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Mindful Non-Judging of Inner Experience Predicts Lower Problem Gambling

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Abstract: Recent research has explored the extent to which mindfulness protects against problem gambling, with mixed results. In this study, we aimed to determine if five facets of trait mindfulness negatively predicted problem gambling in an adult community sample. Two hundred and one participants (aged 18 to 82 years old) were recruited via Prolific and social media and completed an online survey comprising the Marlow-Crowne Social Desirability Scale - Short Form, the Problem Gambling Severity Index, and the Five-Facet Mindfulness Questionnaire - 15. Hierarchical multiple regression analyses controlling for education level revealed that mindful non-judging of inner experiences negatively predicted gambling behaviour. The remaining four mindfulness facets did not significantly predict problem gambling. The current findings provide insight into the role of mindfulness in relation to problem gambling, indicating that less judgement and greater acceptance of thoughts and emotions may be protective against problem gambling. This finding implies that intervention strategies focused on the acceptance of one's thoughts and feelings (e.g., Acceptance and Commitment Therapy) could be effective in reducing problem gambling.

Keywords: Problem Gambling, Trait Mindfulness, Gambling Harm, Non-Judgement.

Introduction

Gambling is considered an acceptable recreational activity in many societies. While most individuals are able to gamble recreationally without experiencing adverse effects, some are unable to manage their gambling, leading to disordered gambling. Problem gambling is a broad term used to characterise a continuum of gambling behaviours that are damaging to a person or their family (Blain et al., 2015). Gambling disorder is considered a behavioural addiction in the *Diagnostic and Statistical Manual of Mental Disorders-5-Text Revised* (DSM-5-TR) due to its phenomenology and clinical expression, and because it shares features with other addictive behaviours (American Psychiatric Association, 2022). A systematic review and meta-analysis (Gabellini et al., 2023) of problem gambling prevalence studies from 2016-2022 estimated a 1.29% prevalence of problem gambling across 23 studies and an array of countries (e.g., Australia, Italy, USA, England, Belgium). Slightly higher rates have been found in both New Zealand (2%; NielsenIQ, 2023) and Canada (1.6%; Rotermann & Gilmour, 2022). Australia has the largest per capita gambling losses in the world, with approximately $25 billion lost each year (Letts, 2018; Queensland Government Statistician's Office, 2022).

Beyond monetary losses, gambling-related harms (e.g., psychological, occupational) have been shown to impact not only the gambler themselves, but also the relationships they have with others and their wider community (AIHW, 2023; Marionneau et al., 2023). Research has identified many antecedents of problem gambling, and multiple pathways along which gambling progresses to problem gambling, including recent efforts to explore the extent to which mindfulness might be protective against problem gambling.

Mindfulness, a type of secularised meditation, attempts to help an individual be more present in the moment with purpose and without judgement (Brown & Ryan, 2004). Mindfulness has been proposed as a useful tool in the treatment of other addictive behaviours such as alcohol dependence and smoking (Schwebel et al., 2020). However, there is debate regarding whether mindfulness, particularly trait (or dispositional) mindfulness, is protective against problem gambling. There is also debate as to whether mindfulness is unidimensional or multidimensional. Brown and Ryan (2004) stipulate that dispositional mindfulness contains one factor, simply characterising the construct as attention to, and awareness of, what is taking place in the present moment. The Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2004), a popular scale used to measure trait mindfulness, is unidimensional and is based on this idea. Linehan and Dimidijan (2003) argue, however, that trait mindfulness is multifaceted, containing six elements. Three of these elements pertain to *how* mindfulness is performed (non-judgementally, one-mindfully, effectively), while the remaining three elements relate to *what* takes place

when someone is being mindful (observing, describing, participating). Building on this work, Baer and colleagues (2006) proposed that trait mindfulness is a five-factor construct, where, through exploratory factor analysis, the Five Factor Mindfulness Questionnaire was developed. *Observing* refers to how an individual perceives the world around them, and to which stimuli are selectively attended. *Describing* is how one puts their experiences into words, including the ability to do this when in different emotional states. *Acting with awareness* is characterised by how much one focuses on the tasks they are completing. *Non-judging of inner experience* (i.e., *non-judging*) refers to how an individual interprets the thoughts and feelings they are experiencing. Finally, *non-reactivity to inner experience* (i.e., non-reactivity) refers to how an individual reacts to the thoughts they are experiencing.

