
The development of attentional systems and modulation of emotion across adolescence

Monique Ernst*^{†1}

¹NIMH, NIH – Bethesda, MD, United States

Abstract

Heuristic models of the neurobiology of adolescent behavior have emerged, promoting the central role of reward and motivation, coupled with cognitive immaturities in adolescent risk-taking proclivity. In contrast, fundamental processes such as attention or conditioning have not been considered as potential contributors to the unique characteristics of adolescent motivated behavior. Here, we will focus to two basic sets of processes, attention and conditioning, which are essential for adaptive behavior. Using the dual-attention model developed by Corbetta and Shulman (2002), which identifies a stimulus-driven attention and a goal-driven attention network, we propose a balance that favor stimulus-driven attention over goal-driven attention in youth. Regarding conditioning, we hypothesize stronger associations of environmental cues with appetitive stimuli and weaker aversive associations in youth relative to adults. An attention system geared to prioritize stimulus-driven attention, together with more powerful association-learning with appetitive incentives can provide an additional mechanism that can contribute to the impulsive, novelty-seeking and risk-taking behavior of the typical adolescent.

*Speaker

[†]Corresponding author: ernstm@mail.nih.gov