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Gambling motivation: Comparisons across gender and preferred activity

Abstract

People gamble for emotional, social and monetary reasons. However, it remains unclear whether the relationships between these distinct aspects of gambling motivation and gambling behaviour hold across gender and types of gambling. Thus, the current study compared gambling motivation across different subgroups while taking into account problem gambling severity. A total of 4,945 adults were recruited as part of the Northern Territory (Australia) population gambling survey. Of the full sample, 1,207 participants (52% female) completed the Gambling Outcomes Expectancies Scale to assess gambling motivation. This subsample comprised those who scored one or more on the PGSI (n = 407) and a random sample of those who gambled at least once a year with a PGSI of zero (n = 800). The findings revealed excitement, escape and monetary expectancies increased in concert with gambling risk for both men and women, although only escape differentiated the low-risk and at-risk gamblers when other expectancies were controlled. In relation to differences across types of gambling, horse races/sports bettors rated excitement but not escape more favourably than lottery players. These findings suggest problem gambling severity should be considered when examining motivation difference by gender and that gambling motivation depends, in part, on preferred activity.

Keywords: Gambling Outcome Expectancies Scale (GOES); gambling motivation; motives; gambling risk status; gender; gambling preference; population survey; confirmatory factor analysis

Introduction

One approach used to enhance the understanding of problematic gambling behaviour is to examine the relationship between types of gambling motivation and gambling problems. Importantly, findings from population level surveys can be used to inform educational initiatives and problem gambling treatment programs (Canale, Santinello, & Griffiths, 2015; Francis, Dowling, Jackson, Christensen, & Wardle, 2015; Schellenberg, McGrath, & Dechant, 2016). However, it remains unclear whether distinct types of motivation for gambling play a consistent role across subgroups of the population. Specifically, there is some conjecture as to whether the reasons for gambling are, in part, dependent on gender, type of gambling, and gambling risk status (Sundqvist, Jonsson, & Wennberg, 2016). Thus, the current study explores to what extent gambling motivation varies by gender, preferred activity, and gambling risk profile of participants recruited from the general population.

Background

Although various motives have been advanced to explain gambling behaviour, gambling for emotion regulation (e.g. to enhance mood and/or escape unpleasant emotions), social reasons, and the chance to win money are commonly reported facets of gambling motivation (Binde, 2013; Francis, et al. 2015; McGrath, Stewart, Klein, & Barrett, 2010). However, some researchers have identified that men and women may gamble for different reasons. For example, research with problem gamblers has revealed women are more likely to gamble for escape than men (Ledgerwood & Petry, 2006; Steward & Zack, 2008; Wenzel & Dahl, 2009). Similar patterns have emerged in non-treatment seeking populations. Lloyd et al. (2010) found that women who gamble online endorsed gambling as an escape more strongly than men, whereas men more strongly endorsed gambling for money and enjoyment reasons (e.g. excitement). Other researchers have failed to find gender differences in emotion oriented motives (Walker et al., 2005; Sundqvist et al., 2016; McGrath et al., 2010). In terms of social

motivation, women who hold more negative views of the potential social consequences have been shown to gamble less frequently than their male counterparts (Teeter et al., 2015).

In relation to preferred gambling activity, several studies have identified specific motives may play a more salient role than others. One approach employed to assess the function of specific motivational dimensions is to predict the gambling frequency of different gambling activities using separate models. For example, Electronic Gaming Machine (EGM) gambling frequency/participation has been found to be independently predicted by the gambling motivation of escape, whereas race/sports betting has been shown to be preferentially explained by excitement, social, and/or the motivation to win money (Abarbanel, 2014; Balodis, Thomas, & Moore; 2014; Fang & Mowen, 2009; Lam, 2007). An alternative approach to explore gambling motivation by activity is to compare mean scores across preferred gambling activities. Clarke (2005) found that regular EGM players scored higher on excitement and escape reasons for gambling than those who regularly purchased lottery tickets, although the groups did not differ in relation to monetary motivation. In contrast, Sundqvist et al. (2016) reported gamblers who preferred EGM gambling, sports betting, casino type gambling, or lotteries did not differ in coping (escape), monetary, or amusement reasons for gambling. However, casino gamblers and sports bettors endorsed the social motives more than lottery players. The study by Sundqvist et al. differs from the previous studies, in that, non-risk gamblers were excluded from the study.