Mindfulness practices promote non-judgemental observation of thoughts and behavioural urges with the aim of separating the two, and not feeling compelled to act on urges (Schwebel et al., 2020). One of the more robust predictive factors for problem gambling is impulsivity (e.g., Blain et al., 2015; Ji et al., 2021; Liu et al., 2013; Mackillop et al., 2014) and, in particular, emotional urgency (Velotti & Rogier, 2020; Willie et al. 2022). Such findings highlight the associations between problem gambling and the cognitive and behavioural regulation of emotional states (Maniaci et al., 2017), and it is therefore possible that trait mindfulness plays an important protective function in minimising gambling-related harm.

Recent research has demonstrated that mindfulness practices can reduce problem gambling (e.g., Chen et al., 2014; de Lisle et al., 2012; de Lisle, 2017; Maynard et al., 2015; McIntosh et al., 2016; Shead et al., 2020), but there is limited evidence regarding the impact of trait mindfulness. McKeith et al. (2017), using a measure of mindfulness as a one-factor construct, found a negative correlation between trait mindfulness and problem gambling severity. Potoczny et al. (2022) found that mindfulness did not moderate the problem gambling/urgency and gambling frequency/urgency relationships. A study assessing trait mindfulness as a total score (FFMQ-Short Form (FFMQ-SF; Mishra et al., 2018) found that mindfulness buffered against problem gambling. Stanmyre et al (2021) profiled gamblers on mindfulness and found that the group that was lower in ‘non-judging’ and ‘acting with awareness’ but high on other mindful facets were at highest risk of problem gambling.

Current Study

The present study aimed to investigate the relationship between five factors of trait mindfulness and problem gambling in Australian, Canadian, and New Zealand adults. There is currently very limited research on how these five facets predict problem gambling. Gaining a deeper understanding of the associations between these constructs may lead to more tailored prevention and intervention strategies. Based on previous research investigating trait mindfulness as a total score (e.g. Mishra et al., 2018), it

was hypothesized that the five facets of mindfulness would negatively predict problem gambling after controlling for the potential covariates of age, education level, gender, and socially desirable responding.

Method

Participants

A G-Power analysis (Faul et al., 2007) indicated that a minimum of 55 participants was required for the sample size to be considered adequate (effect size f^2 = .15, α error prob = .05, power = .80, number of predictors = 1). An initial sample of 258 individuals were recruited for the study, however, those who did not provide consent, were not from Australia, Canada, or New Zealand, did not meet the gambling criteria (i.e., *have you gambled in the past six months?*), and/or did not answer at least one of the key variables were removed and not included in the data set. After removal, a usable sample of 201 participants (79 women, 116 men, one transgender female, three gender-variant/non-conforming, two preferred not to answer) aged between 18 and 82 years (M_{age} = 34.54, SD_{age} = 11.41) were retained in the final sample. Sixteen missing values were replaced. The sample was recruited via Prolific (n = 185) and social media (n = 16; e.g., Facebook), where Prolific participants received a pro-rata monetary payment (approximately AUD$10). The majority of the participants were well-educated and earned approximately the average salary of their country. Further demographic information can be seen in Table 1. Gambling activity preferences can be seen in Table 2. In this sample, women preferred purchasing a lottery ticket whereas most men engaged in online gambling.

