

I Beat the Odds, Right?

The Effects of Expectancy on Gambling Memory

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◆ Introduction ◆

Despite the low odds of winning and high potential cost, many people choose to gamble. Why might that be?

Ordinarily, people tend to turn down potentially profitable outcomes when the odds of winning are low (Lieberman, Idson & Higgins, 2005), and they tend to avoid situations that result in losses (Kahneman & Tversky, 1982). Yet, people still flock to casinos, where the likelihood of winning is low and the rewards (if any) tend to be relatively low too.

Researchers have attributed high affinities towards gambling to personality differences in thrill-seeking (Chiu & Storm, 2010). Could there also be an underlying distortion in how people remember their gambling experiences?

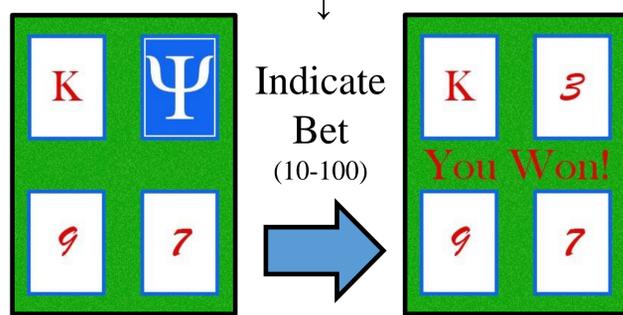
The incongruity effect – from person memory theory (Hastie & Kumar, 1979) – predicts that events incongruent with a higher-order expectancy are easier to recall than congruent events. It might be the case that people more readily recall winning events because they are incongruent with their expectancies.

♣ Methods ♣

77 participants (58% female, $M_{age} = 19.8$)

Instructions:

Likely to win 25%, 50% or 75% of hands



Cards are presented Outcome presented

×30

(10 wins, 10 losses, 10 pushes)

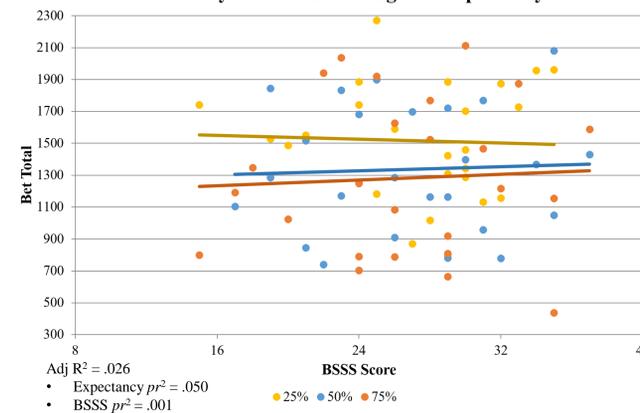
Brief Sensation Seeking Scale (Hoyle et al., 2002)

