Understanding Visual Perception in ASD

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DESCRIPTION:

There is evidence that persons with ASD process visual information in a different manner than typically developing individuals. Although performance is sometimes worse, in some tasks, individuals with ASD actually show better performance. For example, individuals with ASD tend to do better on tasks that focus attention on small details and when the context is usually difficult to ignore. Measuring performance on these types of tasks, and where differences lie, can be a powerful tool in understanding cognitive capabilities in autism. This project involves the following three studies: (1) a computerized Perceptual Grouping task to understand the way in which children with ASD group parts of the visual field together to make sense of what they perceive; (2) a computerized Change Blindness and Attention task to assess how well children with ASD can detect changes in visual scenes; and (3) a computerized Eye Movements and Physiological Response task to understand the ways in which children with ASD scan visual information, and how this relates to physiological reactions. In particular, we wish to examine how scanning static (e.g., photos) and dynamic (e.g., videos) facial expressions (e.g., angry or happy faces) produce stress reactions. The overall goal of the proposed research is to understand some basic visual processing in ASD, as well as the interaction of these processes with social and emotional functioning.