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Habituation of the cardiovascular stress response: conceptual basis, empirical findings and implications for psychosomatic processes

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Cardiovascular reactivity to stress is an established marker of lifetime disease risk, with both elevated and blunted reactions identified as predictive of ill-health. However, in the relevant studies, traditional laboratory protocols do not account for patterns of response adaptation across time, patterns that may be particularly important in the prediction of future health outcomes. In this lecture, the author outlines the evidence suggesting that habituation to repeated or prolonged stress represents an informative health-relevant aspect of the cardiovascular stress response. Across three decades, relevant studies have revealed that: (a) cardiovascular stress response habituation occurs for various types of stressor; (b) cardiovascular stress response habituation is most pronounced after initial stress responses have subsided (making initial stress responses potentially misleading if scrutinized in isolation); (c) cardiovascular stress response habituation emerges in women and men; and (d) cardiovascular stress response habituation is subject to individual differences. Such moderating factors fit within the biopsychosocial model, suggesting that CVR adaptation is etiologically relevant and potentially modifiable through intervention. As yet, there is no prospective evidence to link habituation directly to adverse health, despite strong reasonable and logical grounds to suspect such an association. The author suggests how existing studies may offer a means to fill this gap in prospective evidence, and outline four potential typologies of cardiovascular reactivity patterns – persistent reactors; persistent blunters; habituators; sensitizers – that fit within and extend the classic reactivity hypothesis. The ability to distinguish people whose cardiovascular stress responses do or do not habituate represents a critical advantage over previous study designs, and can be applied to datasets collected in past research. Data on cardiovascular response habituation simply tells us more about likely disease processes than cardiovascular responses on their own. As such, this phenomenon has the potential to resolve important uncertainties in our understanding of the psychosomatic aspects of cardiovascular disease.

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