

## Gamblers like noisy slot machines—it reinforces the rewarding feeling after a win

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Winning sounds on slot machines make gambling more exciting, according to a new study by Mike Dixon and colleagues from the University of Waterloo in Canada. Moreover, their work shows that sounds also cause players to overestimate the number of times they won while playing on slot machines. The study is published online in Springer's *Journal of Gambling Studies*.

Sound has always been an integral part of the slot machine playing experience. Since the early 1900s, players have been rewarded with a ringing bell every time they have a winning combination. Today's slot machines average about 400 sound effects.

Modern slot machines allow players to wager on multiple lines. When they spin and lose, the machine goes quiet. When they spin and win more than their wager, they hear a celebratory song. Interestingly, when they spin and win back less than their wager (bet \$1.00 and win back 20 cents) they still hear the celebratory songs despite the fact that overall they lost money on these spins. Dixon and colleagues sought to see if these celebratory sounds could hide the fact that players were losing money on these so-called 'losses disguised as wins.'

Dixon and team measured gamblers' <u>physiological responses</u> to various slot machine game outcomes – wins, losses and losses disguised as wins – with and without sound during play. During slot machine play, <u>palms</u> may sweat, which increases skin conductance - a measure of arousal.



A total of 96 gamblers played two sessions on a slot machine simulator. In one session, both wins and 'losses disguised as wins' were accompanied by rolling sounds and celebratory winning jingles, as well as visual feedback. In a second session, the sounds were turned off and players only received visual feedback. The researchers measured the participants' skin conductance and <u>heart rate</u> responses to the various outcomes. At the end of play, the <u>gamblers</u> were asked which session they preferred and why. They also estimated how many spins they had won back more than they wagered.

Sound influenced the overall levels of arousal of players. Skin conductance responses were significantly greater in the session with sound than in the session without sound. Players also rated the noisy session as more arousing than the quiet session. The majority of players preferred the playing session where wins were accompanied by sounds, which suggests that not only do sounds make playing more exciting, players enjoy this extra level of excitement.

Sounds also contributed to players overestimating their number of wins. While this overestimation occurred both in the quiet and noisy sessions, it was significantly higher in the session with sound – 24 percent versus 15 percent in the session without sound. The authors suggest that sounds may be an integral part of 'the disguise' in <u>losses</u> disguised as wins, causing players to think that they have won more often during a playtime session than they actually have.

The authors conclude: "Although sounds may have contributed to players' enjoyment of the game, sound may also lead to an overestimation of winning. Both of these effects may contribute to gambling problems, such as misbeliefs about the true chances of winning, and persistence that some <u>players</u> experience when playing slot machines."



**More information:** Dixon MJ et al (2013). The Impact of Sound in Modern Multiline Video Slot Machine Play. Journal of Gambling Studies; 10.1007/s10899-013-9391-8

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