Risky business: the relation between stress reactivity, inhibitory control and risk behavior

Taking risks is an essential part of life that can have both negative and positive consequences. We take risks in all aspects of our lives including romantic relationships, friendships, and job advancement, as well as when we gamble, drink alcohol and use (prescription) drugs. Because risk-taking can be so impactful, it is important to examine how we regulate our behavior to take adaptive as opposed to maladaptive risks. While there is a great deal of research on risk behaviors, most research focuses on our ability to inhibit certain unwanted behaviors, known as inhibitory control. Research also focuses on the impact of stress on risky decisions. Research on how variability in stress reactivity affects inhibitory control to control risky behavior is however less common. The goal of the present study is to identify the effect of individual differences in stress reactivity on the relation between inhibitory control and risk-taking behavior.

Inhibitory control is critical for adaptive goal pursuit. Inhibitory control acts to either suppress or permit a behavioral tendency. For example, when deciding whether or not to eat something unhealthy, inhibitory control works to either inhibit or permit the desire to eat the unhealthy food. However, inhibitory functioning does not always work effectively to suppress specific behaviors. In fact, inhibitory control dysfunction is associated with increased risk-taking behaviors as the individual is no longer able to suppress inappropriate behavioral tendencies. For example, adolescence is associated with increased risk, as the regions of the brain controlling inhibition are not developed enough to suppress inappropriate behaviors.

In addition to inhibitory control, stress can have a large effect on inhibitory control. Research has shown that individuals in high-stress situations made significantly more risky decisions than when in low-stress situations [2]. Individuals vary however in how they react to
stress. Stress reactivity (SR) is the way an individual responds to a stressful situation [3]. A high stress reactive person has a heightened response to stress as well as a low threshold for threat, while a low stress reactive person has a lower response to stress and a higher threshold for threat.

The present study aims to examine whether individual differences in stress reactivity affect the functioning of inhibitory control and its relation to risk-taking tendencies. Participants are 178 individuals from a longitudinal study conducted in the Levens Emotion and Cognition lab. Although this data has already been collected, the present combination of variables has not been analyzed and is a novel contribution. Each participant completed 2 experimental sessions. In Time 1, participants completed the Balloon Analogue Risk Task (BART), a computerized task measuring risk behavior. At Time 2, participants completed the Behavioral Inhibition Scale (BIS) and the Perceived Stress Reactivity Scale (PSRS). Based on previous research showing that stress can affect inhibitory functioning and decision-making, I hypothesize that differences in stress reactivity will affect the relation between stress, inhibitory control and risky behavior.
References

