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Learning Cross-Modal Contingencies through Attentional Cues

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Abstract: Infants must develop attentional mechanisms that support extraction of relevant information from a cluttered world. Though both social and non-social cues shift infants' attention, Wu and Kirkham (accepted) showed they produce qualitatively different learning effects in 4 and 8-month-old infants. While both types of cues led infants to attend preferentially to the relevant locations during training, cross-modal contingencies were learned only by older infants exposed to social cues. In this work, we analyzed the eye movement of these infants to shed light on the underlying attentional processes elicited by these cues. Using a dual-process model to link learning to looking (Yurovsky, Hidaka, Yu, & Smith, Cogsci Conference 2010), we characterized each infant's underlying learning function and used these functions to predict individual test results. We can thus understand the impact of social and non-social cues by examining how cue-elicited differences in exploratory behavior cascade into differences in learning.