



Short Communication

The relation between personal relative deprivation and the urge to gamble among gamblers is moderated by problem gambling severity: A meta-analysis



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HIGHLIGHTS

- Meta-analysis shows personal relative deprivation (PRD) relates to gambling urges
- Link between PRD and gambling urges is moderated by problem gambling (PG) severity
- Relation between PRD and gambling urges is stronger at higher levels of PG severity

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ABSTRACT

One psychosocial factor that has been identified to motivate gambling is personal relative deprivation (PRD), which refers to resentment stemming from the belief that one is deprived of a desired and deserved outcome compared to some referent. Although several lines of evidence point to a positive association between PRD and the urge to gamble, the factors that might moderate this relation have yet to be investigated. Through a quantitative research synthesis, we sought to test (a) the overall relation between PRD and gambling urges among people reporting recent gambling experience, and (b) whether this relation is moderated by problem gambling severity. Meta-analysis revealed that, overall, higher self-reported PRD was associated with stronger urges to gamble ($r = .26$). A meta-regression revealed that, across studies, the strength of this relation depended on problem gambling severity, such that the relation between PRD and gambling urges was stronger among samples higher in average problem gambling severity. This pattern was corroborated by an analysis of the aggregated individual participant data ($N = 857$), such that PRD predicted gambling urges only among participants higher in problem gambling severity. The potential practical implications and limitations of these results are discussed.

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1. Introduction

Although gambling is a harmless form of recreation for most people, excessive gambling can lead to adverse consequences (Griffiths, 2004; Petry, 2005). Accordingly, researchers are interested in what motivates some people to gamble more than others and the factors that can lead people from recreational gambling to problem gambling (PG).

Recently, researchers have identified personal relative deprivation (PRD) as one psychosocial factor that motivates gambling. PRD refers to resentment stemming from the belief that one is deprived of a desired and deserved outcome compared to some referent (e.g., what similar others have; see Crosby, 1976; Smith, Pettigrew, Pippin, &

Bialosiewicz, 2012). Callan, Ellard, Shead, and Hodgins (2008) proposed that PRD motivates gambling because gambling might be perceived as a means to attain the outcomes (e.g., money, status) that the gambler feels s/he deserves but might be unable or unwilling to achieve through conventional means (e.g., improving one's employment prospects). Consistent with this idea, Callan et al. (2008) found that participants higher in self-reported PRD reported stronger urges to gamble. In a separate experimental study, they found that participants who were made to feel financially deprived relative to their peers chose to play a real gambling game more frequently than did participants who were not deprived.

There is a growing body of correlational and experimental evidence demonstrating a link between PRD and gambling (Callan, Shead, & Olson, 2011; Callan et al., 2008; Haisley, Mostafa, & Loewenstein, 2008; Mishra, Barclay, & Lalumière, 2014; Wohl, Branscombe, & Lister, 2014), but the individual difference factors that moderate this link

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have yet to be investigated. One factor that might moderate the relation between PRD and the urge to gamble is PG severity. PG is generally characterized by “difficulties in limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community” (Neal, Delfabbro, & O’Neil, 2005, p. 125). Gamblers higher in PG severity tend to be more preoccupied with gambling and are less able to control their gambling behavior (Hodgins, Stea, & Grant, 2011; Richard & Humphrey, 2014). PRD may more strongly affect urges to gamble among people higher in PG severity because they have a greater tendency to experience negative affect (e.g., PRD) and to act rashly when experiencing negative affect compared to non-problem gamblers (for a recent meta-analysis, see MacLaren, Fugelsang, Harrigan, & Dixon, 2011). Thus, one potential consequence of this proclivity to gamble among people higher in PG severity is that PRD might affect an urge to gamble more strongly among these gamblers than gamblers lower in PG severity.

We conducted aggregated and individual participant data meta-analyses of published and unpublished studies that measured PRD, PG severity, and gambling urges to test whether PG severity moderates the relation between PRD and gambling urges. First, we expected that, overall, higher PRD would be associated with stronger gambling urges. Second, we explored the moderating role of PG severity in the relation between PRD and gambling urges. If PG severity augments the relation between PRD and gambling urges, then the correlation between PRD and gambling urges should be stronger at higher levels of PG severity.

2. Method

2.1. Study inclusion

We included in the meta-analyses all of our published ($n = 3$) and unpublished ($n = 5$) studies that, along with various other measures depending on the goals of the individual studies, included measures of PRD, PG severity, and gambling urges. For each study, participants were required to have gambled in some form in the recent past, which varied across studies from once in the last year to twice in the previous 3 months. Brief summaries of the methods for each of the studies are shown below (see also Table 1 for characteristics of the samples). A search of Google Scholar and PsycINFO in October, 2014, using relevant search terms (e.g., “relative deprivation”, “problem gambling”, “urges”) revealed no additional studies that included measures of our pivotal constructs.

