There are several potential competing hypotheses concerning the relationship between attention and choices in young children. One possibility is that children’s choices are driven largely by novelty seeking, rather than reward seeking, and that this drives children’s elevated exploration levels. This hypothesis predicts that children will choose the salient option most often, regardless of whether it is congruent with or in competition with maximum reward value. A contrasting prediction is that children’s choices are not closely tied to attentional mechanisms, but instead their elevated exploration is driven by other processes—for example, an explicit goal-directed strategy to seek information, or even a simple behavioral drive for variability in action selection. Such hypotheses predict a small effect of saliency (if any) that should be similar across both conditions.

A third class of predictions involves an interaction between saliency and reward learning, wherein the effect of the salient option is different depending on whether it is congruent or competing with reward. For example, saliency may facilitate memory, leading to better learning of the best option in the Congruent condition and better avoidance of the worst option in the Competition condition. We propose that attentional mechanisms may be specifically tuned to facilitate learning in young children, which generally results in high levels of exploration in many cases. This leads to the prediction that exogenously capturing attention, as in the current experiment, may interfere with this process and disrupt systematic exploration.