Table 1

Participant demographics information

Demographic Variable	Gender				
	Female	Male	Transgender Female	Gender-Variant/Non-Conforming	Prefer Not To Answer
Education Level					
Some high school	3 (3.80%)	2 (1.72%)	1 (100%)	1 (33.33%)	1 (33.33%)
High school	22 (27.85%)	31 (26.72%)	-	-	-
Bachelor's degree	36 (45.57%)	70 (60.34%)	-	-	1 (33.33%)
Master's degree	15 (18.99%)	12 (10.34%)	-	-	-
PhD or higher	2 (2.53%)	1 (0.86%)	-	2 (66.66%)	-
Prefer not to answer	1 (1.26%)	-	-	-	1 (33.33%)
Total	79	116	1	3	3
Annual household income					
Less than $25,000	7 (8.86%)	8 (6.90%)	-	-	-
$25,000 to $50,000	8 (10.13%)	21 (18.10%)	-	-	-
$50,001 to $100,000	25 (31.65%)	38 (32.76%)	-	1 (33.33%)	-
$100,001 to $150,000	21 (26.58%)	22 (18.97%)	-	1 (33.33%)	-

$150,001 to $200,000	5 (6.33%)	13 (11.21%)	1 (100%)	-	-
More than $200,000	7 (8.86%)	11 (9.48%)	-	1 (33.33%)	-
Prefer not to answer	6 (7.59%)	2 (1.72%)	-	-	2 (100%)
Total	79	116	1	3	2

Materials

Demographics. Data pertaining to the participant's gender, age, annual household income (before tax), occupation, preferred gambling style, and education level were collected.

Problem Gambling Severity Index (PGSI). The PGSI (Ferris & Wynne, 2001) measures one's risk of problem gambling. The PGSI is a 9-item questionnaire with questions such as "*Have you felt that you might have a problem with gambling?*". People respond to these questions on a 4-point Likert-type scale, ranging from 0 (*never*) to 3 (*almost always*). A minimum score of 0 and a maximum score of 27 can be obtained, where 0 indicates no levels of problem gambling and 8 or more indicates the presence of problem gambling behaviours. The present study found the PGSI to have excellent internal consistency (Cronbach's $\alpha = .91$).

South Oaks Gambling Screen (SOGS). The SOGS (Lesieur & Blume, 1987) is a 20-item scale, which measures pathological gambling based on the DSM-III criteria. However, for this study, only the first question (i.e. gambling type preferences) was used to describe sample gambling preferences (Table 2). To encapsulate more recent types of gambling, the original question was edited to include activities such as Loot boxes.

Table 2
Gambling activity preferences

Gambling activity	Gender				
	Female	Male	Transgender Female	Gender Variant/Non-Conforming	Prefer not to answer
Gambling of any kind in a physical venue					
Never	31 (39.74%)	31 (27.43%)	-	-	-
A few times per year	33 (42.31%)	49 (43.36%)	-	3 (100%)	1 (50%)
Once a month	-	7 (6.19%)	-	-	1 (50%)
Several times per month	5 (6.41%)	14 (12.39%)	-	-	-
Once a week	7 (8.97%)	9 (7.96%)	1 (100%)	-	-
Several times per week	2 (2.56%)	3 (2.65%)	-	-	-
Everyday	-	-	-	-	-
Total	78	113	1		2
Online gambling of any kind					
Never	28 (35.44%)	24 (21.24%)	-	2 (66.66%)	-
A few times per year	17 (21.52%)	15 (13.27%)	-	1 (33.33%)	-
Once a month	7 (8.86%)	15 (13.27%)	1 (100%)	-	-
Several times per month	5 (6.33%)	16 (14.16%)	-	-	-
Once a week	12 (15.19%)	23 (20.35%)	-	-	2 (100%)
Several times per week	10 (12.66%)	17 (15.04%)	-	-	-
Everyday	-	3 (2.65%)	-	-	-
Total	79	113	1	3	2
Video game gambling (e.g., Loot boxes)					
Never	43 (55.13%)	46 (39.66%)	-	3 (100%)	-
A few times per year	17 (21.79%)	23 (19.83%)	-	-	-
Once a month	1 (1.28%)	14 (12.07%)	1 (100%)	-	-

