Participants
A number of studies show that children with ASD are faster or more successful than typically developing (TD) controls (Plaisted et al., 1998; for a review, see Kaldy et al., 2013). We found this effect as early as 2.5 years of age (Kaldy et al., 2011).

Two competing explanations: Atypical Perception or Atypical Attention?
Enhanced perceptual discrimination: Both low-level (discrimination) and mid-level (pattern detection) perceptual processes are enhanced in people with ASD (e.g., Mottron et al., 2006).

Greater attentional engagement: ASD children perseverate longer on a task displaying more task-focused attention than TD children. Our recent pupil analyses support this explanation (Blaser et al., 2014).

Predictions
We expect that the introduction of a novel ‘oddball’ item—a lure to throw participants off-task—will be more distracting to TD toddlers.

Participants
Tobii T120 eye tracker measured eye movements.

Study 0
TD: 16 (6 F) 24 ± 3.7 18.2 - 29.7 103.5

Study 1
TD: 20 (12 F) 26.5 ± 3.7 18.6 - 33 106.2

ASD: 22 (3 F) 27.2 ± 5.4 16 - 34.8 63.4

Results: Study 0
The disjunctive oddball was not salient enough to draw toddlers’ eyes often (only in 15.4% of trials). This is possibly caused by the double inhibition of distractor features (Kim & Cave, 1995).

References

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