

The active foundations of the illusion of control: Evidence for a general Henslin effect

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The illusion^{Intern} of control

Psychological theory of how people overestimate the effect of their actions in chance-driven events (Langer, 1975)

People are for example less willing to sell lottery tickets with numbers that they had picked, compared to lottery tickets with random numbers

Is one of the core cognitive distortions in disordered gambling, with the correction of these distortions being key to treatment approaches (Clark & Wohl, 2021)



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But does it ^{intern} replicate?

Psychology's "replication crisis" has seen a reassessment of the evidence base for many key theories

Klusowski et al. (2021) found across 17 studies that manipulating active choice versus passive assignment did not influence participants' perceived chances of winning in simple lotteries

This brings fresh attention to older studies that also found null effects on illusion of control manipulations (Kühberger et al., 1995; Ladouceur et al., 1984)



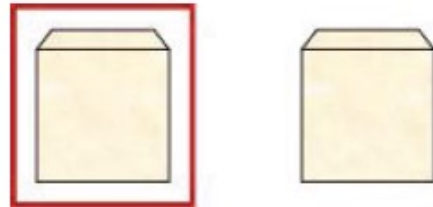
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What can theory^{intern} tell us?

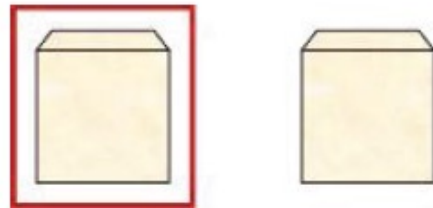
Langer (1975) theorized that illusion of control effects should be heightened in situations involving familiarity and active involvement

Klusowski et al.'s (2021) studies were arguably low on both familiarity and involvement

Please select a box for this lottery.

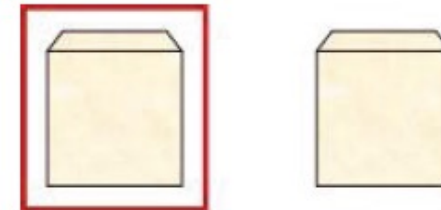


You have selected this box.

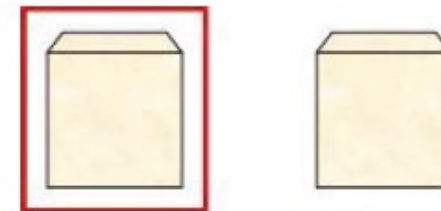


Please let us know how likely it seems, to you, that each of these boxes contains the \$1.00 bonus.

Please proceed to see the box we have randomly selected for you for this lottery.



We have randomly selected this box.



Please let us know how likely it seems, to you, that each of these boxes contains the \$1.00 bonus.

Returning to Henslin's (1967) effect

Langer's paper cited an earlier sociological study arguing that craps gamblers throw dice harder when they are trying to roll higher numbers

This is another "classic" illusion of control effect, but we know of no controlled empirical evidence for it (c.f. Lim et al., 2014)

This effect requires more active involvement than choosing boxes on a screen!



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The current^{Intern} research

We created a mobile device based dice rolling game

Participants would shake their device, which was recorded via the device's accelerometer and then shown back via a corresponding random dice roll

\$1 bonuses earned for rolling a target number on each trial; variation of target number across trials resulted in a within-participants test of the Henslin effect

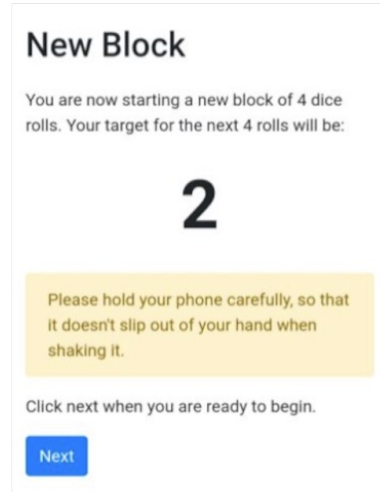
Participant feedback:

