

The WAGER, Vol. 6 (47) - Big Wins and Near Misses: Do winning patterns influence persistence?

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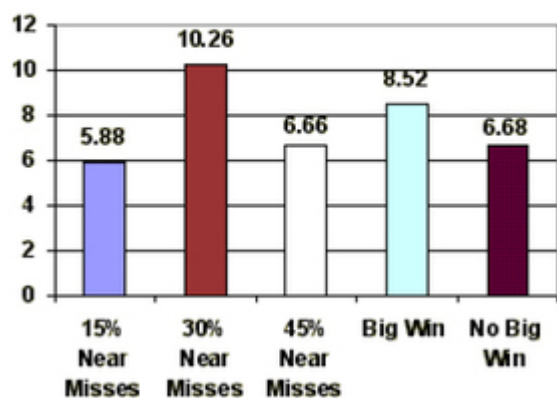
Research has found that large wins early in a person's gambling history are a risk factor for future problem gambling (Griffiths, 1995). But, do winning patterns influence individuals' current gambling behaviors? Kassinove and Schare (2001) recently explored whether or not different patterns of winning influence the persistence with which people play slot machines. Specifically, the authors hypothesized that "big wins," substantial paybacks early on in a gambling episode, and "near misses," almost winning, motivate slot machine players to continue gambling. The Wager reports on findings concerning persistence at gambling following both big wins and near misses.

A total of 180 male and female undergraduates participated in this study. Participants played mock slot machines that were programmed to reflect the six conditions of a two by three randomized factorial design (big win or no big win¹ by percent of near misses², 15%, 30%, or 45%) for the first 50 trials (acquisition phase).³ The study protocol required all participants to complete at least 50 trials, but they could play as long as they wanted. The study defined persistence as the number of plays during the extinction phase, when big wins and near misses no longer occurred. The slot machine was programmed to result in a 90% rate of return for both phases. Participants were paid whatever their winnings were at the conclusion of the study ($M=\$8.91$, $SD=\$4.84$). The South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1987) identified seven individuals as probable pathological gamblers. An ANOVA found no significant differences among conditions for SOGS scores.

The analysis of persistence, adjusted for the total SOGS score, a significant covariate of persistence, found that the frequency of near misses had a significant effect on persistence ($F(2, 173) = 3.88$, $p < 0.05$). Whether or not the players had big wins was not significantly related to persistence and the interaction between the conditions was also not significant.⁴ An examination of the mean number of plays during extinction for each experimental group (Figure 1) showed that

individuals persisted longer at gambling when 30% of all trials were near misses. No difference was observed between the 15% and the 45% near miss conditions. Individuals in the big win condition played longer than those without big wins, but the difference was not significant.

Figure 1. Mean Number of Gambling Trials During Extinction



The results of this study do not show a consistent, linear effect for the near misses condition. The authors note that other studies (e.g. Chantal, Vallerand, Ladouceur, & Ferland, 1996) have found a similar inverted U pattern for roulette playing. Kassinove and Schare (2001) suggest that moderate amounts of near misses are better at promoting gambling than either small or large amounts of near misses because an under- or over-presentation of a potential predictor (near misses) of a desired event (winning) results in a poor signal that desired event is about to come.

A few limitations exist. First, although the interaction of near misses and big wins was not significant, a report of the means and standard deviations for all six conditions would have been informative. The near miss results were aggregated over the big win conditions. Thus, the unique effects of near misses alone were not reported. Further, despite the fact that the design would allow us to explore near misses alone by examining the means of the near miss conditions in the no big wins condition, because no condition of 0% near misses (or nearly 0% near misses, as in the extinction phase) is included, we are unable to explore the effect of big wins alone. Big wins always occur in the presence of some amount of near misses. This is a potentially serious design flaw. Second, this study would have benefited from specifically recruiting probable problem gamblers, individuals who are close to developing pathological levels of gambling behavior, so that the

interaction of mental health and winning patterns could be explored. Pathological gamblers are likely to have developed routines that are relatively unaffected by winning patterns. However, relative to non-problem gamblers, perhaps near misses result in even more persistence at gambling for problem gamblers. Third, it is not clear, based on the methods section, whether or not individuals were told that they would be relieved of losses. The mock slot machines were programmed to give a 90% return. As there were no time restrictions, individuals theoretically could have walked away with losses, rather than wins. The information is important to the external validity of this study. Finally, the big win condition resulted in the second highest persistence rate in the study. Informal investigation suggests that the persistence rate was not much lower than the 30% near miss condition. Further, the big win (\$10) was not actually that big (Kassinove & Schare, 2001). The importance of these issues for big wins is somewhat downplayed and more research concerning this condition is warranted.

This study highlights an important issue. Structural features of games can influence behavior. Efforts to increase enjoyment by providing big wins and near misses more frequently than expected by chance could have unintended effects of promoting problem gambling. These results might be incorporated into efforts to build safer games. Other Wagers have similarly broached the idea of building safer games by altering structural features of games. More research is needed to explore the viability of building and using "safe" games. Further, research that examines how these effects are exaggerated or minimized, depending on mental health, is necessary.

Notes

- 1 Big wins were \$10.
- 2 Of 50 trials, either 15%, 30%, or 45% of the results were near misses.
- 3 The authors did not report whether or not an equal number of individuals were assigned to each group.
- 4 The F values were not reported for this effect or the interaction effect.

References

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