

# Innovations in Responsible Gambling Research: Examining Ways to Reduce Excessive Play

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You gotta know  
when to walk  
away

# Responsible Gambling: The Rogers' Creed

**Responsible gambling:** Behaviour whereby the gambler

1. Views gambling as **entertainment** with associated costs
2. Sets a **limit** for the time and money spent and sticks to it

# Do people know when to walk away?

Approximately 80% of people say they set a limit on their play (MGCC, 2009; Wohl, Christie, Matheson, & Anisman, 2010)

- For many this is a vague or soft limit (“about \$50”; “between 2-3 hours”)
- Approx. 25% exceeded their pre-set limit

The hard questions:

- Why do some people not limit their play?
- Why do some people find it *hard to walk away* from a gambling session once their limit is reached?

# At issue...

## 1. Misperception of Odds:

- Lack of understanding about how EGMs work → persistence will pay off

## 2. Erroneous cognitions

- Belief that chance outcomes can be controlled through personal skill, effort



# Possible Responsible Gambling Strategy I

Teach them well

# RG via Education

If you want to teach probability theory, develop **easily digestible** explanations (James et al., 2007; Meyer & Moreno, 2002)

To explain how games of chance work, they need to be:

- cognitively **simple**
- are **engaging**, memorable
- personally relevant, **tied to specific context** (e.g., slot machine operation, odds of winning)



Produced by: Michael Wohl, OLG, and OPGRC

## Method

Gamblers watched the 9-min animation (n=87) or a 9-min control video (N=53) before gambling at a racino; all participants contacted 24hrs later.

