The Efficacy of Casual Video Games in Reducing Symptoms of Depression and Anxiety: Implications for Biofeedback Practitioners

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Introduction
Electroencephalogram (EEG) research has found a relationship between frontal alpha asymmetry and depression though results have been conflicting.\textsuperscript{1-3} There is limited research on how casual videogames (CVG) affect alpha activity in individuals with Major Depressive Disorder (MDD) and other mood disorders.

Problem Statement
There is limited research on how biofeedback integrated causal videogames (CVG) affect alpha production for individuals who are clinically depressed.

Casual Video Games
Games included: Bejeweled, Peggle, Bookworm Adventure and Plants Vs Zombies

Methods
Randomized Controlled Studies
Three-part, multi-phased:
Phase 1) General population randomized control across 3 CVG options for effects on mood and stress
Phase 2) Clinical depression & anxiety. Randomized control across 3 CVG options
Phase 3) Tested the influence of a regimen of prescribed CVG play on an individual’s alpha activity and mood, anxiety and depressive symptoms

Results/Discussion
CVG play across all three studies showed positive impact on each of the studies’ variables. Self-report assessments positively correlated with findings on psychophysiological measures. This supports Davidson’s findings (1995), when alpha activity improves so does depression symptoms. There is limited research on how biofeedback integrated CVG affect alpha production for individuals who are clinically depressed.

Implications
Participants self-reported decreases in symptoms related to mood, stress, depression and anxiety. Demonstrating the benefits of CVGs.