Other large community or population based studies have explored the role of gambling motives in relation to predicting problem gambling scores. Flack and Morris (2015) found beliefs concerning gambling as a way to experience excitement and escape (e.g. gambling for emotion regulation) predicted problem gambling scores over and above that of social and monetary reasons. In the follow-up study, Flack and Morris (2016) found escape and excitement predicted problem gambling scores, as assessed 12 months later, and these same

perceptions towards gambling became more congruent with gambling behaviour over time. Schellenberg et al. (2016) found that gambling to enhance mood (excitement), to cope (escape), for social reasons, and to win money together predicted gambling frequency. However, only escape independently predicted problem gambling scores. Further, the path model parameter estimates were also found to be invariant across the male and female models, indicating gambling motives operated similarly for men and women.

Present Study

Although the previous research indicates that emotion oriented motives or reasons for gambling preferentially predict problem gambling, the finding are somewhat mixed when considered at the subgroup level of gender and preferred gambling activity. This may, in part, be explained by the quite dissimilar sample characteristics. For instance, much of the existing research that has examined group differences was conducted with student or small convenience samples. In terms of the larger scale and population level studies, most do not concurrently compare gambling motivation by preferred type of activity, gender, and gambling risk level. Therefore, it is unknown whether the salience of emotion focused types of motivation found in the larger scale studies hold across different subgroups. To further explore this issue the current study draws on population level data collected as part of the Northern Territory (Australia) Gambling and Health and Wellbeing Survey (Stevens, Thoss, & Barnes, 2017). Embedded within this survey was a measure of gambling outcome expectancies (Gambling Outcomes Expectancy Scale, GOES, Flack & Morris, 2015) which assesses the anticipated emotion, social and financial benefits (or lack of) from gambling. Belief-type measure's such as outcome expectancies capture the motives for a behaviour without indirectly referring to the frequency of the behaviour (e.g. asks 'does gambling release tension' rather than 'how often a person gambles to release tension'). This helps circumvent the risk of confounding reasons for gambling with frequency of gambling which,

in turn, may inflate the relationship between gambling motivations and gambling risk (Sundqvist et al., 2016). In addition, belief-type measures of motivation are relevant to a broad section of the general community as people hold views towards gambling regardless of how regularly they gamble.

The current study addresses several objectives. The first is to test the factor structure and the psychometric properties of the GOES within a sample recruited from the general population. Although the GOES has been previously employed in large general community surveys (e.g. Flack & Morris, 2015; 2016), it has not been used in a population survey conducted with computer aided telephone interviewing. Second, we test whether we can replicate the findings of previous larger scale studies. That is, we expect the emotion oriented facets of motivation (e.g. escape and excitement expectancies) to be associated with increases in problem gambling risk. The remaining objectives are more exploratory because of the somewhat mixed findings reported previously. We examine whether males tend to endorse the excitement and money expectancies more favourable than females and whether females tend to endorse the escape aspect of expectances more than males. In terms of gambling preference, we assess whether gamblers who prefer continuous types of gambling (e.g. EGMs, race, sports and casino betting) hold more favourable views of the escape, excitement, social and financial benefits of gambling than lottery players. Finally, we reassess the nature of the relationships between gambling outcome expectancies, gender, and preferred gambling activity while adjusting for problem gambling severity.

Method

Participants and procedure

A total of 4,945 adults were recruited as part of the Northern Territory (NT) Gambling and Health and Wellbeing Survey using computer aided telephone interviewing (Stevens et al., 2017). The survey applied dual frame (mobile and landline) sampling with a stratified random design using region, age and gender, with broad Territory wide age and gender quotas set for regions (for landline sampling). The survey company (Roy Morgan Research) used their own Random Digit Dialling sample frame for landlines, while a combination of three mobile lists (with duplicates removed and known 'do not contact' numbers excluded, based on past survey work by Roy Morgan Research) were used to develop a mobile frame, from which random sampling of mobile numbers was undertaken. The last birthday method was used to select a household member for landlines, though this was adjusted about half way through sampling due to lower numbers of males being captured and was adjusted to ask for the male in the house with the last birthday. Mobile interviews were conducted with the owner of the phone/number. After questions on gambling participation were asked, respondents were screened using the PGSI, with all low and at-risk gamblers, and one in four non-problem receiving additional questions (i.e. the full survey), including the GOES. The final consent rate for the 2015 survey was 31% (28% landline and 48% mobile).

Population weights were applied to raw data to correct for sampling bias and to ensure estimates were generalisable to the total NT adult population, with separate weights developed for the full sample and the sub-sample. Population weights took account of phone connectedness (number of landlines in house, mobile interview), age (18-34, 35-49, 50-64, 65+), gender (male, female), region (Darwin/Palmerston, Katherine, Tennant Creek/Nhulunbuy, Alice Springs, and rest of NT), and number of adults in a house, and were derived separately for the Indigenous and non-Indigenous samples (for full survey

methodology see Stevens et al., 2017). Ethics approval was received from the joint Northern Territory Department of Health and Menzies School of Health Research Humans Research Ethics Committee to conduct the population survey.

