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ABSTRACT

Experiencing stress during training is a way to prepare professionals for real-life crises. With the help of feedback tools, professionals can train to recognize and overcome negative effects of stress on task performances. This paper reports two studies that empirically examined the effect of such a feedback system. The system, based on the COgnitive Performance and Error (COPE) model, provides its users with physiological, predicted performance and predicted error-chance feedback. The first experiment focussed on creating stressful scenarios and establishing the parameters for the predictive models for the feedback system. Participants (n = 9) performed fire-extinguishing tasks on a virtual ship. By altering time pressure, information uncertainty and consequences of performance, stress was induced. COPE variables were measured and models were established that predicted performance and the chances on specific errors. In the second experiment a new group of participants (n = 29) carried out the same tasks while receiving eight different combinations of the three feedback types in a counterbalanced order. Performance scores improved when feedback was provided during the task. The number of errors made did not decrease. The usability score for the