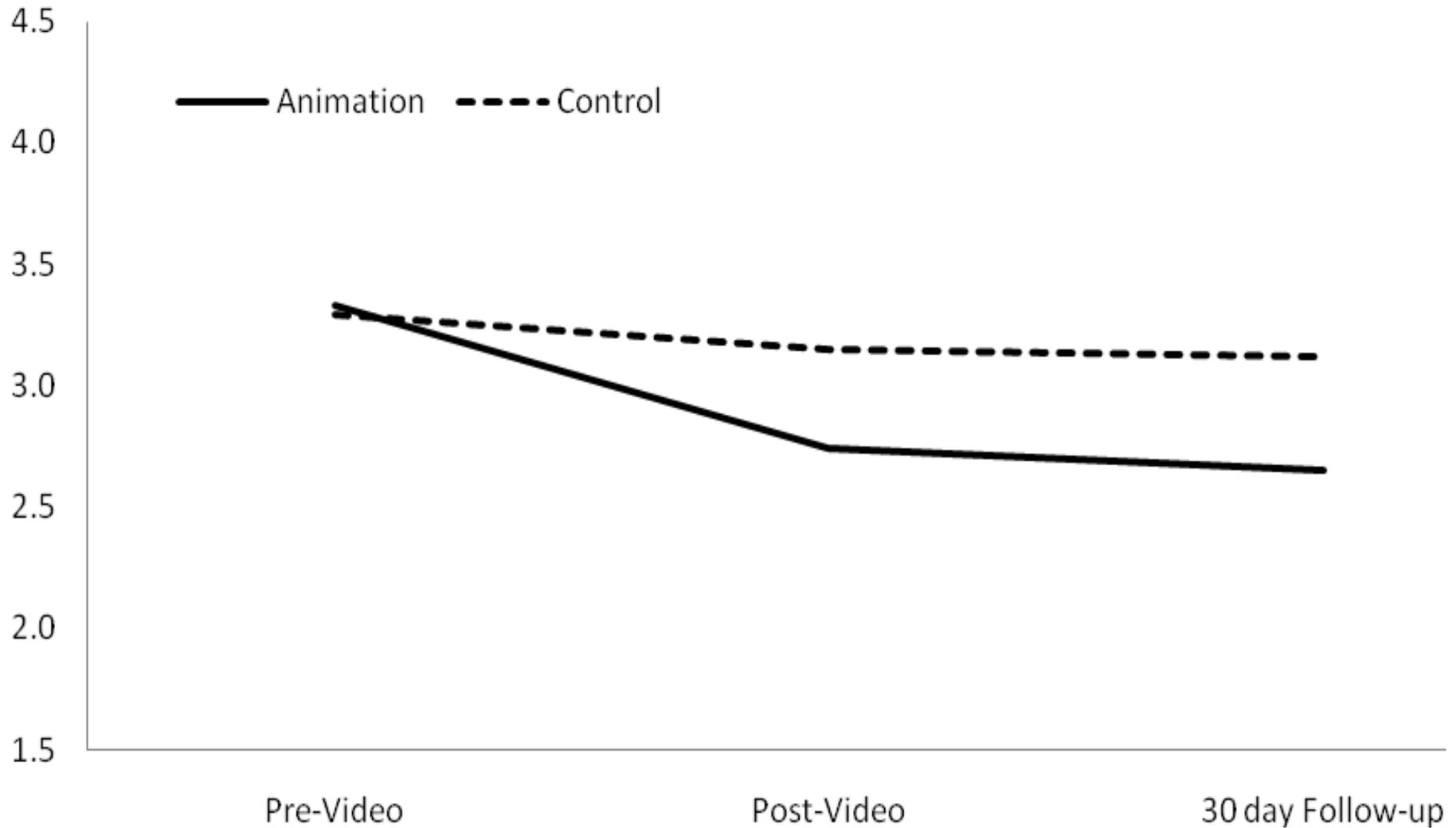


\$  
00.00

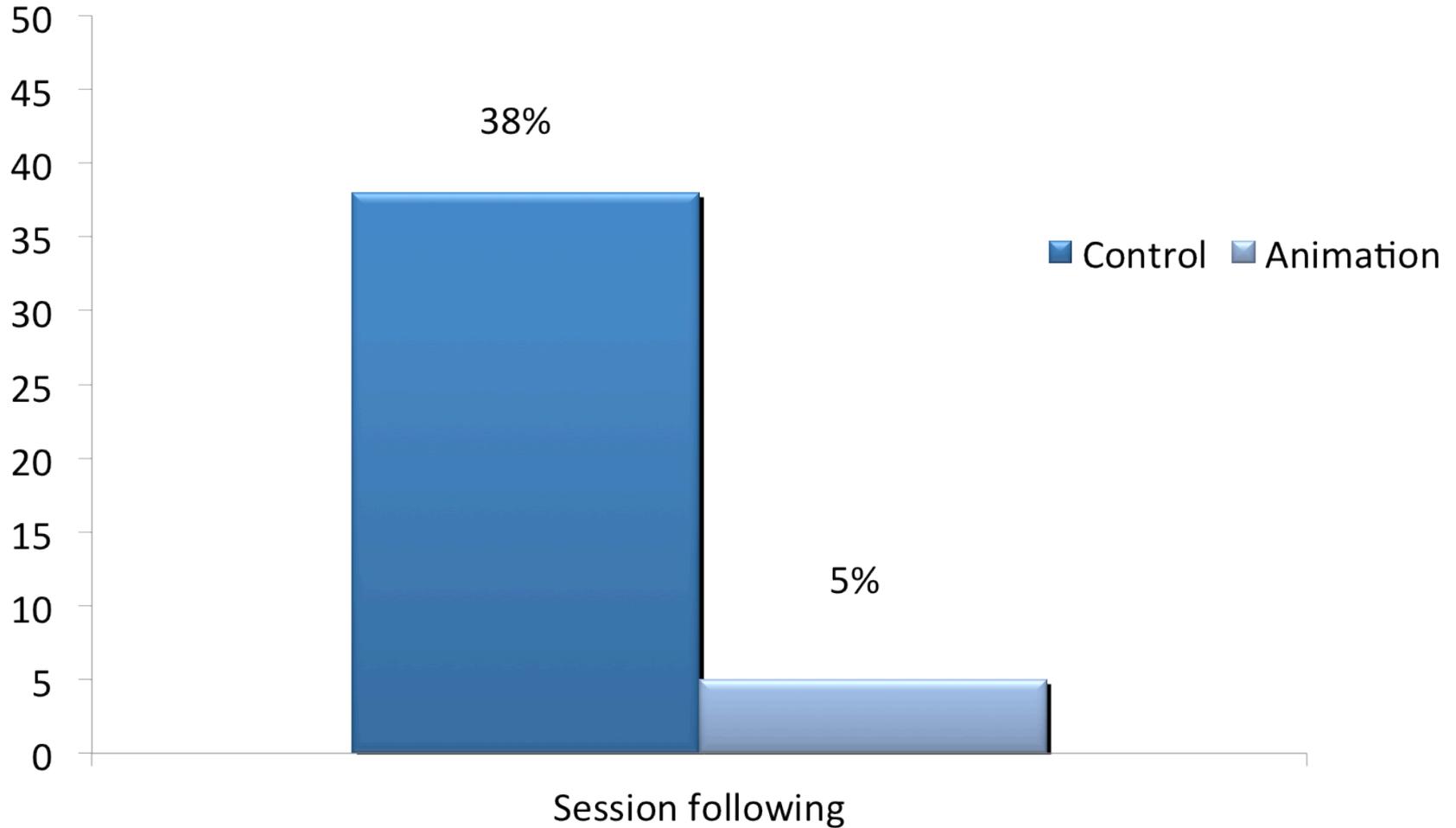




# Erroneous Cognitions



# Limit exceeded



# Slot Machines: What Every Player Needs to Know Redux

People complained the 9-min 1) too long 2) introduced an erroneous cognition to start the animation.

Developed a 3-minute animation!



