Psychological adjustment to stress and trauma: hippocampal configuration learning, cognitive emotion regulation, and frontal brain asymmetry, as predictors of resilience

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Valorisation Addendum

Relevance

Many people are exposed to severe negative events in their life, and there are large individual differences in how people respond to and recover from such events. The present work was inspired by the question why some people appear to be resilient to aversive experiences, whereas others develop and maintain pathological symptoms afterwards. An underlying idea is that it may be possible to link resilience to measurable individual characteristics – which could eventually be used to make prognoses, monitor treatment outcomes, develop novel treatment interventions, and more generally, to better understand trauma-related psychopathology. As well, understanding the individual characteristics that are associated with resilience would enable us to predict psychological adjustment even before the occurrence of a traumatic event. This knowledge could thus be used to help prevent post-traumatic stress disorder (PTSD) in individuals with a high risk of trauma exposure (e.g., fire fighters, military personnel, police officers), potentially by developing individually tailored resilience trainings. With this in mind, the chapters of the current dissertation focused on various person characteristics as potential predictors of emotional adjustment, particularly following negative and stressful experiences. The characteristics that we studied can be grouped into factors relating to memory formation on the one hand (Chapters 2 and 3), and to the regulation of emotion, on the other (Chapters 4 – 6).
To whom are the research results of interest?

It is now well established that people differ in their response to stress and trauma, which leads to the question of what determines the course of psychological adjustment and resilience. This dissertation aimed to contribute to answering this question and may thus be of interest to a broader public of researchers and clinicians who strive for a better understanding of psychological adjustment to aversive experiences, factors that predict the development of post-traumatic stress disorder, and more generally, resilience to psychopathology. Primarily, the presented work targets members of the scientific community working in various fields including emotion, memory, and affective neuroscience. Secondarily, it may be of interest to clinicians and researchers who are working to bridge existing gaps between research and theory on the one hand, and clinical practice on the other.
This dissertation contributes to the search for factors that can predict psychological adjustment to trauma. This search is fuelled by the ambition to understand and help prevent the development of PTSD more effectively. Eventually, the insights gained by this line of research might be used to improve the diagnostic process and facilitate prognoses, monitor treatment outcomes, develop novel treatment interventions as well as resilience trainings, and more generally, to validate clinical theories of PTSD for a better understanding of trauma-related psychopathology. Notably, the development of PTSD following a traumatic experience may not be attributable to a single mechanism (see, e.g., Chapter 1). In line with this, the findings presented in the various chapters of this dissertation indicate that individual factors such as memory formation in the hippocampal area, cognitive emotion regulation, or asymmetric frontal brain activity may be involved in the psychological adjustment to aversive experiences, but taken individually, they may not serve as robust predictors of the entire clinical picture presented by PTSD patients. These insights should encourage and inform efforts to develop products, services, or activities, such as preventive or treatment interventions aiming to foster specific memory functions, train the use of emotion regulation strategies, or alter patterns of brain asymmetry (e.g., neurofeedback, electrical stimulation).