There were 1,211 respondents (52% female) in the full sub-sample of gamblers, though four males had missing data for the GOES, leaving a final unweighted sample of 1,207. Applying the population weights to the sub-sample the total population available for analysis was 133,992 people, of which 47.4% were female. While all efforts were made to ensure the sample was random, some population segments were under-represented (males, less than 35 years, and Indigenous), though the adjustment through the population weights ensured the sample matched the age, gender, Indigenous status and region population distribution across the NT. Prevalence of PGSI categories in the weighted sample were: 84.6% (Standard Error [SE] 1.5) non-risk, 10.7% (SE 1.3) low risk, 3.8% (SE 0.7) moderate risk and 0.9% (SE 0.3) problem gamblers. The weighted mean age was 42.5 years (*SD* = 14.5) and the age range was between 18 and 89 years. The weighted sample comprised 21.5% (SE 3.6) Indigenous, 97.3% (SE 0.6) reporting English as the main language spoken at home, 71.1% (SE 2.4) were currently employed; and 75% (SE 3.4) completed year 12 or a higher qualification.

Measures

Gambling participation. The participants were asked to indicate how often they gambled (e.g. how many times a week, month, or yearly) on 12 different types of activities, including EGMs or pokies, race track betting, casino table games, keno, instant scratch tickets, lotteries, bingo, sports betting raffles and informal games. Respondents were also asked which type of gambling activity they spent the most money on. The highest spend activities was used to classify participants into preferred type of gambling activity.

Gambling outcomes expectancies. The Gambling Outcomes Expectancies Scale (GOES; Flack & Morris, 2015) is an 18-item measure which assesses five dimensions of gambling

related beliefs, as shown in Table 1. Each item is endorsed on a 6-point Likert type scale from strongly disagree (1) to strongly agree (6). For the current study the scale was modified to a 5-point response format to simplify the response options for the verbal administration of the survey. The subscales scores are computed by averaging the items related to their respective domain. The GOES subscales have displayed excellent internal consistency (Cronbach Alpha ranging between .85 and .94) and temporal stability (Flack & Morris, 2016).

Problem gambling. The 9-item Problem Gambling Severity Index (PGSI) in its original form (i.e. 4-point Likert scale) from the Canadian Problem Gambling Scale (Ferris & Wynne, 2001) was used to assess problem gambling. The PGSI provides cut off scores to indicate no-risk (score = 0), low-risk (1-2), moderate risk (3-7) and problem gambling (8 or more) and is a commonly used and validated measure of problem gambling risk (Sharp et al., 2011). Problem and moderate risk categories of the PGSI were collapsed for analyses to improve the accuracy of estimates.

Data preparation and data analyses

Prior to testing for the between group expectancies differences, the factor structure of the GOES was examined to ensure the five factor measurement model was appropriate for the planned analysis. The factor structure was specified *a priori* on the basis on the previous research with the scale (Flack & Morris, 2015) and tested using Confirmatory Factor Analysis (CFA) with AMOS version 24. The analyses were carried out on the unweighted sample and the parameter estimates were calculated using the maximum likelihood method. Model fit was assessed with several fit metrics including the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). CFI and TLI values above .95 and RMSEA values below .08 indicate the model is a good fit to the data (Kline, 2011). In addition, invariance testing was employed in a hierarchical

manner to test that the scale structure (configural invariance), item loadings (metric invariance), construct covariance (structural invariance), and the items intercept (scalar invariance) were comparable for the female and male measurement models. When measurement invariance is demonstrated, greater confidence can be placed when making comparisons across groups. Invariance is indicated if the CFI value does not reduce by more .01 with the addition of the imposed constraints at each level of the invariance testing, after establishing configural invariance (Vandenberg & Lance, 2000).

The following analyses were carried out on the weighted sample using Stata v15.1 (StataCorp, 2015). To establish discrete gambling risk categories, three mutually exclusive groups were formed based on the respondents' PGSI score. Consistent with the cut off scores recommended by Ferris and Wynne (2001), respondents with a PGSI score of zero were classified as no-risk gamblers (n = 800, N = 113,291) and those with a score between one and two, low-risk (n = 289, N = 14,366), while moderate risk (n = 93, N = 5,128) and problem gamblers (n = 25, N = 1,206) were merged into an 'at-risk' group due to the relatively small number of problem gamblers.

