2017

Attentional Bias Measured in a Modified Addiction Stroop Task for Problem Gamers

Samantha Marie Rundle
Western University, srundle@uwo.ca

Riley E. Hinson Ph.D.
Western University, Psychology

Follow this and additional works at: https://ir.lib.uwo.ca/psychd_posters

Part of the Applied Behavior Analysis Commons

Citation of this paper:
https://ir.lib.uwo.ca/psychd_posters/20
Introduction:
- Internet Gaming Disorder (IGD) is being considered as a possible new disorder for the Diagnostic Statistics Manual (DSM) due to the similarities the behaviour possesses with Problematic Gambling Disorder and the other Substance Use Disorders classified in the DSM-V.
- 4.7% of males aged 14 to 18 are at-risk for developing IGD and 1.7% of this population are already considered dependent on video games.
- The current study examined variables which may be related to the level of attentional bias exhibited by participants as measured in a modified Addiction Stroop task.

Dependent Variable:
- Attentional Bias
  - An individual’s unconscious attention to specific stimuli.

Independent Variables:
- Level of Involvement with Online Gaming (POGQ)
  - Duration and severity of online gaming habits.
- Impulsivity
  - Behaving without adequate thought.
- Inhibition/Activation Systems
  - Four Subscales:
    1. BIS
    2. Drive
    3. Fun Seeking
    4. Reward Responsiveness
- Sensation Seeking
  - Search for experiences which are novel and risky.

Hypotheses:
H1: Individuals with a greater level of involvement in Internet games will portray significantly longer reaction times to target words in comparison to matched control words reflecting a bias in attending to the irrelevant semantic content of target words while not attending to the relevant color of the word.

H2: Individuals with higher levels of involvement in Internet games will score higher on the BIS, BIS/BAS, and SSS scales.

Participants and Procedure:
- Sample: 124 UWO students
- Recruitment: SONA Psychology Research Participation Pool

Materials:
- Part 1: Stroop Task
  - 20 target words and 20 matched control words.
  - Each word was displayed in four colours: red, blue, green, and yellow.
  - 160 word trials were randomized per each participant.

Measure:
- Problem Online Gaming Questionnaire (POGQ)
- Barratt Impulsiveness Scale (BIS)
- Behavioural Inhibition/Activation Systems (BIS/BAS)
- Sensation Seeking Scale (SSS)

Sample Item:
- Problem Online Gaming Questionnaire (POGQ): How often do you play longer than originally planned?
- Barratt Impulsiveness Scale (BIS): I plan tasks carefully.
- Behavioural Inhibition/Activation Systems (BIS/BAS): I worry about making mistakes.
- Sensation Seeking Scale (SSS): A. The worst sin is to be rude, B. The worst sin is to be a bore.

Results:
- To measure attentional bias, reaction times to control words were subtracted from reaction time to target words.
- A positive value would indicate that participants, on average, reacted slower while naming colors of target words in comparison to matched control words.
- Attentional bias was significantly correlated with POGQ; r = .158, n = 123, p < .05 reflecting that the higher a participant’s POGQ score, the longer it took them to identify the color of target words compared to control words.
- POGQ scores were significantly correlated with the BIS and the Inhibition BIS/BAS factor; r = .358, n = 115, p < .01; r = .291, n = 122, p < .01 (respectively).

Discussion:
- H1 supported: Participants with higher levels of involvement in Internet games showed significantly longer reaction times to target words in comparison to matched control words.
- This finding is consistent with past research on substance use and gambling disorders (Field & Cox, 2008).
- H2 partially supported: Participants with higher levels of involvement in Internet gaming showed higher levels of BIS and the BIS/BIS/BAS; they did not show higher levels on the three other factors in BIS/BAS or SSS.
- This finding is inconsistent with past research on substance use disorders (Khosravani, Alvani, & Seidisarouei, 2016).

Limitations:
- There is still no operational definition stating what constitutes an high-involvement Internet gamer.
- Not all gaming is conducted “online” and therefore these results may not generalize to those who play offline Internet games.

Future Research:
- Recruit participants who are receiving treatment for their excessive gaming habits (Addiction Services of Thames Valley).
- Future research should encompass both online and offline games and compare the addictive qualities between individuals who only play online, play both online and offline, and only play offline.

References: