

Suppression of Autonomic Nervous System Caused by Worry

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Pathological worry is a major element of generalized anxiety disorders. Borkovec proposed the negative reinforcement hypothesis to explain the maintenance pathological worry. Borkovec and Hu (1990) examined the inhibition of heart rate variability (HRV) by worry, and argued that this inhibitory effect reflected the suppression of the parasympathetic nervous system. However, a review of the literature indicated that worry also inhibited the activity of the sympathetic nervous system. The aim of this study is to test the suppressive effects of worry on the sympathetic and parasympathetic nervous systems. Fifty-two participants (28 male, 24 female) were randomly assigned to three groups (the worry group, the re-exposure group and the control group). All participants experienced four experimental stages including baseline, fearful movie, mental task and recovery stage. In the baseline and recovery stages, all of the participants were asked to sit peacefully. In the fearful

movie stage, all of the participants saw a fearful movie. In the mental task stage, members of the worry group were asked to read the worrying sentences, members of the re-exposure group were asked to recall aversive movie images, and the members of the control group were asked to sit peacefully. The data showed that the HRV and the sympathetic activity indices of the worry group were lower during the mental task stage than during the fearful movie stage. Moreover, the HRV and sympathetic activity indices of the members of the worry group were also lower than those of the re-exposure group during the mental task stage. The results revealed that HRV and sympathetic nervous activity were inhibited when the subjects adopted worry strategy following exposure to fearful stimulus.

Keywords: *worry, pathological worry, heart rate variability, autonomic nervous system*