Who else loved this morning's Dice Rolling Study

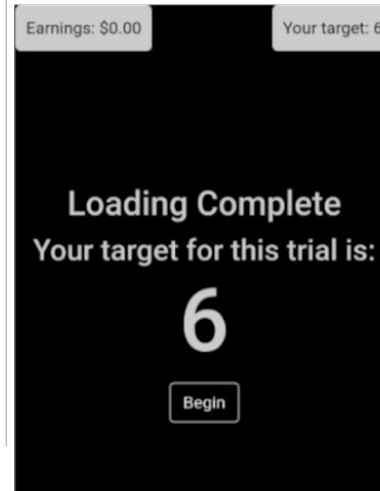


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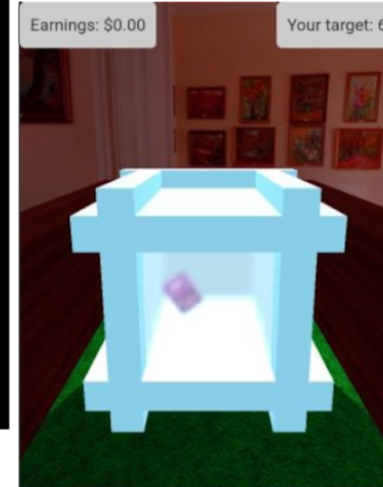
The current ^{Intern} research



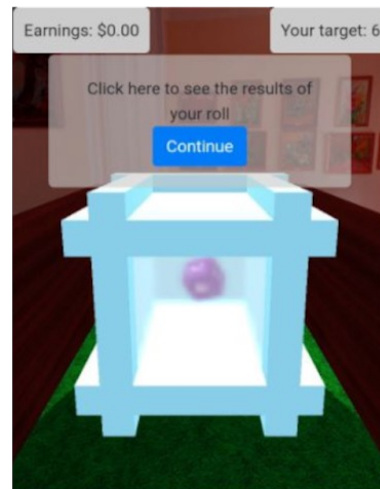
(A) new block screen



(B) new trial screen



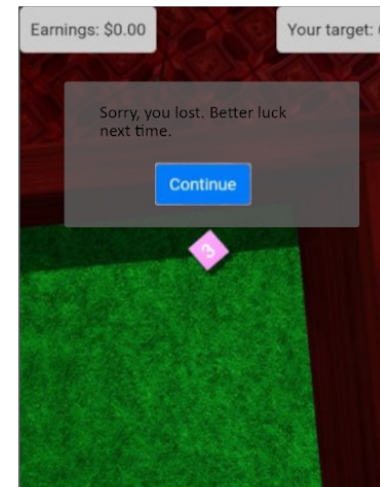
(C) Shaking period



(D) show results screen



(E) animation of result



(F.i) Losing screen



(F.ii) winning screen

Hypotheses^{Inter}

H1 participants will shake harder (than their average) to achieve higher target numbers

H2 this effect will be larger for participants with a greater degree of recent relevant experience, being largest among craps gamblers, then other gamblers, and finally non-gamblers (**familiarity**)

H3 this effect will be larger for gamblers with higher Problem Gambling Severity Index scores (**relatedness to irrational thinking in disordered gambling**)



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Additional^{Intern} methods

Participants recruited via Prolific ($N = 1,692$)