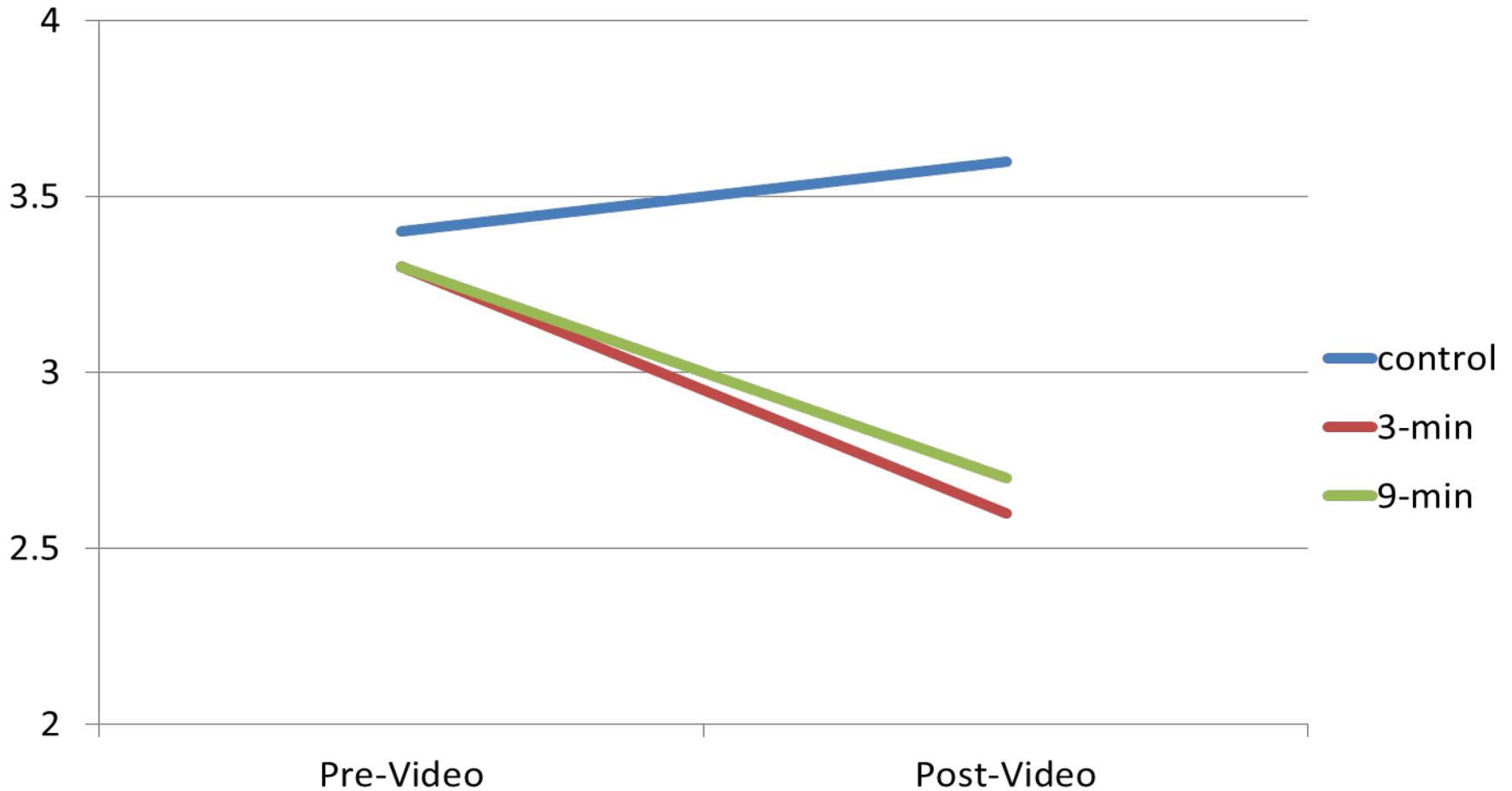
# Method

***Participants.*** 123 gamblers (74 males) from Rideau Carleton raceway and Casino Brantford.  
- Age ranged from 19 to 65 ( $M = 49.20$ ;  $SD = 14.30$ ).

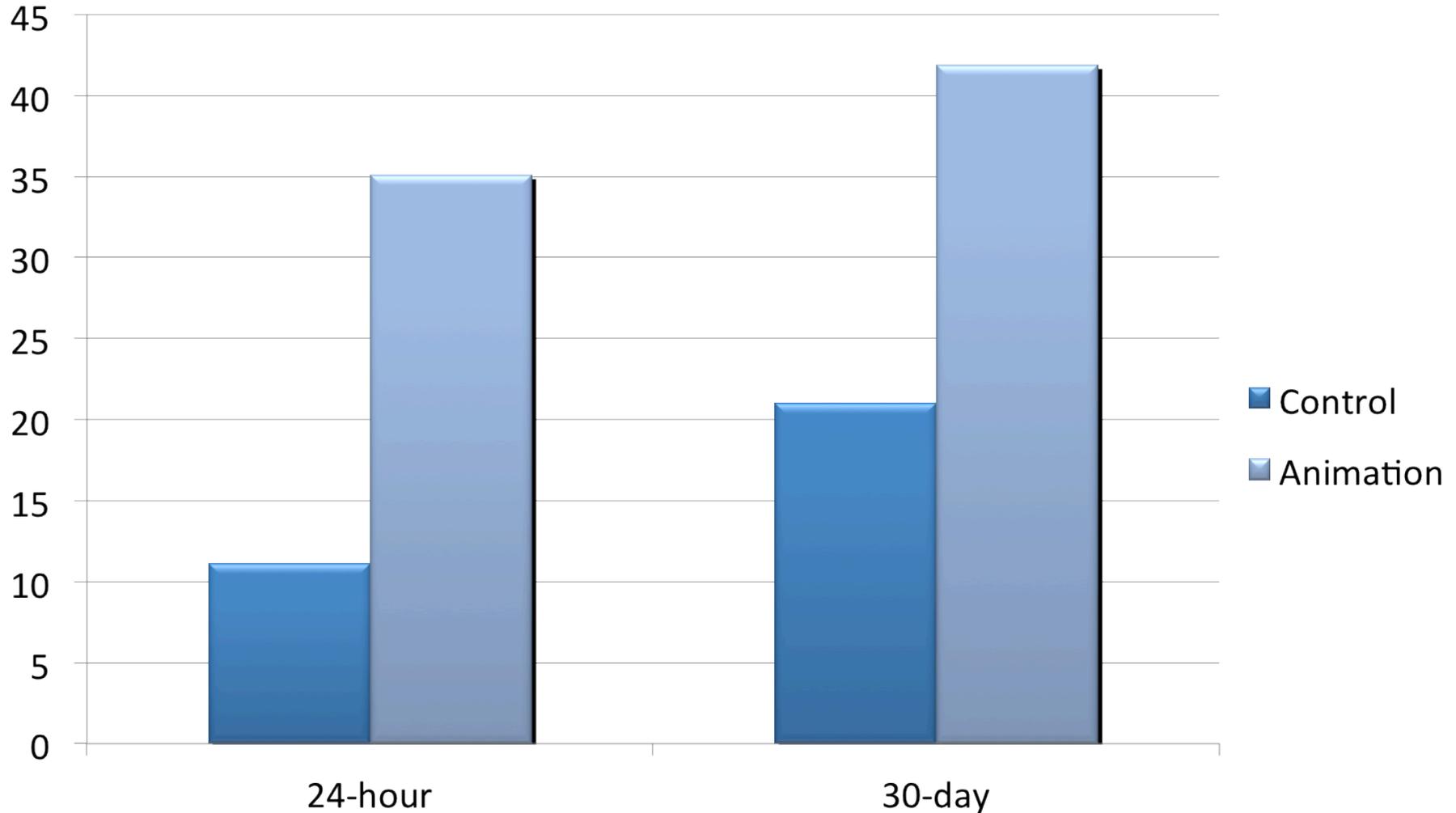
***Procedure.*** 9-min animation vs. 3-min animation vs. Video about casinos in Ontario (n=53).

***Measures.*** Administered pre- and post stimulus, 24 hour follow-up, 30 days later.

# Erroneous Cognitions



# Behavioural change in adherence to money limit (in %)



# Preference Study: Study 2

**Participants.** 24 gamblers (10 males) from Rideau Carleton raceway.

- Age ranged from 19 to 65 ( $M = 51.10$ ;  $SD = 16.6$ ).

**Procedure.** Watched 9-min AND 3-min animation.

**Measures.** Asked which video they preferred and why (e.g., length, animation, content)

# Preference

10/24 preferred 3-min animation

- 5/10 liked the length
- 3/10 liked tips to promote responsible play
- 2/10 liked the visual effects

11/24 preferred 9-min animation

- 8/10 liked tips to promote responsible play
- 7/10 liked the visual effects
- 3/10 liked the length

Players with greater gambling problems preferred the 9- over the 3-minute animation

# Discussion

**Long-form:** May be more suited for use in a clinical setting and/or as a supplement to the 3-minute animation.

**Short-form:** may be more suited for viewing on YouTube.com or on Internet based casinos within a suite of responsible gambling tools.

