

Student Research Symposium – Abstract

Psychological stress interacts with the immune system to increase inflammation, a physiological response involving the body's defense against pathogens, which can promote biological and behavioral changes related to depression. However, research is needed to better understand factors that contribute to the inflammation–depression pathway. One such factor is repetitive thinking, defined as recurrent and intrusive thoughts about negative, positive, or neutral content (e.g., rumination, defined by negative thoughts focused on potential loss or failure, or worry, defined by thoughts of future danger). Higher rumination is related to greater inflammatory activity under acute stress conditions; however, the relationship between worry and inflammatory reactivity to stress is less clear. Further, there is limited literature demonstrating how reflection, defined as neutral or positive repetitive thinking, is associated with inflammatory activity under stress. Additionally, while past findings have focused on how trait-based personality characteristics related to repetitive thinking are associated with inflammatory reactivity under stress, the research on state-based repetitive thinking and inflammatory reactivity following an acute stressor is less clear. **The purpose of the proposed study is to examine how state-based momentary changes in repetitive thinking under acute stress are related to inflammatory activity.** To investigate the proposed study, 150 undergraduate participants will be randomly assigned to complete a laboratory-based stress induction or control task. Participants in the stress induction group will complete the Trier Social Stress Test, and the control task will approximate the physical demands of the stress induction without prompting social-evaluative threat. State-based repetitive thinking will be collected with self-report measures obtained before, during, and after the stress/control task. We will obtain whole blood samples from participants before the stress/control task and 55 minutes after the initiation of the task. Blood will be processed for serum, which will then be assayed for the inflammatory proteins - interleukin (IL)-6, IL-8, IL-10, C-reactive protein, and tumor necrosis factor- α . Multiple regression analyses will be conducted to test our hypotheses **that (1) higher state-based repetitive negative thinking (i.e., rumination and worry) will increase following exposure to an acute stressor in comparison to those in the control task (2) higher state-based repetitive negative thinking will predict greater inflammatory reactivity under stress, and (3) higher state-based reflection will predict lower inflammatory reactivity under stress.** Findings from this study may prompt future research to examine how other types of stressors impact the relationship between repetitive thought and inflammation.