231 craps gamblers

760 other gamblers

701 non-gamblers

Task programmed by Ty Hayes and we are openly sharing the code

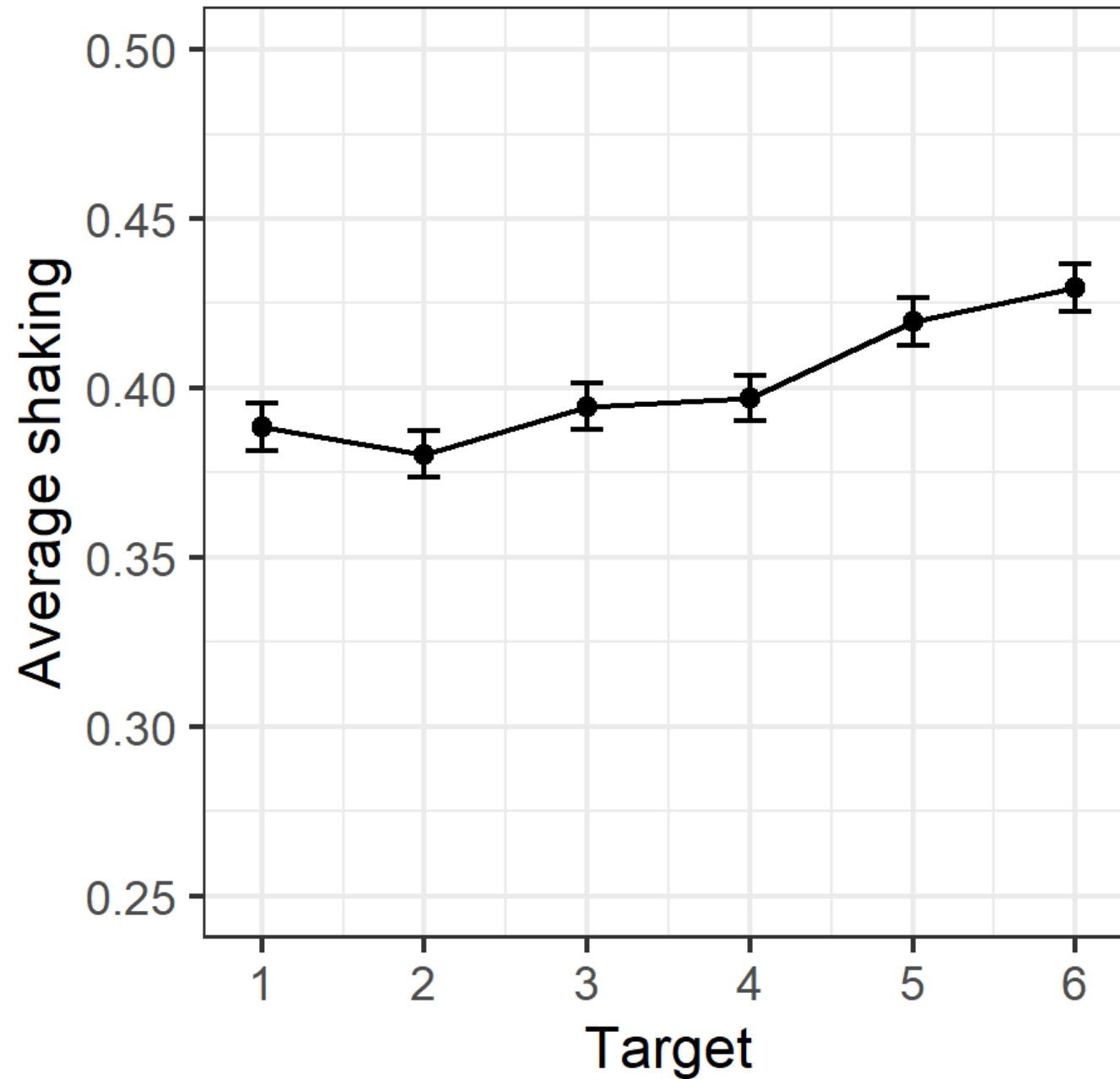
Mean absolute accelerometer reading over a 5-second window normalized per-participant on a 0-1 interval and forms our DV