# At issue..

Gamblers don't tend to gravitate to RG information (like in the animation) at their disposal.

1. Believe that disseminated information **does not apply to them** ("I don't need to watch a video, I'm not like them").

2. **Don't believe (or trust)** the disseminated information all together (e.g., persistence doesn't pay off).

(Wohl, Sztainert, & Young, in press)

# Possible Responsible Gambling Strategy II

Message them in session

# What we know...

Features of slot machines encourage play (e.g., speed, sounds, variable reinforcement schedule, win and losses)



Slot machines facilitate dissociation (see Griffiths et al., 2006)

**People crave** to continue gamble, even in the face of continued loss (Young & Wohl, 2009)

- Slot play can be positively reinforcing (experience a buzz)
- Slot play can be negatively reinforcing (escape from daily grind)



# Play Session Messages...

- **Intermittent messages** that appear on the slot machine screen during play

**As losses mount and limits are exceeded,  
gambling addiction begins to take hold**

- More effective in capturing gamblers' attention than signs and posters (Monaghan & Blaszczynski, 2007).

# Target behaviour!

Limit-setting:

*Time Limits*

*Money Limits*

- While a majority of gamblers set monetary limits, **many exceed these limits** (MGCC, 2009; Wohl et al., 2008; Wohl et al., 2010).
- Targeting **behaviour** might be the answer.



Monetary Limit pop-ups:  
Be explicit, be specific, be upfront

# Monetary Limit Tool Study

## *Participants.*

Fifty-nine young adults ( $M = 20.76$ ,  $SD = 3.04$ )  
17 recreational, 26 sub-threshold, 16 pathological

## *Procedure.*

Randomly assigned to pop-up reminder or no pop-up  
reminder condition

## *Measures.*

Dissociation (Jacobs, 1988) and adherence to limits

PAYLINE



BAR

INSERT  
BILLS  
BELOW

MACHINE ACCEPTS  
\$1 - \$5 - \$10 - \$20

PRESS

CASH

CREDIT

How many credits do you want to spend?

OK

WIN

00

CREDITS  
PLAYED

BET+

BET-

MAX

SPIN

CASH  
OUT

\$0.00

80

0



Credits



PAYLINE



INSERT  
BILLS  
BELOW  
MACHINE ACCEPTS  
\$5 - \$5 - \$10 - \$20  
PRESS  
CASH  
CREDIT

CREDITS  
PLAYED

You have reached your preset limit of 20.  
You still have 60 credits in the machine.  
Do you want to continue?

