

Learning at Home and Learning at the Lab: An Eyetracking Study

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Experience with and interest in pets influences memory, categorization, and learning in the laboratory (Kovack-Lesh, Horst, Oakes, 2007; Saffran, Pollak, Seibel, Shkolnik, 2006; Hurley & Oakes, 2006). Infants with pets at home exhibit more sophisticated learning about animal stimuli in the lab than infants who do not have pet experience. Although previous studies revealed *that* previous experience influences learning, they do not reveal *how* experiences outside the lab influence performance in the lab. In this study we used an eye-tracking procedure to ask whether 4-month-old infants with pets at home look differently at animal images in a laboratory setting. That is, did infants in the previous studies learn differently because past experience guides how they distribute their attention to the stimuli?

It has been suggested that heads and faces are the most important features of animals (Quinn, *in press*). Thus, a more sophisticated learner should focus more attention to the head and face regions than will a less sophisticated learner. In the present study, we asked whether the proportion of time infants' looked at this informative (but relatively small) part of the animals was influenced by their experience with cats and dogs outside the lab.

We tested 7 infants who have pets at home and 8 infants who do not (all 4 months of age) using an ASL pan/tilt eyetracker. We recorded infants' looking at highly variable images of cats and dogs (randomly selected from a pool of 48). Each infant saw up to 20 3-second trials (10 dogs and 10 cats), intermixed with presentations of human faces and vehicles. On each trial, we measured the duration of looking to the head and body

The proportion of infants' looking to each of the two regions is presented in the figure below. In general, infants with pets looked more at the heads compared to infants without pets (black bars). The two groups of infants looked approximately equally at the bodies (white bars). Thus, previous experience with pets appears to induce infants to direct a greater proportion of attention toward the most informative body region – the head.

Eyetracking technology allowed us to precisely measure where infants looked at the stimuli. These results are the first to suggest infants look differently at animal stimuli as a function of previous dog and/or cat experience. This is one of the first eyetracking studies to explore how experience-based knowledge influences short-term learning in the lab.

