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Updating freeze: aligning animal and human research.

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Abstract

Freezing is widely used as the main outcome measure for fear in animal studies. Freezing is also getting attention more frequently in human stress research, as it is considered to play an important role in the development of psychopathology. Human models on defense behavior are largely based on animal models. Unfortunately, direct translations between animal and human studies are hampered by differences in definitions and methods. The present review therefore aims to clarify the conceptualization of freezing. Neurophysiological and neuroanatomical correlates are discussed and a translational model is proposed. We review the upcoming research on freezing in humans that aims to match animal studies by using physiological indicators of freezing (bradycardia and objective reduction in movement). Finally, we set the agenda for future research in order to optimize mutual animal-human translations and stimulate consistency and systematization in future empirical research on the freezing phenomenon.

KEYWORDS: Anxiety; Body sway; Freezing; Immobility; Orienting; Stabilometric platform; Stress

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