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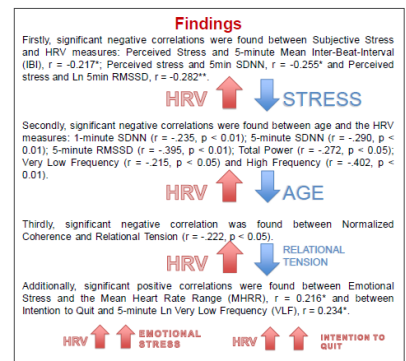


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Effects of workplace stress on Hong Kong employees' heart rate variability

Research on workplace stress measurements varied without much accuracy and effectiveness. The objective of this study was to introduce a new quantitative assessment tool emWave Pro Plus (Institute of HeartMath) and to compare Heart Rate Variability (HRV) results with the Personal and Organizational Quality Assessment (POQA) and the Perceived Stress Scale (PSS). Eighty-five (85) full-time employees who were working at least 40 hours per week in a large corporation participated in this study. Firstly, significant negative correlations were found between Subjective Stress and HRV measures: Perceived Stress and 5-minute Mean Inter-Beat-Interval (IBI), $r = -0.217^*$; Perceived stress and 5 min SDNN, $r = -0.255^*$ and Perceived stress and Ln 5 min RMSSD, $r = -0.282^{**}$. Secondly, significant negative correlations were found between age and the HRV measures: 1-minute SDNN ($r = -.235$, $p < 0.01$); 5-minute SDNN ($r = -.290$, $p < 0.01$); 5-minute RMSSD ($r = -.395$, $p < 0.01$); Total Power ($r = -.272$, $p < 0.05$); Very Low Frequency ($r = -.215$, $p < 0.05$) and High Frequency ($r = -.402$, $p < 0.01$). Thirdly, significant negative correlation was found between Normalized Coherence and Relational Tension ($r = -0.222$, $p < 0.05$). Additionally, significant positive correlations were found between Emotional Stress and the Mean Heart Rate Range (MHRR), $r = 0.216^*$ and between Intention to Quit and 5-minute Ln Very Low Frequency (VLF), $r = 0.234^*$. The research shows promising results and future studies should continue to tap into HRV as an objective measure of mental health and workplace stress.



References

- Low, A. (2018). *Effects of Workplace Stress on Hong Kong Employees' Heart Rate Variability* (Doctoral thesis, California Southern University, 2018) (pp. 1-171). ProQuest Dissertation.
- Low, A. (2018, Spring). Emerging Dynamics in Workplace Stress. *Esteem Psychology Magazine*, (5), 41-41.
- Mauss D, Jarczok M N and Fischer J E (2016) The streamlined allostatic load index: A replication of study results. *The International Journal on the Biology of Stress*: 1-6.
- Mauss D, Li J, Schmidt B, Angerer P and Jarczok M N (2015) Measuring allostatic load in the workforce: A systematic review. *Industrial Health*; 53: 5-20.
- McCraty R (2017) New Frontiers in Heart Rate Variability and Social Coherence Research: Techniques, Technologies, and Implications for Improving Group Dynamics and Outcomes. *Frontiers in Public Health*; 5(267): 1-13.

Biography

Adrian Low is a Chartered Psychologist and has completed his Doctoral degree from California Southern University, USA. He is the President of Hong Kong Association of Psychology as well as the Research Director of Aditgo Ltd, a learning and research center in Hong Kong. His dissertation was of a workplace stress related nature, which was the first research that utilized biofeedback devices in a large corporation situated in Hong Kong China.

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