Analysis via multi-level models

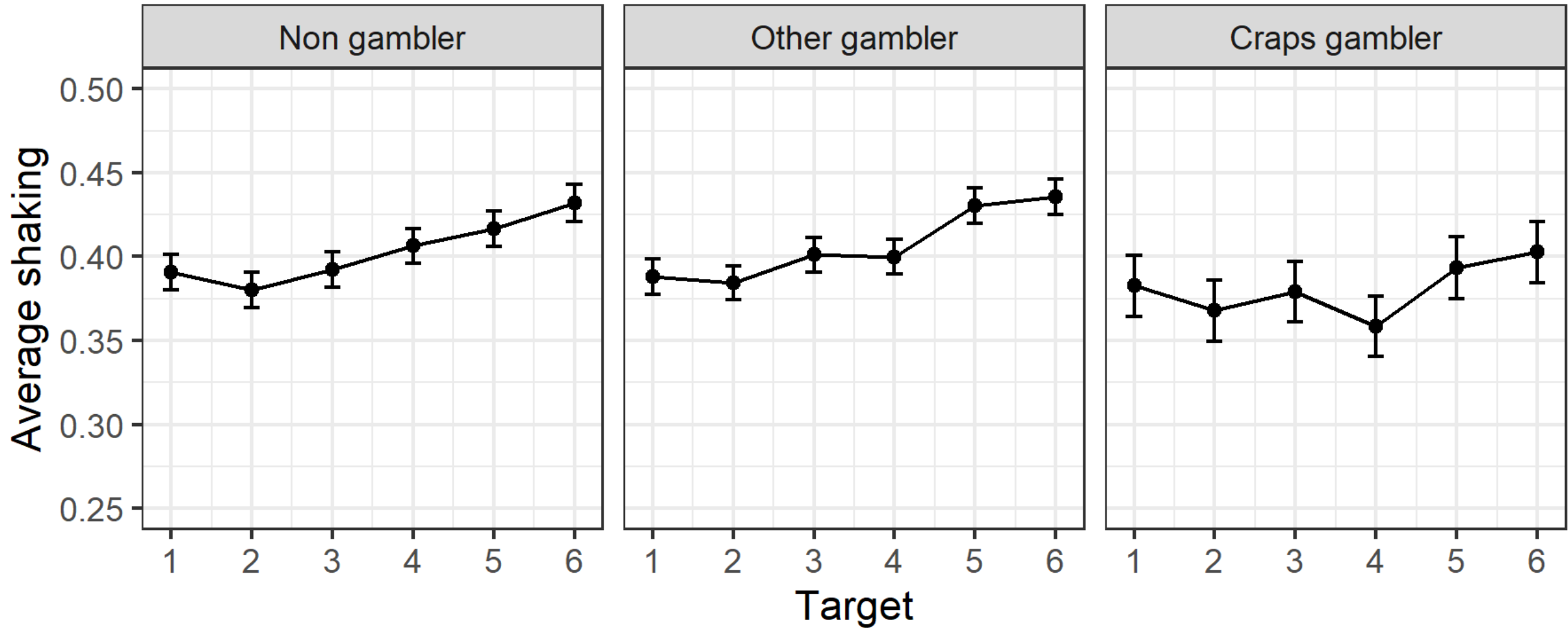


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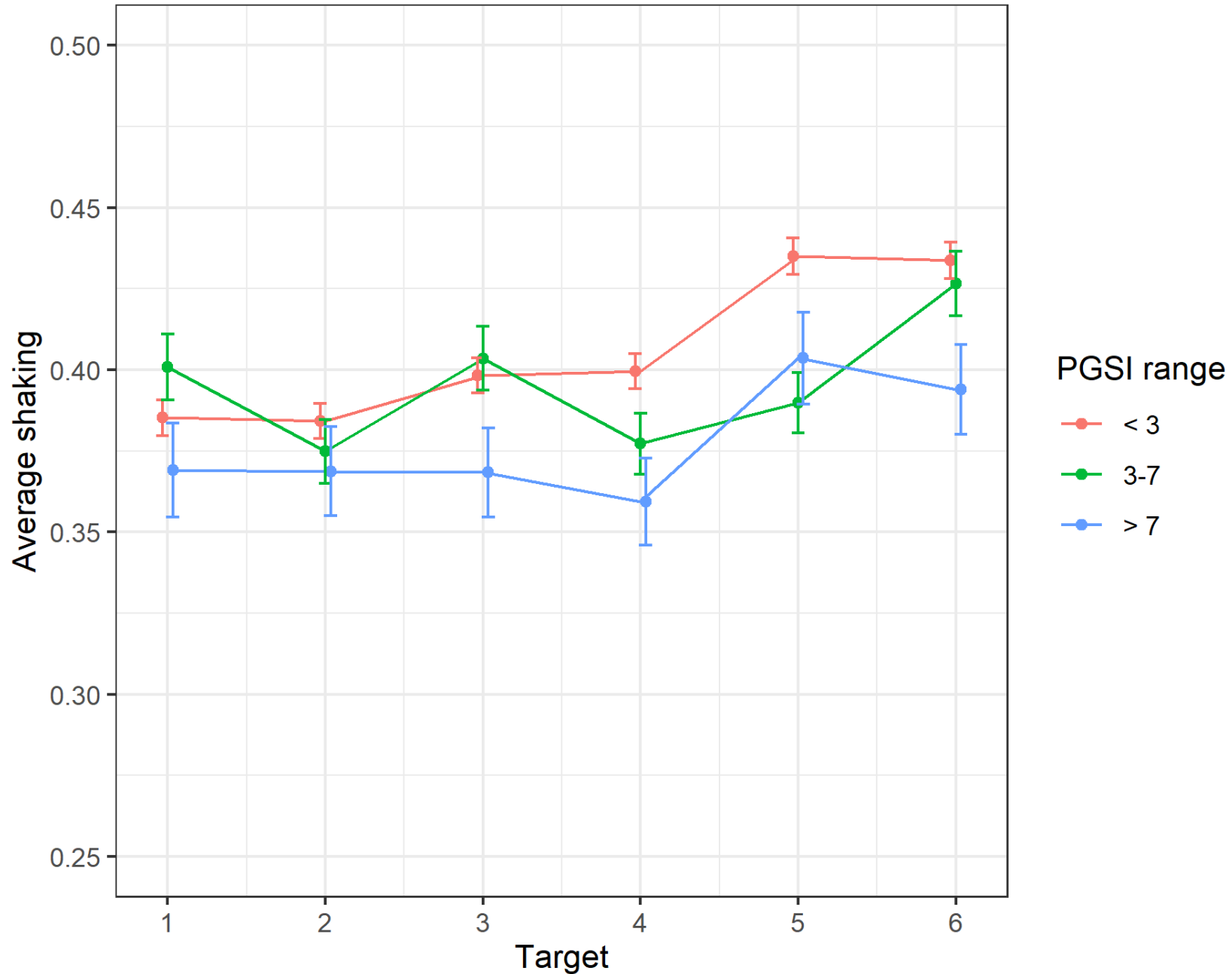
H1 supported: Participants threw ^{Intern} 10% harder for a 6 than a 1



H2 not supported: ^{Intern} no group interactions



H3 not supported: No interaction involving PGSI among gamblers^{Intern}



Discussion^{Intern}

Novel evidence for a (small) Henslin effect, suggesting that **active involvement** may well be needed for illusion of control effects to emerge

But **familiarity** does not seem to matter, as effects were no larger in craps gamblers than non-gamblers

Disordered gambling symptomology (PGSI) also did not matter, which casts some doubt on the centrality of the illusion of control to the cognitive model of disordered gambling



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Future ^{Intern}implications

Other illusions possible, for example the “dice control” community of craps players who think they have the skill to throw non-random dice rolls

Current gambling treatment approaches based on “correcting” cognitive distortions are only somewhat effective, suggesting that a better psychological model of disordered gambling is needed!



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Thanks for ^{Intern} your attention!

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