

# Investigating Mind-Wandering, Dark Flow, and Affect During Multiline and Single-line Slot Machine Play

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## Purpose

Gamblers with mindfulness problems in everyday life report entering a pleasant state we call dark flow [1]. In multiline games, players lose just as much as in single-line games, but they experience more celebratory feedback which can create a “smoother” experience for the player. We contrasted mind-wandering rates, dark flow, and affect while playing multiline and single-line slots to see if the greater celebratory event frequency in the multiline game reined in attention and induced greater dark flow.

## Results and Conclusion

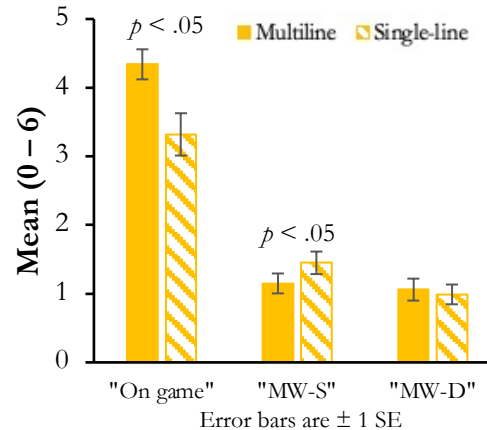
During the multiline game, “on-game” reports were significantly higher and spontaneous mind-wandering was significantly lower (Figure 1). Multiline slots significantly induced more dark flow than single-line slots. The greater mind wandering in single line games may have led to the significantly greater negative affect (Figure 2).

Thus, the more frequent reinforcement in the multiline game curtailed mind-wandering and induced more dark flow. This complex relationship between mindfulness problems in everyday life and dark flow afforded by the multiline slot machine may further help explain the motivations of those who gamble to escape.

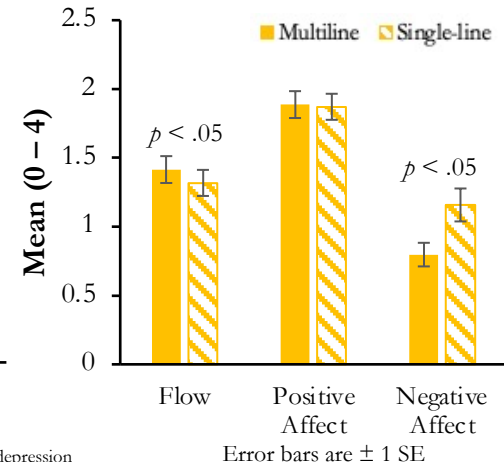
## Method

Participants (N = 110) were recruited from the lobby of a casino. They played a multiline and a single-line game on our slot machine simulator. Slots play was occasionally interrupted with thought probes to assess whether their thoughts were on the game or if they were spontaneously or deliberately mind-wandering. After playing each game, dark flow and affect were retrospectively assessed.

**Figure 1**  
Thought Probe Responses



**Figure 2**  
Flow and Affect Ratings



[1] Dixon, M. J., Gutierrez, J., Stange, M., Larche, C. J., Graydon, C., Vintan, S., & Kruger, T. B. (2019). Mindfulness problems and depression symptoms in everyday life predict dark flow during slots play: Implications for gambling as a form of escape. *Psychology of Addictive Behaviors*, 33(1), 81.