

## **Exploring Who's Doing What? Infant Engagement and Vocabulary Development in Mozambique**

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An analysis of infant engagement in urban and rural Mozambique communities showed that *Coordinated Joint Attention* interactions at 1;1 had a significant positive relation with later vocabulary development in the urban area, and a surprising significant negative relation with later vocabulary in the rural area. In addition, *Persons* interactions at 1;1 showed significant positive correlations with later vocabulary in both sites. Our hypothesis was that these disparities occurred due to differences in infants' social networks based upon lifestyle differences. A deeper analysis of these non-industrial infants' social network structure, as well as the amounts of child-directed speech and gesture, provides further insight into infant engagement in these cultures, and outside of prototypical Western industrial cultures.

Data was collected longitudinally in urban and rural communities in Mozambique. We collected natural observation data of infants in their home environments, from 14 families in each site, when infants were 1;1, 1;6 and 2;1 years old. Vocabulary was measured through culturally adapted parental checklists of the MacArthur CDI. Video data was coded for infant engagement using an extension of Bakeman and Adamson's (1984) categorization. Social interactions were coded for different types of individual communication partners and groups. Child-directed speech and vocalizations were transcribed in the local languages, and translated into Portuguese and English. A range of nonverbal communicative gestures and behaviors produced during joint engagement were coded according to ten categories. Inter-rater agreement for all levels of analysis ranged from 0.62-0.90 by Cohen's kappa analysis.

Results of communication partner distributions follow different developmental patterns in each site. In the urban area, caregivers were continually the most frequent partners, significantly more than any other partner category. In the rural area, however, caregivers are only the most frequent partner at 1;1. Interactions with caregivers decreases over the second year of life, and are compensated for by a corresponding increase in interactions with siblings, who overtake caregivers by 2;1. Results of speech, gestures, and co-speech gestures, showed all three occurred significantly more in the urban area at each age. Correlation results with vocabulary measurements showed significant positive relations in the urban area between vocabulary size, and speech and co-speech gestures, but no significant relations in the rural area. Coding the intent of utterances as *physical*, *cognitive* or *social* showed urban families talked significantly more about social aspects, whereas rural families talked significantly more about physical activities.

We can extrapolate that the caregiving network of infants in the rural non-industrial site is more variable than that of their urban peers. Such variation between primary caregivers could imply that direct *Persons* interactions would be more beneficial for developing a bond between individuals than interacting with objects as well. Furthermore, much of the social interactions observed in the rural area were non-verbal interactions, containing little speech. Bearing this in mind, it can be understood why *Coordinated-JA* interactions would show negative correlations with rural infant

word learning if those interactions, which by definition require some gestural interaction, are accompanied by very little speech that infants can learn from.