Several times per month	7 (8.97%)	15 (12.93%)	-	-	-
Once a week	5 (6.41%)	10 (8.62%)	-	-	2 (100%)
Several times per week	3 (3.85%)	7 (6.03%)	-	-	-
Everyday	2 (2.56%)	1 (0.86%)	-	-	-
Total	78	116	1	3	2
Betting on dog or horse races					
Never	53 (68.83%)	60 (52.63%)	-	2 (66.66%)	1 (50%)
A few times per year	17 (22.08%)	28 (24.56%)	-	1 (33.33%)	-
Once a month	1 (1.30%)	9 (7.89%)	-	-	1 (50%)
Several times per month	4 (5.19%)	8 (7.02%)	-	-	-
Once a week	2 (2.60%)	6 (5.26%)	1 (100%)	-	-
Several times per week	-	3 (2.63%)	-	-	-
Everyday	-	-	-	-	-
Total	77	114	1	3	2
Playing electronic gaming machines ('the pokies')					
Never	39 (50%)	59 (52.21%)	-	-	1 (50%)
A few times per year	22 (28.21%)	30 (26.55%)	-	3 (100%)	-
Once a month	3 (3.85%)	7 (6.19%)	-	-	-
Several times per month	5 (6.41%)	12 (10.62%)	1 (100%)	-	-
Once a week	5 (6.41%)	2 (1.77%)	-	-	1 (50%)
Several times per week	4 (5.13%)	2 (1.77%)	-	-	-
Everyday	-	1 (0.88%)	-	-	-
Total	78	113	1	3	2
Purchasing a lottery ticket					
Never	15 (18.99%)	30 (26.32%)	-	-	-
A few times per year	16 (20.25%)	26 (22.81%)	-	1 (33.33%)	-
Once a month	12 (15.19%)	17 (14.91%)	-	-	1 (50%)

Several times per month	13 (16.46%)	8 (7.02%)	-	1 (33.33%)	-
Once a week	17 (21.52%)	27 (23.68%)	-	1 (33.33%)	1 (50%)
Several times per week	6 (7.59%)	5 (4.39%)	1 (100%)	-	-
Everyday	-	1 (0.88%)	-	-	-
Total	79	114	1	3	2
Purchasing an instant scratch ticket (a 'scratchie')					
Never	22 (28.21%)	40 (35.09%)	-	1 (33.33%)	-
A few times per year	22 (28.21%)	46 (40.35%)	-	1 (33.33%)	-
Once a month	14 (17.95%)	8 (7.02%)	-	-	1 (50%)
Several times per month	9 (11.54%)	5 (4.39%)	-	-	-
Once a week	6 (7.69%)	12 (10.53%)	-	-	1 (50%)
Several times per week	5 (6.41%)	3 (2.63%)	1 (100%)	1 (33.33%)	-
Everyday	-	-	-	-	-
Total	78	114	1	3	2
Betting on sports					
Never	52 (66.67%)	38 (32.76%)	-	2 (66.66%)	-
A few times per year	12 (15.38%)	23 (19.83%)	-	1 (33.33%)	1 (50%)
Once a month	4 (5.13%)	6 (5.17%)	-	-	-
Several times per month	4 (5.13%)	15 (12.93%)	-	-	-
Once a week	6 (7.69%)	20 (17.24%)	-	-	-
Several times per week	-	11 (9.48%)	1 (100%)	-	1 (50%)
Everyday	-	3 (2.59%)	-	-	-
Total	78	116	1	3	2
Playing casino table games, such as poker or blackjack					
Never	48 (61.54%)	49 (42.98%)	-	1 (33.33%)	-
A few times per year	21 (26.92%)	38 (33.33%)	1 (100%)	2 (66.66%)	2 (100%)
Once a month	3 (3.85%)	8 (7.02%)	-	-	-