To compare gambling outcome expectancies by preferred gambling activity, gamblers were classified into one of six groups: EGM gambling; races and sports betting (e.g. horses, greyhounds, football, cricket or tennis); casino table games (e.g. Blackjack, Baccarat, Roulette or poker); Keno; Lotteries (Lotto, Powerball, Pools and Instant scratch tickets); and raffles, sweeps or SMS phone competitions according to the gamblers highest spend activity. These groups were formed to balance the need to establish groups with a sufficient sample size whilst maximising their homogeneity. Further, these groups are also similar to those used by other researchers (e.g. Balodis et al., 2014; Clarke, 2005; Sundqvist et al. 2016), which assists in comparing results across studies. Table 2 displays the percentage of participants within each category by GOES, the average number of activities played, and the percentage

classified as at-risk as determined by a PGSI score of three or more. Age was not related to PGSI scores (r = -.03, p = .41) and, therefore, was not included as a covariate in the ensuing analyses. Two-way ANOVAs were carried out for each of the five GOES dimensions, with gender and gambling risk as independent variables. The interaction between gender and gambling risk was also assessed, and Sidak adjusted pairwise comparisons made where the interaction effects were significant ($p < .05$). One-way ANOVAs were carried out for each of the five GOES dimensions, with preferred gambling activity (based on highest spend) as the independent variable. For the paired comparisons between GOES dimensions and activity preference, effect sizes were required to reach at least a Cohen's d of .3 to indicate a difference (in addition to Sidak pairwise adjustments with $p < .05$). This was deemed necessary to minimise the risk of identifying negligible difference as the result of using relatively large group sizes.

Results

CFA of GOES and invariance testing

The results from the CFA are displayed in Table 1. As shown, each of the items loaded significantly ($\lambda > .5$) onto their respective dimension of Gambling Outcome Expectancy, supporting the utility of the scale in a general population. The fit statistics revealed the specified model was a good fit to the data: CFI = .974; TLI = .969; RMSEA = .046. The measurement model fit was similar for females (CFI = .972; TLI = .966; RMSEA = .050) and males (CFI = .961; TLI = .952; RMSEA = .053). Configural invariance was established for the female and male measurement models (CFI = .967; TLI = .960; RMSEA = .036), which indicates equivalence of the factor structure across gender. Furthermore, the results from the hierarchical invariance testings indicated the model fit did not deteriorate when the constraints of metric invariance (CFI = .966); structural invariance (CFI = .963); and scalar

invariance (CFI = .957) were sequentially imposed on the measurement model. A weighted factor analysis carried out in Stata v15.1 revealed a five factor structure, which was consistent with the unweighted factor structure.

Table 1

Structure Coefficients of Final GOES

	Factor Structure Coefficients				
Item	Excite	Escape	Money	Ego	Social
1... is a rush	.62				
3... intensive feelings	.77				
4... being really alive	.83				
6... forget everyday problems		.71			
7... way to relax		.74			
8... clear your mind		.84			
10... release tension		.84			
2... win big money			.74		
5... good chance to win			.71		
14…make big money			.86		
11…feel like an expert				.80	
12…feeling important				.86	
13…feeling in control				.76	
14…feeling powerful				.85	
15...be with similar people					.76
16...meet new people					.81
17...get along with others					.84
18...to be with friends					.76
Cronbach's Alpha	.77	.86	.81	.89	.87

Gambling Outcome Expectancies mean differences by subgroups

Two-way ANOVAs and subsequent testing of interaction effects between gender and gambling risk for each of the GOES dimensions revealed that there was a significant interaction between gender and gambling risk for excitement, $F(2, 1201) = 3.23$, $p = 0.040$; escape, $F(2, 1201) = 16.38$, $p < 0.001$; ego, $F(2, 1201) = 8.55$, $p < 0.001$; and social, $F(2, 1201) = 3.44$, $p = 0.032$; but not for money, $F(2, 1201) = 2.05$, $p = 0.129$. Therefore, it is only appropriate to interpret the main effects of gender and gambling risk for money. Means and

standard deviations for each GOES dimensions by gambling risk and gender are displayed in Table 2.

Table 2. Mean and standard deviation for GOES dimension by level of gambling risk and gender

