# Developmental and postural changes in children's visual access to faces

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**Abstract**

The faces of other people are a critical information source for young children. During early development, children undergo significant postural and locomotor development, changing from lying and sitting infants to toddlers who walk independently. We used a head-mounted camera in conjunction with a face-detection system to explore the effects of these changes on children's visual access to their caregivers' faces during an in-lab play session. In a cross-sectional sample of 8–16 month old children, we found substantial changes in face accessibility based on age and posture. These changes may translate into changes in the accessibility of social information during language learning. We make our corpus available for reanalysis, and discuss strengths and limitations of the head-cam method more generally.

**Keywords:** social cognition; face-perception; infancy; locomotion; head-cameras

## Methods

### Participants

| Age group | N | % included | Mean age | Video length (min) | % female |
|---|---|---|---|---|---|
| 8 | 12 | 0.46 | 8.71 | 14.41 | 0.50 |
| 12 | 12 | 0.40 | 12.62 | 13.48 | 0.58 |
| 16 | 12 | 0.31 | 16.29 | 15.00 | 0.50 |

Table 1: Demographics by age group.

Our final sample consisted of 36 infants and children, distributed into each of three age groups: 8 months, 12 months, and 16 months. Participants were recruited from the surrounding community via state birth records. Participants had no documented disabilities and were reported to hear at least 80% English at home. Demographics and exclusion rates are given in Table 1.

In order to compile this final sample, we tested a substantially larger group of children, who were excluded for the following reasons: 20 for technical issues related to the headcam, 15 for failing to wear the headcam, 10 for fewer than 4 minutes of headcam footage, 5 for having multiple adults present, 5 for missing CDI data, 2 for missing scene camera footage, 1 for fussiness, and one excluded for sample symmetry. All inclusion decisions were made independent of the results of subsequent analyses. "'

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## References

Frank, M. C., Simmons, K., Yurovsky, D., & Pusiol, G. (2013). Developmental and postural changes in childrens visual access to faces. In *Proceedings of the 35th annual meeting of the cognitive science society* (pp. 454–459).