Several times per month	5 (6.41%)	10 (8.77%)	-	-	-
Once a week	1 (1.28%)	3 (2.63%)	-	-	-
Several times per week	-	6 (5.26%)	-	-	-
Everyday	-	-	-	-	-
Total	78	114	1	3	2
Playing bingo					
Never	55 (70.51%)	93 (81.58%)	-	3 (100%)	1 (50%)
A few times per year	15 (19.23%)	12 (10.53%)	-	-	-
Once a month	5 (6.41%)	3 (2.63%)	-	-	-
Several times per month	2 (2.56%)	1 (0.88%)	1 (100%)	-	-
Once a week	-	4 (3.51%)	-	-	-
Several times per week	1 (1.28%)	1 (0.88%)	-	-	1 (50%)
Everyday	-	-	-	-	-
Total	78	114	1	3	2
Playing keno					
Never	58 (74.36%)	93 (81.58%)	-	3 (100%)	1 (50%)
A few times per year	15 (19.23%)	14 (12.28%)	-	-	-
Once a month	3 (3.85%)	5 (4.39%)	-	-	-
Several times per month	1 (1.28%)	1 (0.88%)	-	-	-
Once a week	1 (1.28%)	1 (0.88%)	-	-	-
Several times per week	-	-	1 (100%)	-	1 (50%)
Everyday	-	-	-	-	-
Total	78	114	1	3	2

Five-Facet Mindfulness Questionnaire 15-item (FFMQ-15). The FFMQ-15 (Baer et al., 2012) is a measure of mindfulness and is a short-form version of the 39-item FFMQ (Baer et al., 2006). As per the original FFMQ, the FFMQ-15 is comprised of five facets. Questions included "*I'm good at finding words to describe my feelings*" and "*I find myself doing things without paying attention*". This scale utilises a 5-point Likert-type scale ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*). Average scores for each subscale can be calculated by averaging items from the relevant subscales. Seven items are reverse-scored. The FFMQ-15 subscales ranged from poor-to-good internal consistency in the current study ($\alpha_{observation} = .64$, $\alpha_{non\text{-}reactivity} = .64$, $\alpha_{description} = .83$, $\alpha_{non\text{-}judgemental} = .81$, $\alpha_{acting\ with\ awareness} = .72$).

Covariates. Several sociodemographic covariates were considered for inclusion in the model given their known associations with problem gambling. These included age (e.g., Johansson et al., 2008; Billi et al., 2014), gender (e.g., Hare, 2009; Potoczny et al., 2022), education level (e.g., Wardle et al., 2010; Sproston et al., 2012), and social desirability as operationalised by the Marlow-Crowne Social Desirability Scale 10-item Short Form, (Strahan & Gerbasi, 1972) as biased responses are common in problem gambling research (Pickering & Blaszczynski, 2021).

Procedure

Upon university ethics approval an advertising flyer was circulated through social media and through Prolific (paid recruitment). Participants meeting the criteria (i.e., residing in either Australia, Canada or New Zealand and had gambled in past 6 months) provided informed consent and completed the survey battery.

Results

Data Analysis

The assumptions of multiple regression were tested prior to analysing the data. The residuals were not normally distributed, and visual inspection indicated a positive skew of the problem gambling variable. However, analyses were performed with and without outliers, as well as with raw and transformed data. No meaningful difference in the results were observed, so the original raw data was used. All other assumptions were satisfied.

Table 3 presents the means and standard deviations for all variables in this study, as well as the bivariate correlations. The majority of the current sample would be considered no-risk or low-risk gamblers. Initial correlations revealed that *non-judging* was the only mindfulness subscale to correlate (negatively) significantly with problem gambling. Higher problem gambling was also found to be negatively correlated with education level. None of the other control variables were significantly related to gambling.

All potential covariates were initially inputted into Step 1. Table 4 provides details regarding the hierarchical multiple regression analysis.

Age, gender, social desirability and education level were entered into Step 1, explaining 3.8% of the variance in problem gambling. Education level was the only significant predictor. Then, *non-judgement*, *non-reactivity*, *description*, *acting with awareness*, and *observation* were entered at Step 2 with the addition of these variables explaining an additional 4.1% of the variance in problem gambling, R^2 *change* = .041, *F change* (5, 185) = 1.667, p = .145. The total variance explained by the model was 9.9%, F (5, 185) = 2.25, p = .021. In the final model, only the *non-judging* subscale of the FFMQ-15 was statistically significant.