		PGSI Gambling Risk Level			
GOES dimension	Gender	No-Risk Mean (SD)	Low-Risk Mean (SD)	At-Risk Mean (SD)	Total Mean (SD)
Excitement	Male	2.26 (0.89)	2.69 (0.78)	2.92 (0.70)	2.35 (0.89)
	Female	1.92 (0.80)	2.48 (0.95)	3.13 (0.82)	2.02 (0.87)
	Persons	*2.09 (0.86)*	*2.61 (0.86)*	*3.02 (0.76)*	*2.19 (0.89)*
Escape	Male	1.90 (0.67)	2.13 (0.59)	2.44 (0.91)	0.68 (0.68)
	Female	1.62 (0.64)	2.38 (0.89)	2.93 (0.83)	0.76 (0.76)
	Persons	*1.77 (0.67)*	*2.23 (0.74)*	*2.67 (0.90)*	*1.86 (0.73)*
Ego	Male	1.94 (0.61)	2.02 (0.54)	2.14 (0.59)	1.96 (0.60)
	Female	1.57 (0.57)	2.08 (0.87)	2.12 (0.50)	1.65 (0.63)
	Persons	*1.76 (0.62)*	*2.05 (0.70)*	*2.13 (0.55)*	*1.81 (0.63)*
Social	Male	2.54 (0.87)	2.89 (0.88)	2.90 (0.89)	2.60 (0.88)
	Female	2.10 (0.88)	2.82 (0.87)	2.85 (0.83)	2.20 (0.91)
	Persons	*2.33 (0.90)*	*2.86 (0.87)*	*2.88 (0.86)*	*2.41 (0.92)*
Money	Male	2.25 (0.89)	2.59 (0.85)	2.86 (0.90)	2.32 (0.90)
	Female	1.83 (0.79)	2.38 (0.93)	2.82 (0.96)	1.93 (0.85)
	Persons	*2.05 (0.87)*	*2.50 (0.89)*	*2.84 (0.92)*	*2.13 (0.90)*

There was a significant difference in mean money expectancies between male and female gamblers, $F(2, 1201) = 59.18$, $p < 0.001$, partial $\eta^2 = .05$; and between all risk categories, $F(2, 1201) = 34.24$, $p < 0.001$, partial $\eta^2 = .05$. Interaction effects for the other GOES dimensions have been plotted in Figure 1 to assist in interpretations of gender by gambling risk differences on each dimension, respectively.

