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Cardio respiratory activity in high-anxious vs. low-anxious professional music students before and during performance

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Questionnaire studies indicate that high-anxious musicians may suffer from hyperventilation symptoms before and/or during performance. Reported symptoms include amongst others shortness of breath, fast or deep breathing, dizziness and thumping heart. However, no study has yet tested if these self-reported symptoms reflect actual cardio respiratory changes. Disturbances in breathing patterns and hyperventilation may contribute to the often observed poorer performance of anxious musicians under stressful performance situations.
The main goal of this study is to determine if music performance anxiety is manifest physiologically in specific correlates of cardio respiratory activity. We studied 74 professional music students divided into two groups (i.e. high-anxious and low-anxious) based on their self-reported performance anxiety in three distinct situations: baseline, private performance (without audience), public performance (with audience). We measured a) breathing patterns, end-tidal carbon dioxide (EtCO2, a good non-invasive estimator for hyperventilation), ECG and b) self-perceived emotions and self-perceived physiological activation.

The poster will concentrate on the preliminary results of this study. The focus will be a) on differences between high-anxious and low-anxious musicians regarding breaths per minute and heart rate and b) on the response coherence between self-perceived palpitations and actual heart rate.

Mapping Safety Beliefs across the Aviation Industry

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The complexity and high level of safety in aviation make it challenging to devise further improvements. Efforts in the past 20 years have revealed limitations of the traditional safety paradigm to support these efforts. Attempts to revise this paradigm (from academia and industry) are ongoing but have met with limited success. Different authors describe the paradigm in terms of the visions held by individuals; Dekker called it the 'old view' and proposed an alternative 'new view', Hollnagel refers to the traditional paradigm as the 'closed system perspective' and suggests an 'open' perspective as a way forward. Although human factors has made great gains in terms of its recognition as a priority, there is little consensus on the basic principles about error, variability, responsibility, etc. This paper describes the preliminary results of a PhD endeavouring to map out the differences in these beliefs across the aviation industry. The study disseminates a questionnaire based on 5 theoretical concepts and 5 operational categories. We analyse for variations according to domain (ATC, flight operations, maintenance, or engineering), national culture, type of job ('sharp' or 'blunt' end), and variety of previous experiences (varied or not).