Yes

No

BET+

BET-

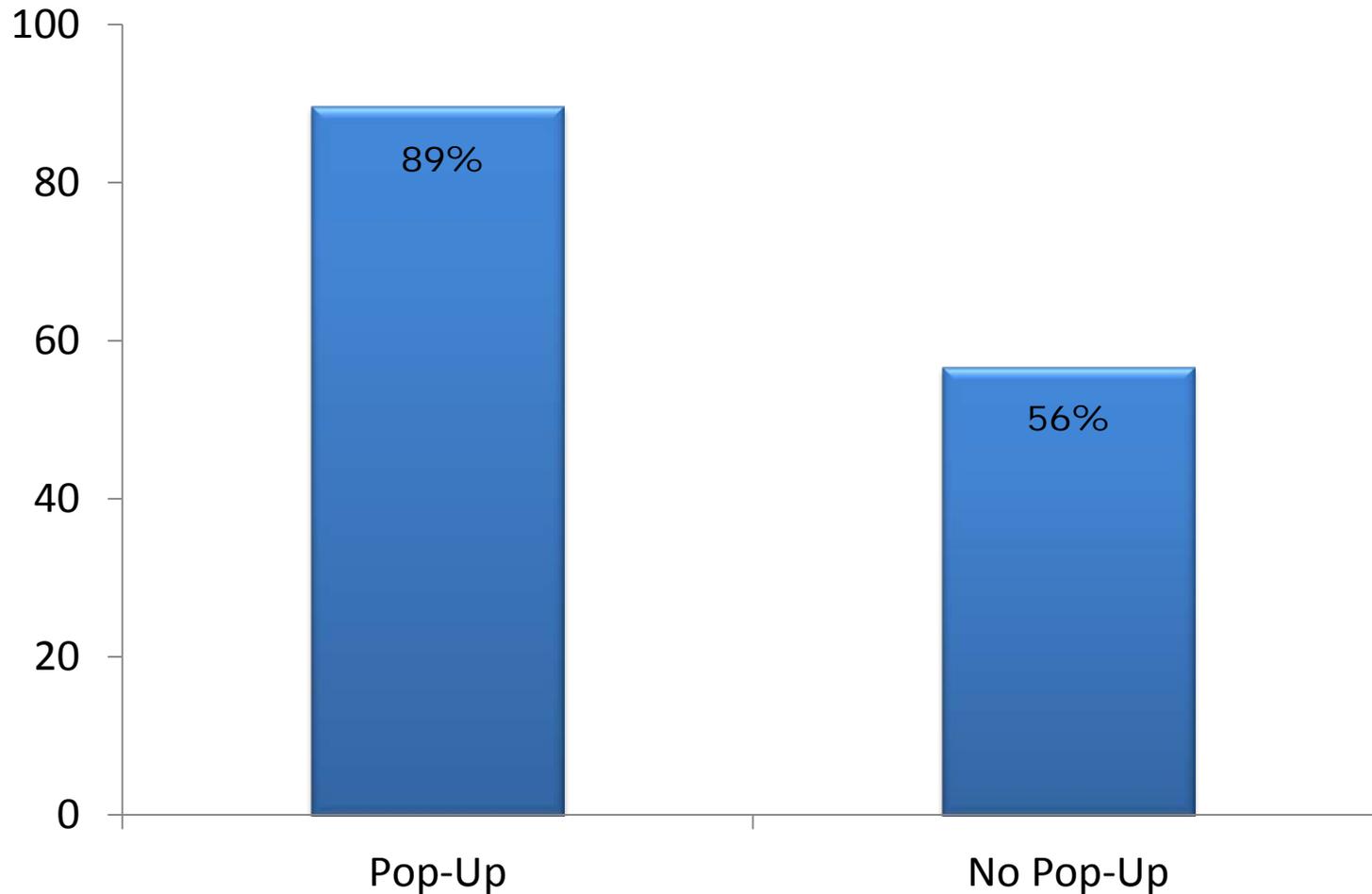
INSERT

CASH  
OUT

CASH  
OUT

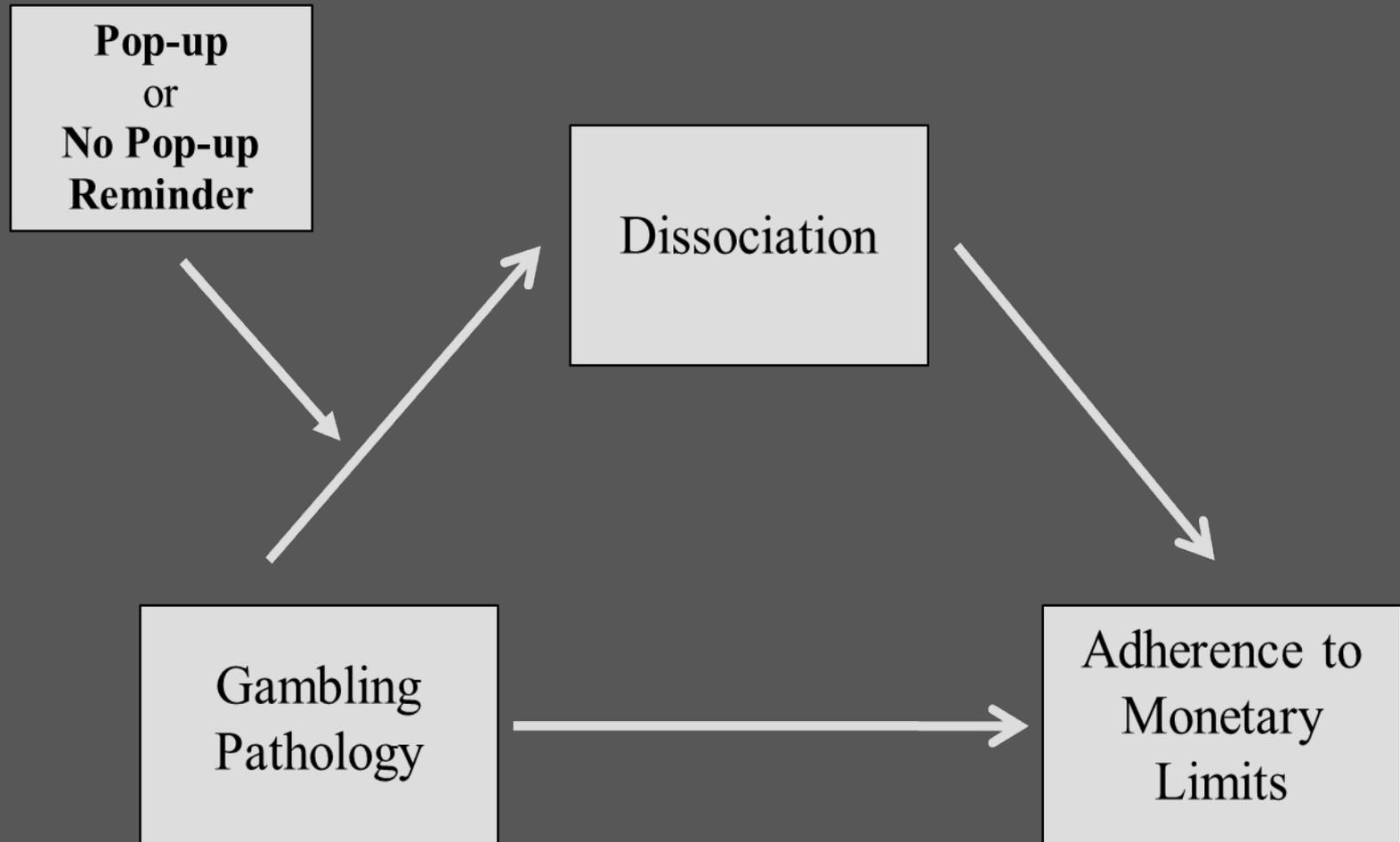


# Adherence to limit



Condition  $\chi^2 (1, N = 59) = 14.12, p < .001$ .

# Moderated-Mediation: Dissociation



# Discussion

- Monetary limit pop-up reminders effective responsible gambling strategy at lower levels of pathology.
- Mechanism (dissociation) by which gambling symptomatology undermined adherence to limits:



# What works better?

## Animation vs. pop-ups

Responsible gambling tools are typically assessed in isolation.

Most RG systems have a number of tools at the gamblers disposal

- Player stats
- Limit setting tools
- Cash-in limits (see Alberta - \$100 max)
- Education

