

Development of Selective Sustained Attention: Conceptual and Measurement Issues

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Abstract. Selective sustained attention (SSA) is crucial for higher-order cognition. A number of theories suggest that early in life SSA is driven largely by exogenous factors (e.g., stimulus salience and novelty). With development, SSA becomes increasingly influenced by endogenous factors which are commonly described as core executive functions (i.e., inhibition and maintenance of goal representations). Despite the widespread consensus that the preschool years are the critical period in this transition, the contribution of exogenous and endogenous factors to SSA has been challenging to quantify, primarily due to the lack of appropriate experimental paradigms. Towards making progress on this issue, we developed the Track-It task - a measure of visual attention that can be used to dissociate exogenous and endogenous contributions to sustained attention in participants ranging from three years of age to adulthood. This task can measure either overt behavioral responses or patterns of eye movements to examine SSA. In this talk, we will discuss how these measures allow us to assess the differential contributions of endogenous and exogenous factors to SSA across development. As we will discuss, the Track-It task is sensitive to developmental as well as individual differences, and is predictive of performance on different types of learning tasks.