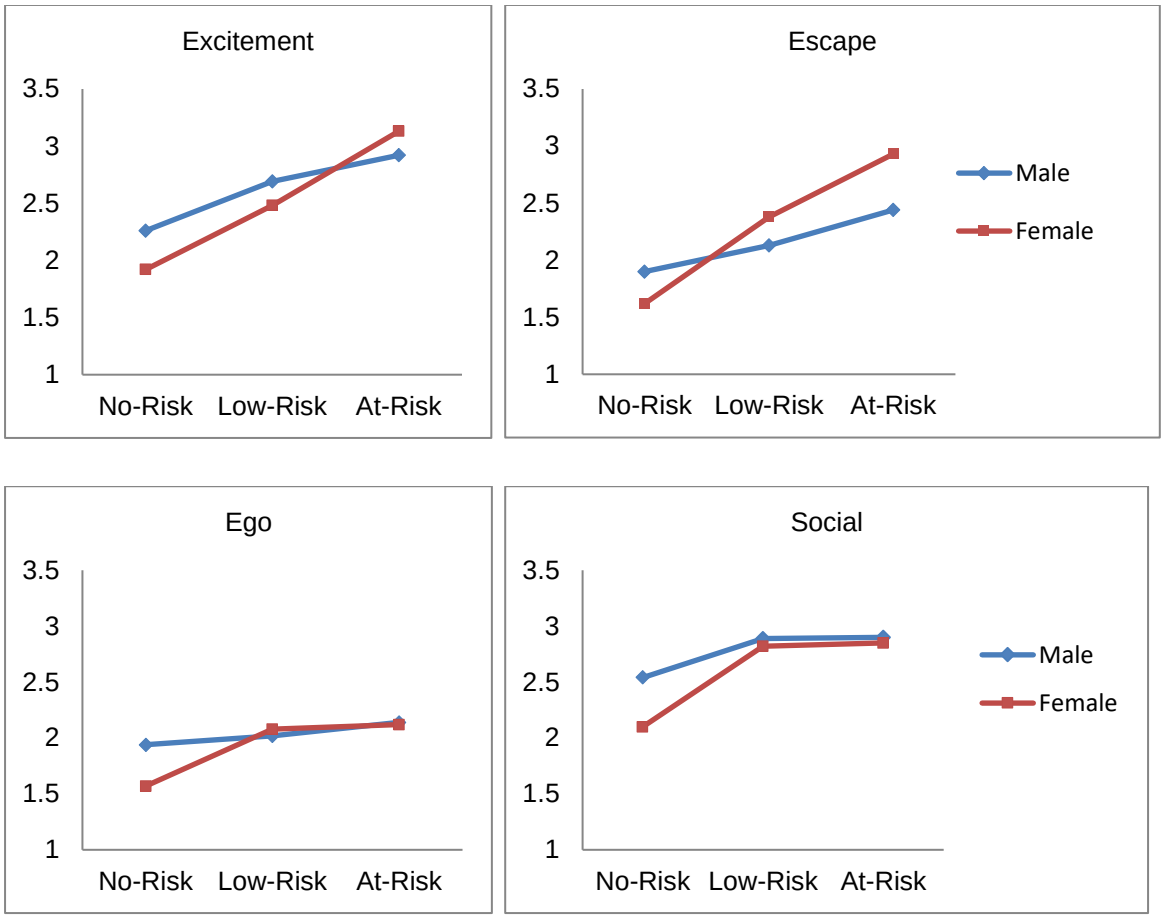

Figure.1. Interaction effects for gambling risk by gender on GOES dimensions.

Pairwise comparisons revealed significant ($p < .05$) differences between the male and female no-risk gamblers endorsement of excitement, escape, ego and social expectancies. That is, non-risk males consistently endorsed these expectancies more favourably than their female counterparts. However, this trend did not hold for low-risk and at-risk gambling groups, as there were no significant differences between the males and females on the excitement, escape, ego, and social expectancies. In other words, the non-monetary expectancies failed to differentiate males and females gambling either at the low-risk or at-risk problem gambling levels.

In relation to risk status, at-risk females and at-risk males rated the excitement and escape expectancies more favourable than their no-risk counterparts. At-risk females also rated the ego and social expectancies higher than female no-risk gamblers. In contrast, there was no significant difference between at-risk and non-risk male gamblers on the ego and social expectancies. Neither the female or male at-risk gamblers differed from the low-risk female and males gamblers on the ego or social expectancies, respectively. However, at-risk female gamblers endorsed the excitement and escape facets of expectancies more than low risk-females. Although the male at-risk and low-risk gamblers show a similar pattern to the females on the excitement and escape expectancies (Cohen's d = .3 and .5 for the male at-risk to low-risk, excitement and escape, respectively), the differences did not reach significance.

Given the general trend for at-risk gamblers to endorse excitement, escape and money more than low-risk gamblers, a series of ANCOVAs were conducted adjusting for gender and the competing dimensions of expectancies. At-risk gamblers endorsed escape to a greater extend that low-risk gamblers when controlling for gender, excitement and money, $F(1, 402) = 7.18$, $p = 0.008$, partial $\eta^2 = .02$. However, at-risk gamblers did not differ from low-risk gamblers on excitement when controlling for gender, escape and money, $F(1, 402) = 2.64$, $p = 0.105$, partial $\eta^2 < .01$. Likewise, there was no significance difference between at-risk and low-risk gamblers on money expectancies when controlling excitement and escape, $F(1, 402) = 1.68$, $p = 0.196$, partial $\eta^2 < .01$. Thus, escape was the only dimension of expectancies that differentiated at-risk and low-risk gamblers when the overlap in expectancies was taken into account.

One-way ANOVAs were conducted to explore whether differences existed across the preferred gambling activities (as assessed by the highest spend activity of the respondent) on the gambling outcome expectancies. Significant differences emerged across activity type and GOES dimensions of excitement, $F(5, 1141) = 30.27$, $p < .001$, $\eta^2 = .12$, escape $F(5, 1141) =$

32.05, $p < .001$, $\eta^2 = .12$; ego $F(5, 1141) = 19.31$, $p < .001$, $\eta^2 = .08$; social $F(5, 1141) = 35.74$, $p < .001$, $\eta^2 = .14$; and money $F(5, 1141) = 16.62$, $p < .001$, $\eta^2 = .07$. In addition, the number of activities gambled on varied significantly across the preferred activities, $F(5, 1174) = 47.92$, $p < .001$, $\eta^2 = .17$. The results are summarised in Table 3.

Table 3. *Comparisons of GOES dimension means by Highest Spend Activity (N = 127,967)*

