where she studies parent-child relationships, children's social-emotional development, and family stress. Currently, the Family Research Lab is conducting a study looking at mothers' discussions with their 5-, 6-, or 7-year-old children during times of conflict. This study will examine how the child responds to these discussions and how the relationship between the mother and child can affect this response. Families will receive a \$40 gift card for participating.

For more information, visit the Family Research Lab website: <http://bbs.utdallas.edu/familyresearchlab/> or email: familyresearchlab@gmail.com.



Some Late Talkers Develop Language Better Than Others

By Ashley DiFabio-Borthick

Children develop vocabulary skills at different rates. But when a child seems to be developing more slowly than others, it is not necessarily a determinate that the child will always be behind in language. Fernald & Marchman (2012) studied the relationships between typically developing children and late-talking children and compared their individual differences in language processing. **Typically developing children were defined as those who understood and spoke an average of 121 words by 18 months. Late-talkers were defined as children who understood and spoke an average of 20 words at the same age.**

Fernald and Marchman looked at 82 children (46 typical and 36 late-talkers). Parents completed the MB-CDI: Words and Gestures scale to assess the child's vocabulary, first when the infant was 18 months and then again at 21, 24 and 30 months. Children were also tested on how well they understood and processed language in an experimental task. This was done by the infant looking at two different pictures of objects while the name of one of the objects was heard, the child's eye movements were recorded and experimenters then recorded which picture the infant looked at, or whether the infant matched the object to the correct name. Results showed that typically developing children and late-talkers' performances were related to their vocabulary growth later on. That is, typically developing and "late-talking" children who showed higher ability to process and understand language at 18 months were more likely to have faster vocabulary growth when compared to typically developing children and late-talkers who had lower levels of language processing at 18 months. These findings show that early differences in language processing may have lasting effects on later learning that may be able to be seen in the language competence as the infant grows into adulthood (Fernald & Marchman 2012). The researchers are hopeful that by understanding how infants process language early on, we may be able to identify infants who are at risk for later learning difficulties versus late-talkers who eventually catch up to their peers.

Go to the source:

Fernald, A., & Marchman, V. A. (2012). Individual differences in lexical processing at 18 months predicts vocabulary growth in typically developing and late-talking toddlers. *Child Development*, 82(1), 203-222.

Summary of Lip Movement Exaggerations During IDS

By Natasha Ghosh

When talking to infants, the communicative nature of adults changes significantly by altering their language, speech and gesture. These changes are what we call infant-directed speech (IDS) and have been shown to have a number of positive effects for early childhood development such as affect control, attention, and infant-parent bonding. IDS differs from adult-directed speech (ADS) in a few ways. First it is characterized by an increase in pause frequency and duration, a slowing of rate, an increase in the mean and range of fundamental frequency (or mean pitch), and an increase in the acoustic distance between vowels.

Although developing children use visual and auditory input to develop their language skills, facial and lip movements of IDS have not been identified yet. In a recent study by Jordan Green and his colleagues (2010), 25 English-speaking mother-infant pairs were enrolled to observe early speech and motor development. All infants were 9-10 months of age because this is the age where mothers are more likely to be modeling articulations of sounds as the children are learning to produce sounds and recognize words. Furthermore, by the second half of the first year, infants are in the early stages of learning to understand words and produce vowels in babble.

In the study, facial movements were recorded during four speaking conditions: (1) storytelling to infant, (2) storytelling to adult, (3) story reading to infant, and (d) story reading to adult. Storytelling and reading were both included to provide different contexts of IDS. As the mothers were recorded, lip movements were measured both horizontally and vertically. The findings suggest that during IDS, mothers' mouth openings were significantly larger than ADS and that vertical lip opening for low vowels (i.e., /ae/ and /a/) was larger.

Increasing lip openings can be an effective strategy for directing the child's attention to the face. Research has already shown that infants prefer moving faces over static faces. The heightened attention could also enhance children's motivation to communicate and engage in meaningful social interaction. Further research is needed to observe these exaggerations and their effect on language and social development for infants.

Go to the article:

Green, J. R., Nip, I. S. B., Wilson, E. M., Mefferd, A. S., & Yunusova, Y. (2010). Lip movement exaggerations during infant-directed speech. *Journal of Speech Language and Hearing Research*, 53, 1529-1542.

Lab Students

Spring & Summer 2012

We would like to welcome four new students to the Infant Learning Project team. We appreciate their hard work and enthusiasm in the lab!

Spring Students:

- Sapna Sharma
- Stephanie Quimbaila
- Lindsey Collins, B.A.
- Kate Shepard, M.S., CCC-SLP

Summer Students:

- Ashley DiFabio-Borthick, B.S.
- Natasha Ghosh, B.A.
- Kate Shepard, M.S., CCC-SLP