# Monetary Limit x Animation Study

## *Participants:*

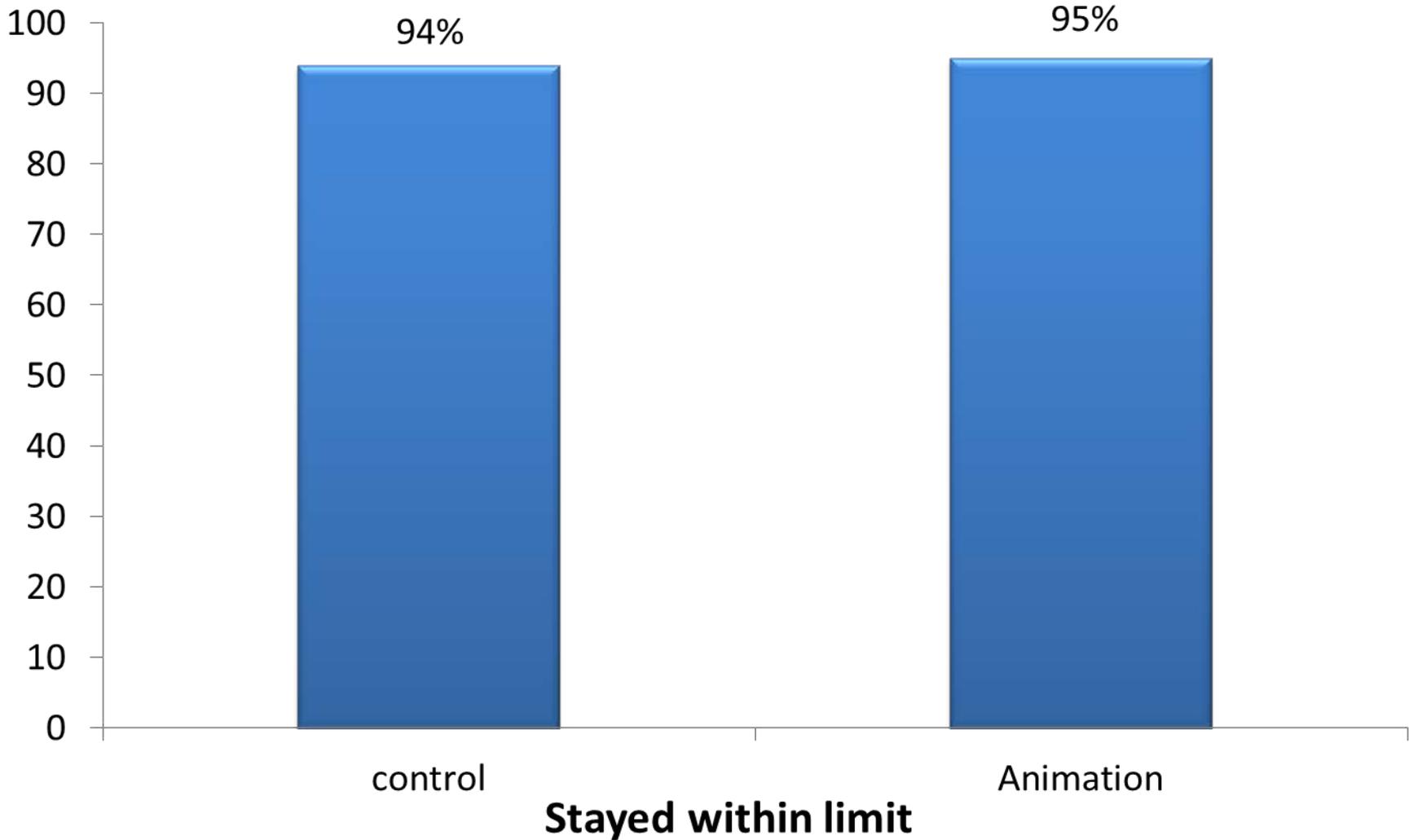
Seventy-seven young adults recreational gamblers

## *Procedure:*

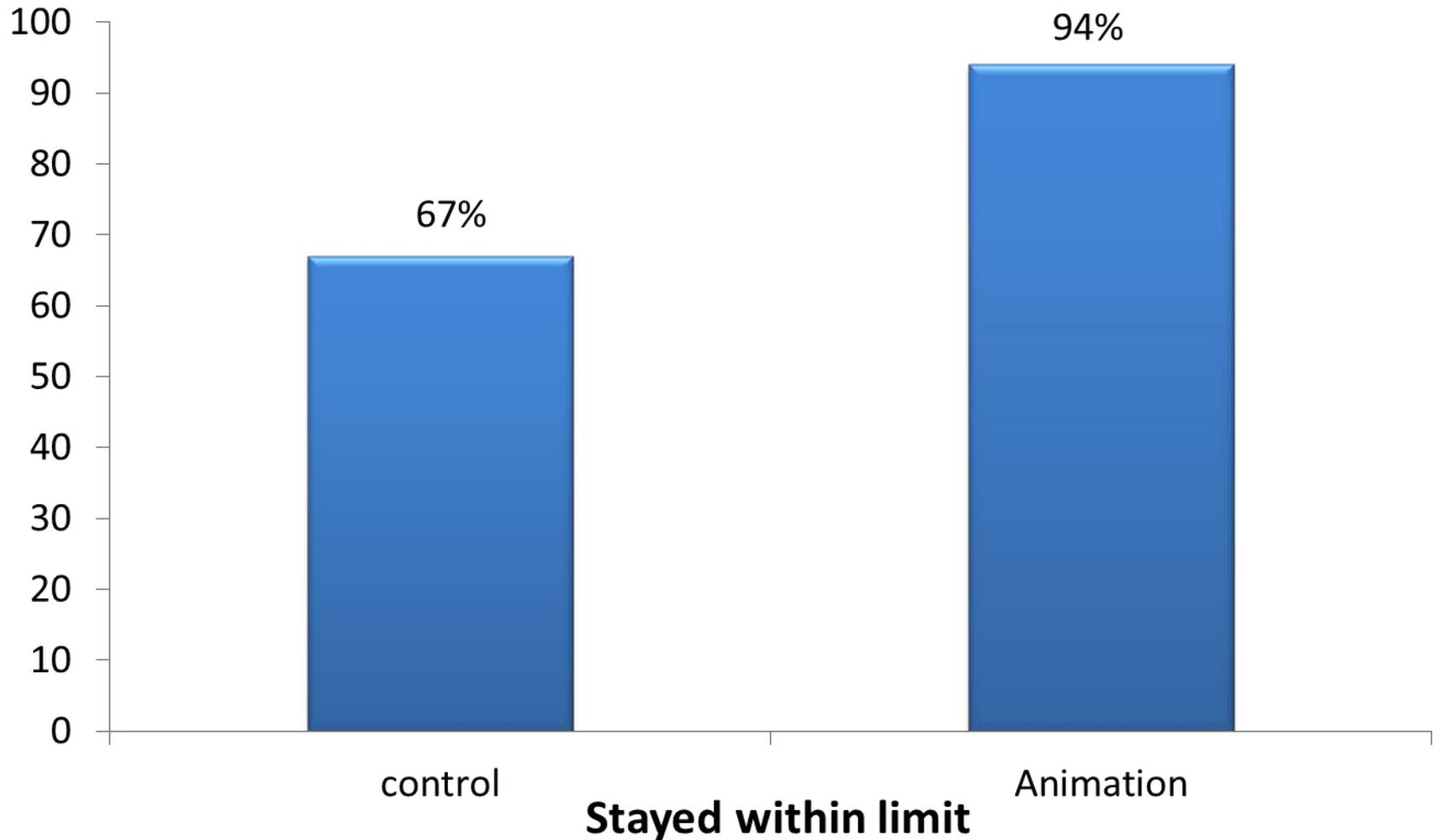
IV #1: Monetary Pop-up or not

IV #2: Animation or control

# Monetary Pop-up Condition



# No Pop-up Condition



# Doing the Pop-up Better!

The design of RG tools has not been informed by good design principles from the Human-Computer Interaction (HCI)

**discipline** (see, Nielsen, 1994; Preece, Sharpe, & Rogers, 2011; Shneiderman, Plaisant, Cohen, & Jacobs, 2009).

HCI guidelines and heuristics can be applied to in the design of effective responsible gambling tools.

