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Figure 1. Conditions under which flexibility modulates individuals' response to trauma..... 71

Abstract

Background. Previous research shows an inconsistent relationship between trauma exposure and posttraumatic stress disorder (PTSD) symptoms; while some individuals develop symptoms following trauma, others show resilience. This study proposes an innovative predictor and moderator of PTSD symptoms, namely, *flexibility*—that is, the ability to flexibly and efficiently alternate between different behavioral responses based on situational demands.

Method and Results. Five studies were conducted to address critical gaps on this subject.

Study 1 compared the predictive value of different types of flexibility on PTSD symptom development following trauma in college students. It is the first study to show a stronger predictive relationship between *cognitive flexibility*—the ability to recognize and implement possible responses to a situation— as compared to *regulatory flexibility*—the ability to modulate emotional experience across situations— and PTSD symptoms.

Study 2 tested the effect of the exposure to traumatic stimuli on cognitive flexibility performance in college students. The findings reveal reductions in a specific domain of cognitive flexibility for those who were exposed to traumatic versus neutral stimuli, providing a proof of concept to the assumed link between trauma exposure and impairments in cognitive flexibility.

Study 3 examined the associations between trauma, cognitive flexibility performance in neutral and traumatic situations, and PTSD symptoms. The study demonstrates a link between impaired cognitive flexibility in the context of traumatic content and PTSD symptoms in traumatized firefighters, while innovatively investigating cognitive flexibility in the context of neutral and traumatic content.

Study 4 explored the interactive effect of traumatic exposure and

impaired cognitive flexibility on the tendency to develop either depression or PTSD symptoms. It extends previous investigations by including depression as a secondary trauma-outcome in traumatized college students. The study reveals that distinct impairments of cognitive flexibility interact with trauma exposure to predict differences in symptom development (depression versus PTSD).

Study 5 examined whether impairments in cognitive flexibility moderate the relationship between early adversity and PTSD symptoms following additional adult trauma. The study highlights the interactive role of early adversity and impaired cognitive flexibility in predicting PTSD symptoms in firefighters with additional exposure to trauma in adulthood, generalizing the possible benefit of improved cognitive flexibility for individuals experiencing trauma at different life periods.

Significance. The results demonstrate that – across multiple contexts – impaired flexibility is a vulnerability factor for PTSD symptoms, accounting for differences in trauma responses. These remarkably consistent findings suggest that improving individuals' flexibility may promote their mental health following trauma.