Scale / Measure	Highest Spend Activity						
	a.EGM 13.1% (2.0)	b.Races or Sports 15.8% (3.0)	c.Table Games 9.7% (2.8%)	d.Keno 6.5% (1.2)	e.Lotteries 36.3% (2.7)	f.Raffles or SMS 18.6% (2.0)	Total 100.0%
Excitement	2.45[c*e-f*]	2.37[c*e-f*]	2.85 [a-b*d-f*]	2.35 [c*e-f*]	2.01[a-d*]	1.83[a-d*]	2.20
Escape	2.42[b-f*]	1.86[a*f*]	1.98 [e-f*]	2.01 [a*e-f*]	1.73 [a*c-d*]	1.57[a-d*]	1.86
Ego	1.96 [c*e-f*]	1.87[c*f*]	2.23 [a-b*d-f*]	1.89 [c*f*]	1.71 [a*c*]	1.62 [a-d*]	1.81
Social	2.74 [b*c*e-f*]	2.41[a*c*f*]	3.15[a-b*d-f*]	2.64[c*e-f*]	2.29[a*c-d*f*]	1.96[a-e*]	2.41
Money	2.16[f*]	2.34[f*]	2.16 [f*]	2.16[f*]	2.24[f*]	1.67 [a-e*]	2.12
No of Activities	3.34[e**f*]	3.51 [d-f*]	3.82 [e*f*]	2.79 [b-c*f*]	2.59 [a-c*e-f*]	1.78 [a-e*]	2.82
At-Risk (PGSI ≥ 3) % (SE)	16.0 (3.8)	5.7 (2.3)	5.5 (3.1)	3.5 (1.7)	1.7 (0.7)	0.8 (0.7)	4.5 (0.7)

Note: Means in a row with superscripts indicate significant Sidak adjusted pairwise differences at $*p < .05$ and an effect size of Cohen's $d \geq .3$

Respondents preferring EGM gambling endorsed all the facets of gambling outcome expectancies to a greater extent, with the exception on money, than those preferring lotteries. Those preferring to bet on the races rated excitement more favourably than those preferring lotteries. Table game players endorsed the excitement, ego enhancement and the social aspect of gambling expectancies more than all the other preferred types of gambling activities, as well as holding more favourable view of the escape than individual preferring lotteries. Interestingly, none of the continuous forms of gambling activities (e.g. EGM, table games and races/sports gambling) differed from lottery players on money expectancies. In relation

to number of activities played, EGM, race/sports bettors and table game players engaged in more activities than those preferring lotteries (and raffles). When taking into account problem gambling scores, most of these relationships did not change. The exceptions were: social expectancies no longer differentiated EGM and race/sports bettors, EGM gamblers held more negative views towards winning money compared to race/sports bettors, and table game players gambled on more activities than EGM gamblers.

Discussion

The current study investigated the role of gambling motivation, assessed using the gambling outcome expectancies scale (Flack & Morris, 2015), in a sample of gamblers captured as part of the 2015 NT Gambling Prevalence and Wellbeing Survey. In particular, the focus was to explore the relationship between gambling motivation, gender, preferred type of gambling, and gambling problem status. Consistent with expectations, at-risk gamblers held more favourable views on the emotion focused expected outcomes of gambling compared to no-risk gamblers. In relation to gender, low-risk males endorsed the five dimensions of expectancies more than the females, although this trend changed as problem gambling risk status increased. There was some support for the prediction that different aspects of gambling motivation may vary depending on preferred activity, although the there was also a degree of similarity across the continuous forms of gambling. This was also reflected in terms of the number of activities participated in and problem gambling status.

Prior to testing whether subgroups differed on their views of the anticipated outcomes of gambling, the factor structure of the Gambling Outcome Expectancy Scale was examined. Consistent with previous research with the GOES, the confirmatory factor analyses supported proposed five-factor model. Broadly speaking, the current study's findings are consistent with previous research that has shown gambling motivation reflect emotion (excitement and escape), ego (gambling to increase self-esteem or for the challenge), social, and monetary

reasons for gambling (Francis et al., 2015; Flack & Morris, 2015; Schellenberg et al., 2016). In addition, the invariance testing provides support that the GOES measures the facets of gambling expectancies for males and females in a comparable way. This indicates that men and women interpreted the GOES items in a similar manner which suggests greater confidence can be placed in the subgroup comparisons by gender.

In relation to motivation by gender, no-risk men gamblers rated the five dimensions of expectancies more favourably than no-risk women gamblers. While previous studies indicate males tend to endorse the excitement and monetary motivations more than females (e.g. Lloyd et al., 2010; Walter et al., 2005), the finding that no-risk female gamblers endorsed escape less than males was somewhat unexpected. However, when gambling risk status was taken into account a different motivational profile emerged. Namely, the significant difference between males and females on the non-monetary expectancies dissipated for the low-risk and at-risk gamblers. These findings are similar to Sundqvist et al. (2016) who found gender differences in gambling motives diminished after controlling for the effects of problem gambling in their sample of at-risk gamblers. Perhaps some of the differences observed between male and female gamblers in other research are simply an artefact of dissimilarities in gambling behaviour (e.g. frequency of play – see Stevens et al., 2017). Alternatively, it is possible that motivations may change if gamblers start to spend more than they can afford. For instance, gambling may serve a role in moderating undesired emotional states for men and women.

