MINDFULNESS & HRV BIOFEEDBACK: POTENTIAL AS A TREATMENT FOR SOCIAL MEDIA/SMARTPHONE ADDICTION

With about 3 billion people worldwide using smartphones, social scientists are concerned about anxiety, depression, disruptions at work & family and decrease in inter-personal skills. A form of “internet addiction” called Internet Gaming Disorder is now included in ICD-11 and DSM-5. Social media addiction or smartphone use disorder (SUD) is associated with loneliness, decreased emotional and thought regulation, social withdrawal, escapism from real life into an online world and increased correlation between time spent online and BMI. The purpose of this poster abstract is to review published literature to answer the question whether mindfulness and breath/HRV biofeedback can play a role in treating SUD? Our research question was prompted by increased general awareness of social media addiction as a pressing issue in today’s world and studies reporting that HRV reduces during activities such as internet gaming addiction.

A search was conducted using PubMed database and MeSH terms which include: social media, smartphone, addiction, mindfulness, biofeedback and HRV. Using the MeSH terms provided above, 25 articles were found using the PubMed database. These articles were published between 2010 and 2020 and the full text was accessible via Basty University Library. Of the 25 articles, 15 were excluded based on relevance, language, and full text accessibility. The references for the 10 articles that were included are detailed below.

HRV biofeedback can be used as a treatment for social media addiction. According to Porges’ Polyvagal Theory and Neurocircuitry Integration Perspective, HRV is a reflection of self-regulation capacity and can be used as a biomarker of an individual’s ability to regulate behavior, cognition and emotions. A meta-analysis of 123 studies found a significant but small effect showing that higher HRV is correlated with increased top-down self-regulation. Additionally, studies have observed those with Internet Gaming Disorder demonstrate suppressed HF-HRV while playing online games. Social scientists have postulated that social media addiction is an “urge driven disorder with a strong compulsive component.” In other words, those who use social media compulsively are unable to regulate their emotions, behavior and time spent on smart devices displaying difficulty exerting executive control. Furthermore, it appears that popular social media apps, messenger platforms and online games are actually developed with the purpose of prolonging usage and thereby increasing the addictive nature of these applications. Social media addiction is negatively correlated with mindfulness and those addicted are likely to choose emotion focused coping rather than problem focused coping. The solution to this problem lies in discovering how to unlock patterns of behavior that have been reinforced over years.

Using reward-based learning to decouple the link between craving and smoking by using an informal, in the moment mindfulness practice. According to Jud Brewer, for a “behavior to be changed,” it must be identified and changed, its reward value must be greater than the behavior it is replacing. If individuals can learn to appreciate the paucity of emotional reward from addictive behavior, then there is a chance to substitute it with the more rewarding mindfulness.

HRV biofeedback can be as effective as an adjunct treatment for SUD owing to its ability for increasing emotional self-regulation and impulse control. HRV biofeedback is safe to use, easy accessible, has no side effects, is free/economical and can be deployed for acute or chronic use. Additionally, it is not contraindicated with any other potential interventions for addiction to social media.

References