Table 3

Descriptive statistics and correlations of the analysed variables in this study

Variable	*n*	*M*	*SD*	r_{PGSI}	$r_{description}$	$r_{awareness}$	$r_{non\text{-}judgement}$	$r_{non\text{-}reactivity}$
PGSI	201	3.79	4.52*	-				
No Risk	56 (27.9%)							
Low Risk	83 (41.3%)							
Moderate Risk	25 (12.4%)							
High Risk/Problem Gambling	37 (18.4%)							
Age	198	34.54	11.41	-.086				
Gender	201	-	-	.068				
Education level	201	-	-	-.189**				
Annual household income	200	-	-	-.138				
Social desirability bias	200	5.98	1.43	.127				
Description	198	3.18	.96	-.077				
Acting with awareness	198	3.07	.87	-.014	.220**			
Non-judgement	198	3.20	1.02	-.226**	.256**	.410**		
Non-Reactivity	198	3.12	.81	-.042	.232**	.054	.072	

Observation	198	9.99	2.53	-.055	.259**	.024	-.082	.315**

*the data set is positively skewed **significant at the .05 level
$r_{awareness}$ = acting with awareness

Table 4
Hierarchical multiple regression analysis summary predicting problem gambling with education level and the five facets of mindfulness

Step and predictor variable	*B*	*SE B*	*Beta*	*sr*	p	Change in R^2	R^2
Step 1						.058	.058
Constant	4.003	2.124			.061		
Age	-.015	.029	-.038	-.037	.603		
Gender	.576	.420	.097	.099	.172		
Social desirability	.357	.225	.113	.112	.114		
Education level	-1.017	.378	-.189	-.189	.008*		
Step 2						.041	.099
Constant	6.728	2.657			.012		
Age	-.013	.029	-.034	-.032	.642		
Gender	.539	.423	.091	.089	.204		
Social desirability	.303	.227	.096	.093	.183		
Education level	-.750	.413	-.139	-.127	.071		
Non-judgement	-.931	.367	-.210	-.177	.012*		
Description	-.009	.362	-.002	-.002	.981		
Acting with	.586	.411	.113	.100	.155		

awareness					
Non-Reactivity	-.168	.424	-.030	-.028	.692
Observation	-.130	.138	-.073	-.066	.346

Note: sr = semipartial correlation coefficient

Discussion

The aim of this study was to investigate the relationship between trait mindfulness as a five-factor construct and problem gambling. The hypothesis was partially supported as only *non-judging* was a statistically significant, negative predictor of problem gambling. Similar results to the present study have been found with other addictive/problematic behaviours. A systematic review and meta-analysis conducted by Karyadi et al (2014) discovered a negative association between *non-judging* and substance use behaviours. More recently, and through the FFMQ-SF, Kim and colleagues (2024) found that problematic smartphone users were more judging of their thoughts and feelings. It was also suggested that these more judging and problematic smartphone users had a higher tendency for emotional difficulties. Research has also shown that greater judging (through the full-scale FFMQ) is associated with illicit substance misuse and problematic internet use (Cortazar & Calvete, 2023). Although similarity lies with other addictive/problematic behaviours, ambivalence remains with past literature investigating trait mindfulness and problem gambling. Both McKeith et al. (2017) and Mishra et al. (2018) found a negative correlation between trait mindfulness as a total score and problem gambling. The current study explored all five mindfulness facets in relation to problematic gambling behaviours. Results suggest that as only *non-judging* was predictive of lower problem gambling, only the mindful *non-judging* mindful trait is important in gambling behaviour.

