Iconic memory is the high capacity, short-lived initial store of visual information (Sperling, 1960). Iconic memory has never been studied in infants. ‘Partial report’ was the key to measuring iconic memory (Sperling, 1960).

Method

Participants: A total of 61 infants, 10 per set size, age 5.00-6.30. Their adults were 5 ‘Expert’ adults and 5 ‘Naive’ adults. Instructed infants were asked, ‘Which one changes color?’, and their preferred target was coded as correct. Participants had had previous experience in visual psychophysics experiments.

Procedure: Infants were presented with two identical sets of 2-10 items (depending on the set size). One set was a shape, the other a shape and color. The two sets were presented side by side. The same set was then presented, but with one shape and color changed. The infants’ gaze location was recorded.

Results

Infant iconic memory capacity matches adults’ (~5-6 items) preference for the object that changed color (Wilson et al., 2009). Our results show nearly identical (5-6 item) preference for infants and adults.

Conclusions

We applied a novel partial report test to compare infants’ iconic memory capacity to that of adults. Our results show a five item iconic memory capacity in 6-month-old infants, instructed adults and expert adults.

Rapid development

Recent MRI studies in adults attribute iconic memory to persistent activation in higher-order visual areas such as the occipito-temporal cortex, particularly the lateral occipital complex (LOC; Ruff, Kristjánsson, & Driver, 2007; Wong, Aldcroft, Large, Culham, & Vilis, 2009). Indeed, the area corresponding to LOC in adults has been shown to activate at 6.5 months of age (Wilson et al., 2009).

This offset itself acts as a post-cue. The Target changes color. The Decoy reappears unchanged.