

Effects of Stress on Neuroanatomical Functionality

Blaise, Meredith (School: Bishop Feehan High School)

Stress, from chronic mild to acute severe conditions, has extreme negative consequences. The purpose of this study is to explore the psychosomatic and pathological consequences of stress on the brain by observing neurochemical and spatial patterns while testing cognitive processes, both social and functional, thereby exploring its impact and attempting to develop remedial and restorative therapy treatments. My research question is as follows: how does the neuropathology of stress affect neuroanatomical functionality and subsequent cognitive performance and behavior? The hypothesis stipulates that if stress is exerting significant chronic or acute detrimental feedback on the brain, then cognitive processes will be inhibited and negative implicit and explicit behaviors will be augmented. Following experimentation, it was concluded that the sustained frequencies of hi-beta waves contributed to a decrease cognitive performance and increased proclivity to make negative implicit associations.