# Building a better Pop-up

## *Phase 1: Focus Groups*

1. Pop-ups should **not occur too frequently** – would be annoying
2. should **impose a delay** once limit has been reached
3. A **summary of current wins and losses** could be both motivational and inhibitory
4. Desire for an **aid/tool to help track progress** toward one's pre-set limit

# Phase 2: Design Process

Iterations of a new design was qualitatively assessed by 6 usability experts via Heuristic Evaluation (Nielsen, 1994).

The final design included:

- An on-screen traffic light system which indicated how close the participant was to their limit.
- Two pop-up messages:
  - 1) upon reaching 10% of their pre-set credit limit with the option to quit or continue playing after a 5 second delay, and
  - 2) upon reaching their pre-set limit with the option to quit at any time or continue playing after a one-minute delay.



## Welcome to the Responsible Gambling Monetary Limit Tool

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Please select the amount of credits you would like to gamble with using the arrows below



---

*Know your limit. Play within it.*



You are approaching your monetary limit

15 credits remaining

---

You have reached the last 10% of your credit limit and have 15 remaining credits.

continue playing

Quit

*Continue playing in 0:10...*

---

*Know your limit. Play within it.*



# You have reached your monetary limit

All credits have been lost

---

Continue playing after a 1minute break or quit at anytime

Quit

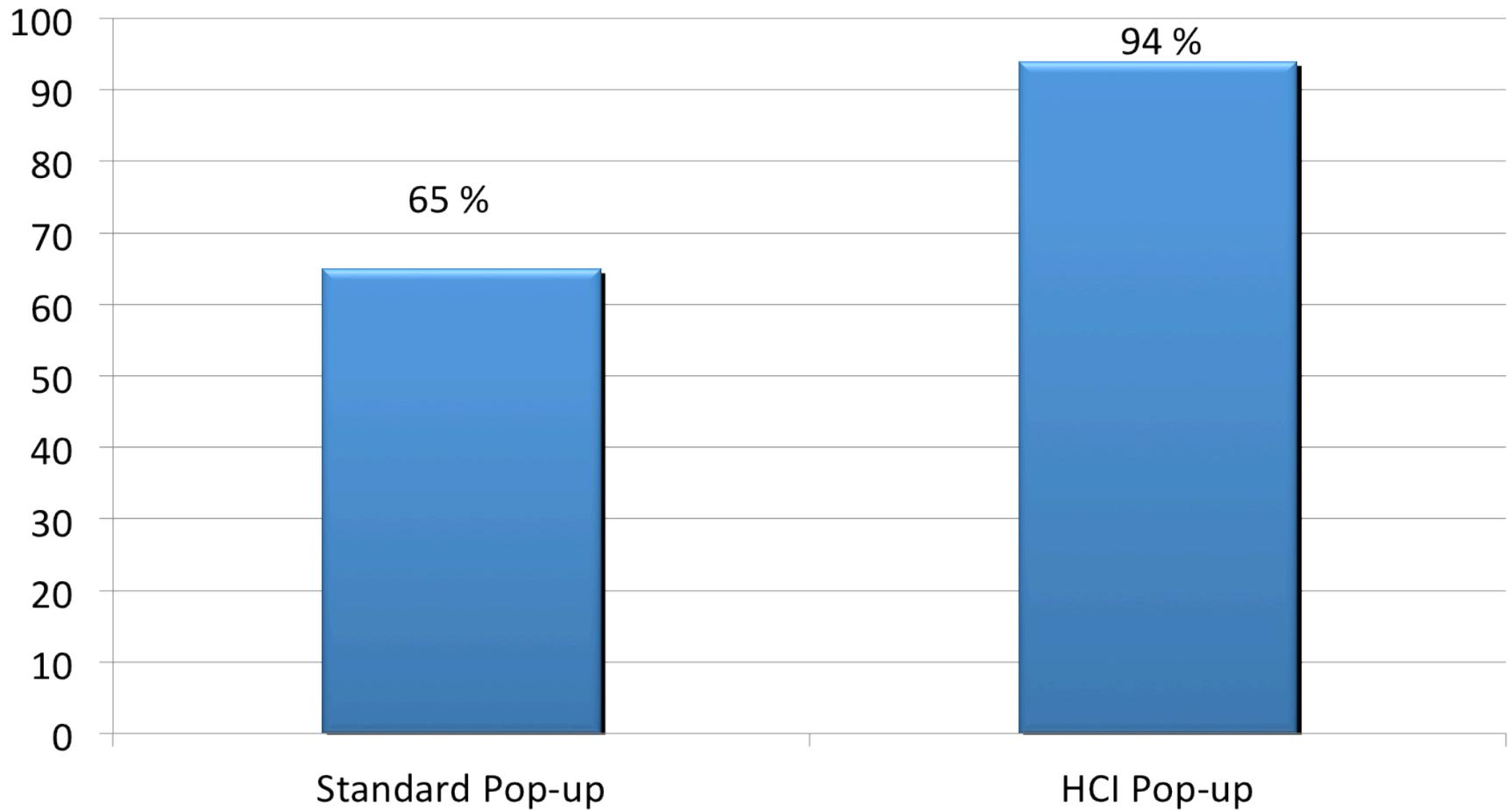
continue playing

*Continue playing in 0:59...*

---

*Know your limit. Play within it.*

# Limit Adherence



# Discussion

- Monetary pop-up reminders effective responsible gambling strategy for recreational gamblers.
  - Perhaps more effective than educational videos
- Not all monetary pop-ups are created equal...

# Possible Responsible Gambling Strategy III

A lesson from neuroscience

# A third-way?

New classification titled “**Addiction and Related Disorders**”.

The Rationale: Growing body of scientific literature revealing commonalities between gambling and substance-use disorders, including *cravings*.



