

**CHILDREN WITH HEIGHTENED APPROACH MOTIVATION AND HEDONIC CAPACITY ARE  
MORE RESPONSIVE TO BOTH GAIN AND LOSS FEEDBACK**

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## ABSTRACT

The relationship between Major Depressive Disorder (MDD) and reduced reward response is well documented in adult and adolescent MDD literatures. Conversely, adults and adolescents with MDD show enhanced responses to loss/negative stimuli. However, as reward-related behaviors and adaptive responses to negative feedback undergo dramatic changes across puberty, key questions remain regarding how altered gain and loss processing relates to depressive and anhedonic symptoms in pre-pubertal child populations. Twenty-four pre-pubertal children aged 7-10 years completed two signal detection tasks that assessed behavioral responsivity to candy gain and loss feedback, respectively. These tasks were based on Pizzagalli's probabilistic reward task where asymmetric feedback leads to greater response bias in more hedonic/non-depressed adults. We further modified the task to create a version where incorrect responses could result in loss feedback. Children and parents also completed individual difference questionnaires to assess child depressive symptomology, general affect, and approach motivation/hedonic capacity. Hierarchical regressions indicated a relationship between approach motivation/hedonic capacity and response bias in both gain and loss tasks, even when controlling for depressive and externalizing symptoms. No relationships between depressive symptoms and bias were observed. Results suggest that reduced approach motivation/hedonic capacity is associated with blunted responses to both gain and loss feedback in pre-pubertal children, independent of other depressive symptoms.

**Keywords:** Motivation, Development, Psychopathology (had to pick from their list)