2.2. Summaries of studies

2.2.1. Callan, Ellard, Shead, and Hodgins (2008)

Callan et al. (2008, Study 1) recruited separate samples (A and B) of university students to complete online surveys. Participants from both samples completed Ferris and Wynne’s (2001) Problem Gambling Severity Index (PGSI). The PGSI is a widely-used nine-item scale that measures severity of PG within the general population. The items relate

to maladaptive beliefs, feelings, and behaviors associated with gambling (e.g., “When you gambled, did you go back another day to try to win back the money you lost?”). Items are rated on a 4-point scale (0 = never, 3 = almost always) and pertain to an individual’s gambling over the previous 12 months. For analysis, we converted raw PGSI scores (0–27) into four meaningful subtypes of gamblers using Currie, Hodgins, and Casey’s (2013) revised scoring system, resulting in scores ranging from 1 (non-problem, raw score of 0), 2 (low risk, raw scores 1–4), 3 (moderate risk, raw scores 5–7), to 4 (problem gambler, raw scores 8–27).

Participants from Sample A completed Raylu and Oei’s (2004) Gambling Urge Scale (GUS). The GUS consists of six items relating to current desires to gamble (e.g., “All I want to do now is gamble”; 1 = strong disagreement, 7 = strong agreement). Participants from Sample B completed a 2-item gambling urge scale: “Please rate the intensity of your urge to gamble at this moment” and “Please rate the extent to which you are craving a gamble at this moment” (1 = no urge or craving, 7 = strong urge or craving).

Participants from both samples completed Callan et al.’s (2008) 4-item Personal Relative Deprivation Scale (PRDS), which was designed to assess people’s general perceptions and emotions associated with comparing their outcomes to the outcomes of similar others (e.g., “I feel deprived when I think about what I have compared to what other people like me have”; 1 = strongly disagree, 6 = strongly agree). Higher scores indicate higher PRD.

2.2.2. Callan, Shead, and Olson (2011)

In their Study 4, Callan et al. (2011) recruited a community sample of participants for a study on gambling beliefs and decision-making. Participants completed the PGSI, GUS and a revised, 5-item version of the PRDS. This revised scale included an additional item from the original (“I feel dissatisfied with what I have compared to what other people like me have”).

2.2.3. Olson, Callan, and Shead (2010)

Olson, Callan, and Shead (2010) conducted 4 studies on the effects of advertisements on gambling attitudes and behavior. For Study 1, among various other measures (e.g., exposure to gambling advertisements), a community sample of participants completed the PGSI, GUS, and the 5-item PRDS from Callan et al. (2011). The PRDS across Olson et al.’s studies used a 7-point disagree/agree scale.

In Studies 2 and 3, introductory psychology students evaluated television advertisements related to gambling, luxury products, or mundane products. They also completed the PRDS, PGSI, and GUS. Study 4 was similar to Studies 2 and 3 (i.e., involved watching television advertisements) and also included the PGSI, GUS, and PRDS.

2.2.4. Callan and Dunn (2012)

Callan and Dunn recruited participants through Amazon’s Mechanical Turk (Buhrmester, Kwang, & Gosling, 2011). Participants completed the

Table 1
Summary of meta-analysis and study characteristics.

Study	N	r	95% CI r	M (SD) PGSI	% Women	M (SD) age	Published	Sample
Callan et al. (2008), Study 1, Sample A	130	.275*	[.11, .42]	2.10 (.82)	71	20.63 (4.22)	Yes	University students
Callan et al. (2008), Study 1, Sample B	166	.203*	[.05, .35]	1.51 (.72)	65	19.32 (4.94)	Yes	University students
Callan et al. (2011), Study 4	83	.443*	[.25, .60]	2.48 (.98)	49	43.85 (14.51)	Yes	Community
Olson, Callan, and Shead (2010), Study 1	102	.250*	[.06, .42]	1.97 (.85)	53	28.51 (11.86)	No	Community
Olson et al. (2010), Study 2	72	.278*	[.05, .48]	1.32 (.60)	58	18.93 (2.51)	No	University students
Olson et al. (2010), Study 3	70	.060	[−.18, .29]	1.36 (.64)	79	18.99 (3.24)	No	University students
Olson et al. (2010), Study 4	73	.124	[−.11, .34]	1.36 (.65)	64	19.26 (.58)	No	University students
Callan and Dunn (2012)	161	.359*	[.22, .49]	2.33 (.99)	60	34.13 (12.26)	No	Online (% students unknown)
Fixed effects	857	.263*	[.20, .33]					
Random effects	857	.261*	[.18, .33]					

Note: PRD = personal relative deprivation. PGSI = Problem Gambling Severity Index. r = correlation between PRD and gambling urges.

* $p < .05$.

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