# Ghrelin

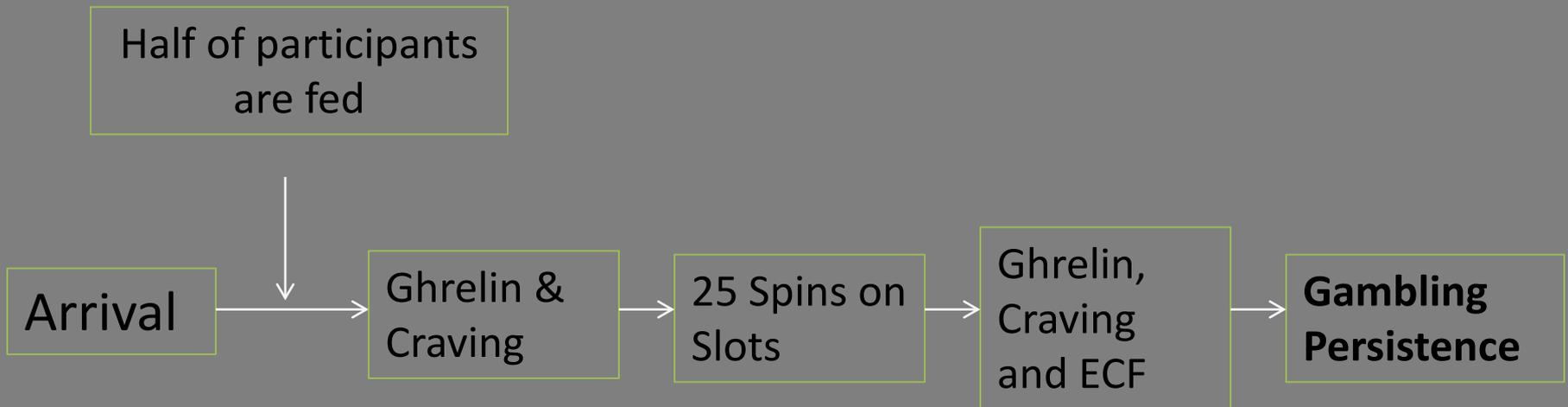
- A hormone that is related to feeding
- is also associated with the intake of addictive substances, and correlates with craving for those substances
- Increased ghrelin is associated with risk-taking



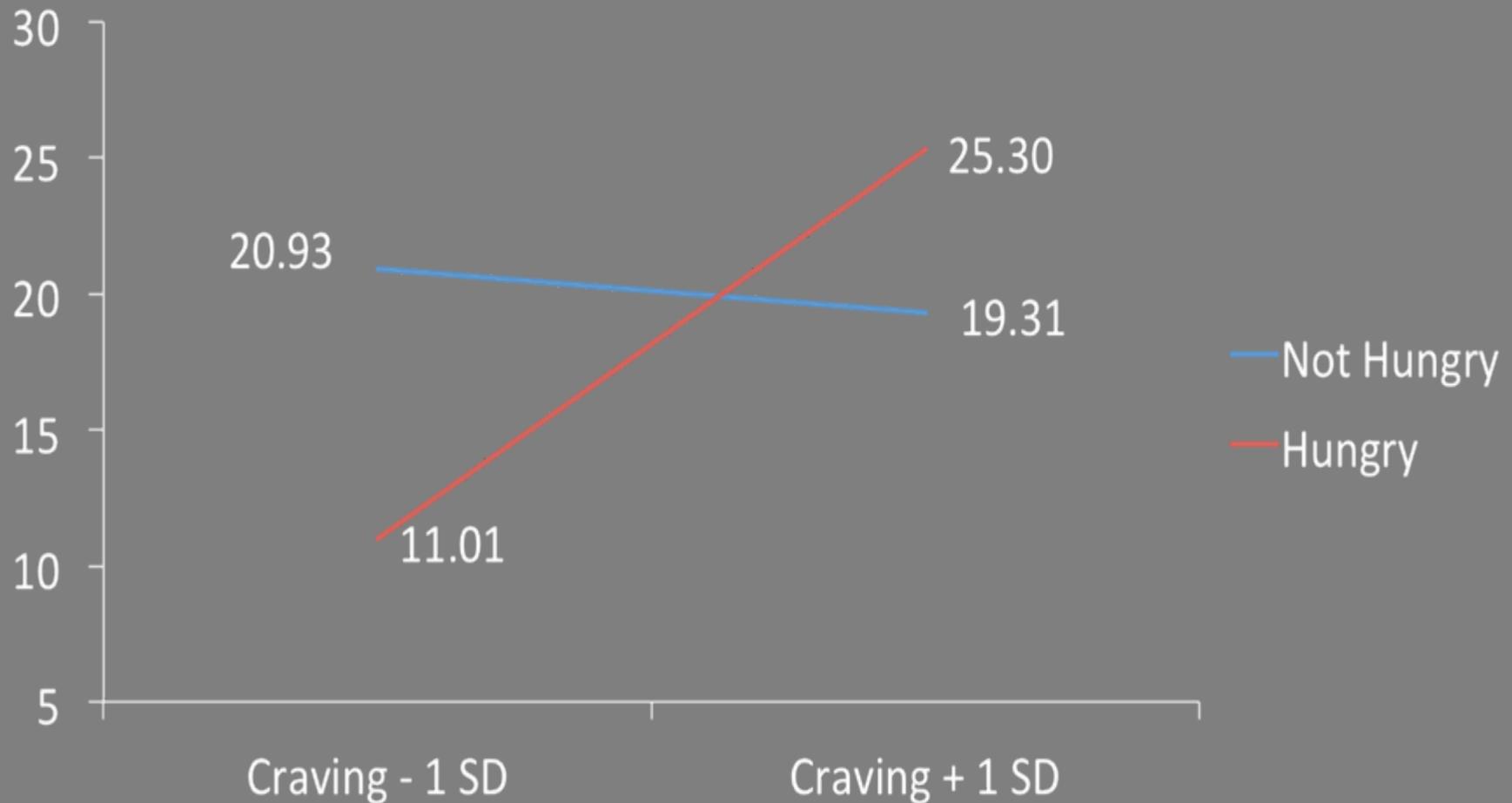


# Participants & Procedure

- N = 51 at-risk to problem gamblers
- Instructed not to eat before the experiment



# Number of spins In the face of continued loss



# In sum

*A Three Pronged Approach to RG:*

I: Education

II: In Play Limit Letting & Adherence Tools

III: A Lesson From Neuroscience

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