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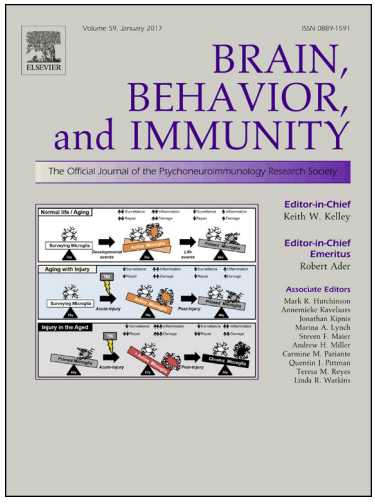

The multidimensionality of stress and its assessment

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The multidimensionality of stress and its assessment

Submitted as Brief Commentary to Brain, Behavior, and Immunity

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Stress is ubiquitous in our lives and leaves its mark on all aspects of everyday behavior. As stress can be deleterious for health (McEwen, 1998), a comprehensive understanding of its characteristics is crucial. The human stress response consists of an intricate network of closely interacting physiological systems which, if perturbed, may exert a wide range of effects on our mind and body. Despite decades of research, we cannot claim to have fully understood this network, its sub-systems, and the inter-relationships between them (Engert et al., 2018). With so many players involved, it is quite evident that the assessment of stress requires a multidimensional measurement approach, covering measures that are reflective of all of these systems (Nater et al., 2013). However, it may not even be sufficient to assess selected indicators of individual systems, as the systems are themselves complicated and complex. It matters, for instance, which autonomic parameters one might focus on: Electrodermal activity is indicative of a different underlying physiological process to alpha-amylase, since the sweat glands are innervated exclusively by the sympathetic nervous system (Boucsein, 1992) whereas alpha-amylase is a product of the relationship between sympathetic and parasympathetic control of the salivary glands (Nater and Rohleder, 2009). Clearly, focusing merely on one specific parameter would not do justice to the intricacy or complexity of the autonomic nervous system.