Attitudes towards the game and gambling experience

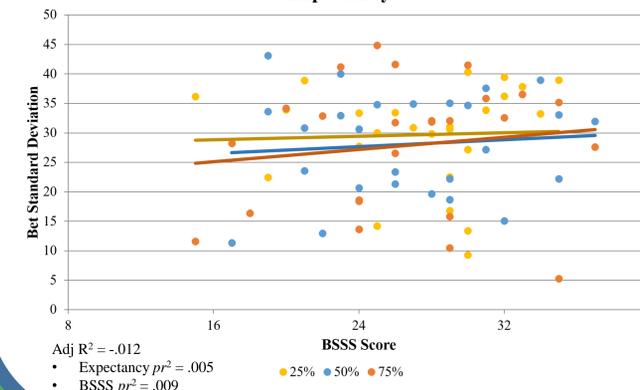
Memory probed

♠ Results ♠

Bet Total by Sensation Seeking and Expectancy

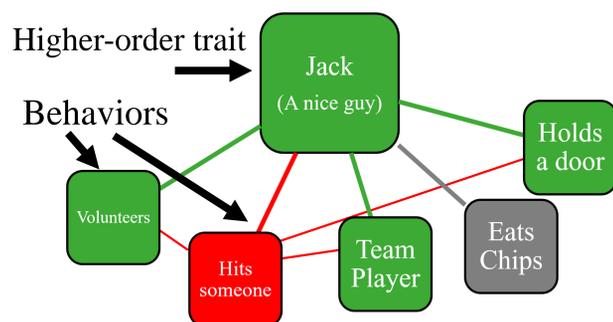


Bet Standard Deviation by Sensation Seeking and Expectancy



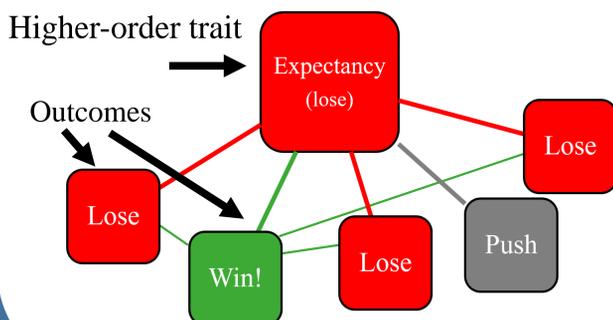
◆ The Incongruity Effect ◆

(and Person Memory)



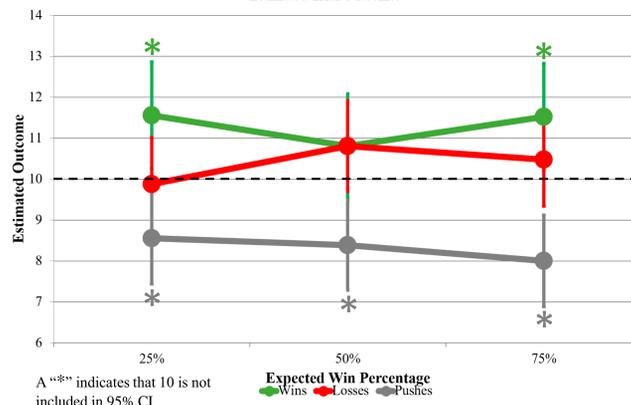
The Incongruity Effect

(and Gambling)



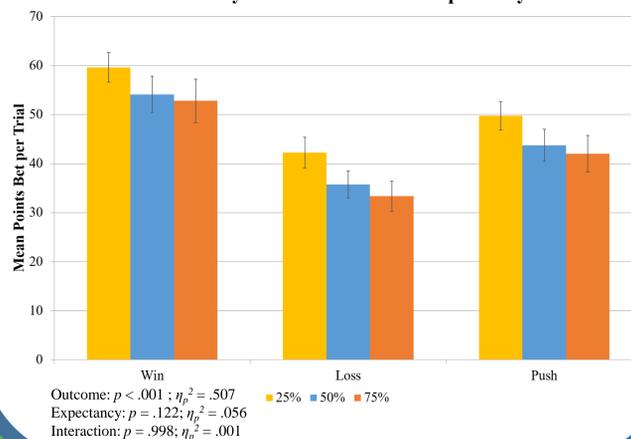
♠ Results ♠

Estimated Trial Outcomes



A "*" indicates that 10 is not included in 95% CI

Points Bet by Trial Outcome and Expectancy



Outcome: $p < .001$; $\eta_p^2 = .507$
Expectancy: $p = .122$; $\eta_p^2 = .056$
Interaction: $p = .998$; $\eta_p^2 = .001$

♥ Discussion ♥

Memory

- When the expected odds of winning were different than chance (i.e., 50%), players overestimated how often they won. This does not support the incongruity effect.
- The number of “pushes” (low-salience trials) were consistently underestimated.
 - The trend of overestimating wins and underestimating pushes was previously reported (Scarince & Hout, 2015).

Betting Behavior

- Players tended to bet less on trials they would eventually lose compared to ones they would win.
- Sensation seeking was not a significant predictor of gambling behavior.

Future directions

- Will eliminating push trials amplify this effect?
- Will the differences in betting behavior between expectancy conditions persist if payouts for winning are equalized?