

# The WAGER, Vol. 17(8) - Silencing the siren's call: Can pop-up messages help slot machine players stick to their pre-set spending limits?

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Previous research suggests that many people who seek treatment for gambling problems report developing their problems while playing slot machines. Therefore, researchers have been seeking ways to make slot machine gambling safer, including encouraging players to set and keep a firm limit on expenditure. While many players understand the importance of preset limits, many have trouble adhering to them (Wohl, Christie, Matheson, & Anisman, 2010). This may be due a psychological phenomenon known as [dissociation](#), where a person is so engaged in an activity that they lose track of their surroundings. Today's WAGER reviews a study that examines whether pop-up messages help people follow their preset monetary limits, and whether they do so by interrupting dissociation (Stewart & Wohl, 2012).

## Methods

- Researchers recruited 59 college students from a pool of 1,584 students at a university in Eastern Canada who had previously completed a screen for problem and pathological gambling.
  - Researchers randomly selected participants from each of three levels of gambling symptomology to obtain their sample:
    - Recreational gamblers (n=17; 30% of the sample),
    - Problem gamblers (n=26, 45%),
    - Pathological gamblers (n=16, 25%).
  - All selected participants chose to participate in the study.
  - Participants were then randomized into two groups: pop-up and control.
- Researchers gave participants \$20 worth of credits with which to gamble

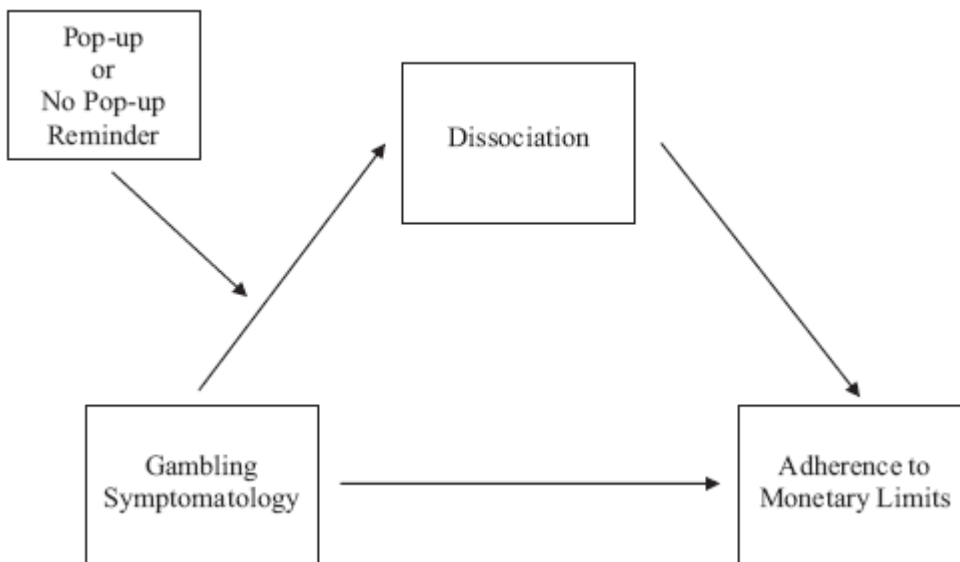
within a virtual reality (VR) gambling environment. Participants had to insert all of the \$20 into a VR slot machine, but were told they could stop at anytime and keep whatever money they had left.

- After depositing their money, participants set a limit for how much they were willing to lose prior to playing. Participants then began to use the slot machine. Researchers rigged the machine so each spin was identical for each participant.
  - Participants in the pop-up condition were presented with a pop-up when their losses hit their predetermined limit and asked to complete a questionnaire about their dissociation during the session (Jacobs, 1988). Participants could then choose to stop and keep their remaining money or continue gambling.
  - Participants in the control group did not see any pop-ups, and continued to gamble until they lost all their money or chose to stop. At this point, control participants completed the same dissociation questionnaire.

## Results

- The groups did not differ in the amount of their preset limits.
- However, more than double the number of participants in the pop-up group (89.6%) adhered to their limits, compared to the control group (43.3%),  $\chi^2(1, n = 59) = 14.12, p < .001$ .
- Both gambling symptoms and dissociation decreased adherence to monetary limits, regardless of group (symptomology: Wald's  $\chi^2(1) = 5.13, p = .02$ , Odds Ratio=0.74; dissociation: Wald's  $\chi^2(1) = 5.14, p = .02$ , OR=0.37).
- Researchers then determined whether dissociation was a [mediator](#) of the relationship between gambling symptoms and limit adherence. Figure 1 shows a schematic of the proposed mediation model.
  - For participants in the control condition, those with more severe gambling problems showed higher levels of dissociation, which in turn led to lower limit adherence.
  - No mediation effect was found for the pop-up group.

**Figure 1:** Schematic of the tested mediation model (Stewart & Wohl, 2012)



## Limitations

- Participants in the pop-up group took the questionnaire immediately after the pop-up. In essence, the intervention wasn't simply a pop-up, but a pop-up and questionnaire. This could interrupt the gambling experience for those who wished to continue gambling, and could introduce a [confounding](#) factor.
- The study occurred in a lab setting. The participants' behavior and the effects of the pop-up messages might be different with their own money in a casino environment, with lights, sounds, and other distracting stimuli.

## Conclusions

This study showed that pop-up messages on slot machine terminals can be an effective way to increase user adherence to preset monetary limits. In the control condition, participants with gambling problems dissociated more, which made them less likely to stick to their limits; this relationship did not hold in the pop-up condition, suggesting it interrupted the process of dissociation for those with problems. However, in both conditions, participants with higher levels of gambling problems were still more likely to ignore their limits than participants with fewer symptoms. This suggests that pop-up limit messages might be an effective tool for reducing harms associated with gambling, but might not be effective for people with high levels of problems.

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What do you think? Please use the comment link below to provide feedback on this article.

## **References**

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