

Project objectives

This project will extend **our research on video gaming** (Behnke, Kaczmarek, Kosakowski, 2017; Kaczmarek, Misiak, Behnke, Dziekan, Guzik, 2017; Kaczmarek, Drażkowski, 2015). The aim of the project is to develop a **new psychophysiological model** describing phenomena related to **emotions, motivation and behavior** during **e-sports**, which has received relatively little attention in scientific literature (e.g., Ravaja et al 2008). E-sport is a special type of sport because players are in a state of **physiological arousal** that mobilizes energy reserves necessary for action (observed in specific cardiovascular reactions) **without the possibility of targeted physical activity**. Theoretical background were based on models describing **emotions** (Gable, & Harmon-Jones, 2010), and **cognitive and physiological responses** (Blascovich, 2008). In the study, we will test the model of emotional factors that **optimize e-sport performance**, including mediating factors - assessment of situational demands and individual resources, and physiological responses (Blascovich, 2008). In addition, based on our initial research, we will introduce for the very first time into the model the leg's motor activity, in order to extend the range of **behavioral methods of emotion regulation**. **The preliminary studies** provided initial evidence of the relevance of the developed model. The prepared project will bring results relevant to different disciplines such as sports psychology, health psychology, emotional and motivational psychology, and social psychophysiology.

Applied research methodology

The study will involve **225** adult players with at least 6 months of experience in Counter Strike: Global Offensive. As part of the recruitment process, participants will learn about the opportunity to participate in a research within **e-sports tournament in the Counter-Strike: Global Offensive**, where the main prize will be **1000 PLN**. During the study players will play three times (3x10 minutes). For the first time in training purposes, the second time and the third time in competition in e-sports tournament. During the study we will record the continuous non-invasive cardiovascular parameters, affective changes (e.g., facial expression analysis), behavioural changes (leg's motor activity) and multi-point subjective experience. Participants will receive cinema ticket vouchers for their participation. Once the project will be completed, the winners of the tournament will receive vouchers to the electronics stores.

Rationale for research topic

The project will provide strong **causal evidences** for the link between cognitive evaluation, emotional responses, physiological responses, and the successful e-sport performance. Innovative contributions to the current state of art are primarily as follows: 1) **advancement in theory**: testing a novel integrated affective-motivational psychophysiological model of challenge and threat in e-sports. We will merge two existing theoretical propositions: the biopsychosocial model of challenge and threat and motivational dimensional model of affect into one model and test it the motivated performance context. 2) **advancement in methods**: introducing legs motor activity into the emotion-regulation literature to expand the range of behavioural methods of emotional regulation. If we replicate our preliminary findings, this study will make an important contribution to the development of psychophysiology and behaviour research methods.; 3) **Pioneering new research field**: This will be one of few studies that focused on psychophysiological and behavioural aspects of e-sports and (to the best of our knowledge), a study with the most comprehensive study in terms of research methods. Moreover, this will be the first study with a tournament set in laboratory settings. This is a demanding logistic operation (that we have experience in). Yet it provides a unique ecological validity offset.

The results of the research will also be useful for sports psychologists, for example in establishing effective pre-performance strategies and will contribute to the discussion on the role of emotional role in social life. In addition, the results will be published in an international scientific journal of the JCR (e.g., *Emotion*) and at the international conference.