Non-judging, as measured in the FMMQ-15, refers to an individual's ability to accept their thoughts and emotions without interpreting them as shameful, abnormal, bad, or inappropriate. Individuals scoring higher on this trait are likely to exhibit greater acceptance of their thoughts and feelings, without attributing negative connotations to them. Interestingly, in the current sample, this lack of judging and greater acceptance of thoughts and emotions predicted fewer problem gambling behaviours, highlighting a potential protective effect. As such, problem gambling may operate in part to manage, avoid and/or distract from feelings of shame and self-judgement. Learning not to judge one's negative thoughts and feelings might be important in reducing gambling harm. Alternatively, the present findings might suggest that problem gamblers are more likely to feel shame and self-judgement as a result of their gambling behaviour, highlighting that this relationship may be bi-directional. Interestingly, lower non-judging was also a feature of the mindfulness profile with the highest gambling risk in the Stanmyre et al (2021) study. Li Anthony et al. (2023) found that their identified judgmental and unaware profile were highest in problem gaming. Non-judging has also been found to be a key distinguishing facet in recent research profiling mindfulness as a multidimensional construct (Lecuona et al., 2022; Lubbers et al., 2024).

The mindfulness subscales of *description*, *acting with awareness*, *non-reactivity*, and *observation* were found to be non-significant. These

facets are more concerned with the physiological (i.e., the inability to put emotions into words, attending to tasks, reacting to negative thoughts, and awareness of bodily sensations, respectively) rather than cognitive (i.e., as is *the non-judging* subscale) reaction to thoughts and emotions. However, this does call into question why gambling (Stanmyre et al 2021) and other non-substance use disorders (e.g., illicit substance misuse, problematic internet use) have been associated with lower *acting with awareness* facet (e.g., Cortazar & Calvete, 2023). Gratz and Roemer (2004) identified six factors of emotional dysregulation to create the Difficulties in Emotion Regulation Scale (DERS), where "lack of emotional awareness" (pg. 47) is most pertinent here. If problem gamblers have deficits in emotional regulation (as has been reported previously e.g., Velotti & Rogier, 2020, Torrado et al., 2020, Maniaci et al., 2017), and poor emotional awareness is linked to this, it is then plausible that problem gamblers would be less likely to act with awareness (i.e., the negative correlation).

Limitations and Future Research

The current sample was community-based and does not specifically represent individuals with disordered gambling. Further, the cross-sectional nature of this research limits the ability to establish causal relationships. The *observation* and *non-reactivity* facets of mindfulness had poor internal consistency. Future research could investigate whether problem gambling behaviours allow for a distraction, avoidance, or management of shame and self-judgement, or if problem gamblers are more likely to feel shame and self-judgement as a result of their gambling behaviour. Ultimately, the findings imply that intervention strategies focused on the acceptance of one's thoughts and feelings could reduce gambling-related harm. Acceptance and Commitment Therapy (ACT), a cognitive-behavioural approach aiming to aid individuals in changing their relationships with unwanted psychological experiences (Hayes, 2004; Zhang et al., 2018), may be a relevant intervention strategy.

Conclusion

This study investigated how five facets of trait mindfulness as proposed by Baer and colleagues (2006) independently influence problem gambling. We found that *non-judging of inner experience* was the only facet that predicted problem gambling. In particular, the results suggest that non-judging may serve as a protective factor against problem gambling. Thus, interventions based on gamblers' acceptance of their thoughts, feelings, and experiences could function to reduce gambling-related harms.

Ethics approval

Victoria University Human Research Ethics Committee approved "The role of Emotion regulation in disordered Gambling" in August 2023 (HRE22-068).

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None.

Relative Contributions

PG and AH designed the study and collected data. AH analysed the data. All authors read and approved the final manuscript.

Competing interests

None declared.

Research Promotion

The current findings provide insight into the role of mindfulness in relation to problem gambling, indicating that less judgement and greater acceptance of thoughts and emotions may be protective against problem gambling. This finding implies that intervention strategies focused on the acceptance of one's thoughts and feelings (e.g., Acceptance and Commitment Therapy) could be effective in reducing problem gambling.

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