**Introduction**

-Children distribute attention. This may be adaptive. In particular, it may subserve exploration.

-We recently found that children’s choices were highly exploratory, and systematic.

-But systematic exploration is thought to rely on PFC, which is undeveloped in young children.

-We hypothesize that this systematic exploration is instead tied to attentional mechanisms.

-Briefly overview of the current task and lay out several competing hypotheses:

1. Children’s choices are driven largely by novelty seeking, rather than reward seeking

2. Children’s exploration is not tied to attentional mechanisms

3. Saliency and reward interact. The effect of saliency will depend on condition.

Attentional mechanisms may be tuned to facilitate learning in children, resulting in high levels of exploration. So, exogenously capturing attention may interfere with this process, disrupting systematic exploration.

**Results**

-Choice proportions: Congruent was better than the other two conditions.

-Switch proportions in each condition

-Modeling results:

-Baseline was better fit much more often by the model that included systematic

exploration compared to the other two conditions.

-Best-fitting phi parameter further supports greater systematic exploration in the Baseline than the two saliency conditions.

**Discussion**

-Saliency can disrupt systematic exploration in children

-Additionally, children’s choices were not driven by simple novelty seeking

-suggesting a complex interaction of attention and choices in children

-Our results indicate that attentional mechanisms are a major determinant of exploratory behavior in young children, in contrast to top-down PFC mediated processes used by adults.

-So, despite immature PFC, distributed attention supports systematic exploration in young children, which may be critical to enable broad information gathering early in life.