Differences were revealed in gambling outcome expectancies across the levels of gambling risk, although the pattern was not consistent. In relation to the no-risk and at-risk gambling, an increase was observed on the excitement, escape and money dimensions of gambling outcome expectancies for women and men. However, only female at-risk gamblers also held more favourable view of ego enhancing and social aspect of gambling than their no-

risk-counterparts. That is, male at-risk and no-risk gamblers did not differ in their anticipation of gambling as an ego enhancing and social activity. When the overlapping influences of excitement, escape and money, and the effects of gender, were controlled, escape was the only facet of expectancies to differentiate low-risk and at-risk gamblers. In addition, the absence of a significant difference on social and ego expectancies for females and males low-risk and at-risk gamblers suggests they perceived the social aspects and self-enhancing benefits of gambling similarly. This is consistent with the previous research that has shown the emotion, social, and monetary reasons for gambling influence gambling frequency, whereas gambling for emotion regulation appears to play a more pronounced role as problem gambling severity increases (Flack & Morris, 2016, 2017; Schellenberg et al., 2016).

Across the preferred gambling activities, there were several similarities and differences. Gambling on continuous forms of gambling (e.g. EGM, casino type games, and horse races/sports) was associated with gambling on more activities and the higher likelihood of at-risk gambling compared to lotteries players. In terms of gambling motivation, those preferring EGM gambling endorsed the excitement, escape, ego, and social expectancies more than lotteries players. Casino gambling was most strongly characterised by the anticipated social outcomes, although excitement and escape were also more strongly endorsed by this cohort of gamblers compared to lottery players. Horse races or sports bettors held more favourable views of gambling as a way to enhance positive emotions, but they did not differ on their perception of gambling as an escape from lottery players. Interestingly, gambling for pecuniary gain did not differentiate any of the mentioned subgroups. These findings are similar to studies that have compared EGM gambling to lotteries (e.g. Clarke, 2005) and research that has investigated the relationships between gambling frequency/participation and gambling motivation (e.g. Abarbanel, 2014; Balodis et al., 2014; Fang & Mowen, 2009). In particular, the salience of the emotion oriented motivations of

escape and excitement supports the notion that EGM gambling may be pursued, in part, as a way to enhance positive emotions and way to release tension (e.g. Balodis et al., 2014). The emotion oriented motivations were similar for those preferring casino gambling, suggesting casino gamblers are not that dissimilar to EGM gamblers. However, the emotion oriented expectancies differed for horse races or sports bettors. For instance, those who prefer to bet on horse/dog races or sports appear to gamble more for the excitement and thrill as opposed to gambling for escapism.

Implications, limitations and conclusions

Perceptions towards gambling as a way to regulate emotional states, and to win money, were found to increase with gambling risk status, although escapism appeared to be more salient as problem gambling severity increased for women and men. Thus, attempting to engender more realistic views of the monetary and mood enhancing outcomes of gambling may be helpful in problem gambling preventative programs whereas a focus on the use of gambling for escapism may be particularly relevant for problem gambling educational and treatment initiatives. In respect to preferred activity, as reflected in gamblers highest spend activity, there were some significant findings. As previously mentioned, the findings from the current study indicate gambling for escapism does not feature as strongly for those who prefer to bet on races and sports. This suggests for this subgroup of gamblers it may be beneficial to tailor initiatives that focus on the excitement seeking dimensions of gambling. However, some caution needs to be taken when interpreting the differences across the preferred types of gambling subgroups. Specifically, unlike the analyses by gender, it was not practical to examine the preferred activities subgroups by gambling risk status because of their relatively small group sizes.

One of the strengths of the current study was that it used a random sample drawn from the general population. Hence, compared to using conveniences sampling, greater confidence can

be placed in the generalisability of the findings to the general community members. However, this also resulted in fewer gamblers being selected from specific subgroups than might be achieved if a purposive sampling technique was used. Consequently, certain subgroups may be potentially overlooked or underrepresented. For instance, sports and race betting could have been examined as separate groups and online versus in venue betting could have been explored if there were sufficient samples sizes for each of these subgroups. Additionally, the NT has a younger population compared with other jurisdictions in Australia (Australian Bureau of Statistics, 2016), which may limit comparisons with other jurisdictions in Australia. Other limitations regarding the causative role of motivation stem from the use of a correlational design study. For example, it is not known whether those who have the propensity to gamble on races or sports are drawn to this type of gambling for different reasons than those who choose EGM gambling. It is possible the difference observed in motivation simply reflects their gambling experience. Prospective designs are required to test these possibilities. Despites these limitations, the current study has shown risk status is an important factor to consider when comparing the motivational differences of men and women. Likewise, the salience of different non-monetary reasons for gambling appears to be, in part, dependent on the activity.

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