

Professional and Pathological Gamblers: Similarities and Differences

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Abstract Although much recent research has focused on the gambling practices and psychosocial functioning of pathological gamblers, few investigations have examined the characteristics of professional gamblers. The current project sought to address this gap in the literature by conducting a quantitative comparison of professional and pathological gamblers. Pathological gamblers were recruited and balanced with professional gamblers on demographic variables and preferred gambling activity. A total of 22 professional gamblers and 13 pathological gamblers completed an extensive self-report battery including instruments assessing demographics, gambling behaviors and problems, other psychiatric disorders, current psychosocial functioning, recent stressful events, personality characteristics, and intelligence. Pathological and professional gamblers reported similar rates of gambling frequency and intensity and types of games played. Pathological gamblers endorsed poor psychosocial functioning, whereas professional gamblers reported a rate of psychiatric distress within a normative range. Pathological gamblers also reported lower gambling self-efficacy, greater impulsivity, and more past-year DSM-IV Axis I disorders than professional gamblers. The results of the present study shed light on the unique circumstances of professional gamblers, as well as underscore important differences between such individuals and pathological gamblers that could prove fruitful in future research and intervention and prevention efforts.

Keywords Pathological gambling · Professional gamblers · Impulsivity

Gambling has increased dramatically in both availability and popularity in recent years. Gambling is now legalized in all but two of the fifty US states, gambling websites are available online 24 h a day (e.g., PartyPoker.com), and numerous television programs have

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popularized the activity (e.g., ESPN's World Series of Poker). For most individuals gambling is thought of as a form of entertainment; however, for some individuals gambling can develop into a significant problem affecting emotional, financial, family, and legal areas. For another subset of individuals, gambling activities may develop into an occupation by which they earn a living. However, little is known about professional gamblers, their behavior, or their functioning, and these phenomena represent understudied areas within the gambling literature. The goals of this study are to characterize professional gamblers' wagering behavior and to compare professional gamblers to pathological gamblers in regard to their overall health, psychosocial functioning, psychiatric diagnoses, and gambling behaviors and consequences.

A dearth of empirical studies about professional gamblers exists. Much of our knowledge comes from sociological studies of 49 professional horse gamblers by Rosecrance (1986, 1988). Professional gamblers were defined as "those who seek to carve out livelihoods from participation in gambling" (Rosecrance 1988, p. 221). He concluded that important traits for successful professional gamblers to possess were: (1) commitment, (2) discipline, and (3) ability to deal with ambiguity. Commitment refers to the time and effort required of gamblers to study the upcoming races. This commitment is necessary to maintain a profitable performance at the horse track. Discipline is also required of successful professional gamblers in order to maintain a purposeful and consistent betting strategy, despite the inevitable losing streaks that occur. Within this trait, Rosecrance advances the professional horse gambler's adage, "there's no limit to what you can win in 1 day, but there should be a strict limit to what you can lose in 1 day" (Rosecrance 1988, p. 226). Finally, the ability to deal with ambiguity is necessary to become a successful professional gambler due to the inherent unpredictability of gambling and horse racing. In other words, professional gamblers must develop patience for the fact that the outcome of gambling is by nature variable and that their success is continually subject to this unpredictability.

In contrast, pathological gambling is described as "persistent and recurrent maladaptive gambling behavior" (American Psychiatric Association 2000, p. 671), and approximately 1 % of the general population meets diagnostic criteria (Kessler et al. 2008; Petry et al. 2005; Welte et al. 2001). A defining characteristic of the disorder is a loss of control, in which the individual continues to gamble at the expense of relationships, jobs, finances, and possibly legal standing (National Research Council 1999). The vast majority of pathological gamblers entering treatment report gambling at least weekly and endorse accumulating significant gambling-related debt (Hodgins et al. 2001; Stinchfield and Winters 2001). Frequently, pathological gamblers have comorbid medical and mental health problems, and a tendency towards increased impulsivity has been found to strongly predict gambling behavior in this population (Morasco et al. 2006; Nower and Blaszczynski 2006; Petry et al. 2005).

While the aforementioned studies of professional gamblers provide a qualitative description, much remains unknown about these individuals, including their background and gambling behaviors and psychosocial functioning. In contrast, much is known about the psychological functioning and gambling practices of pathological gamblers. A comprehensive evaluation of these two groups may illustrate whether or not professional gamblers truly differ from pathological gamblers. This comparison could in turn determine if the available research on pathological gamblers is also applicable to the experiences of professional gamblers. In contrast, if professional gamblers do demonstrate distinct patterns of psychosocial functioning and gambling behaviors, then it is plausible that further study of this population could inform future clinical work with pathological gamblers. In

sum, the proposed study sought to provide a quantitative description of professional gamblers, while also comparing them to a sample of pathological gamblers. The groups were balanced on key demographic factors and preferred gambling activity. We hypothesized that pathological gamblers would demonstrate poorer health, greater psychiatric symptoms, increased social and financial problems, and greater impulsivity in comparison to the professional gamblers. Additional analyses evaluated gambling-specific behavior, diagnostic criteria met, and self-efficacy, or the belief that one can control one's gambling behavior, in professional gamblers versus pathological gamblers.

Methods

Participants

A total of 35 individuals participated in this study: 22 professional gamblers and 13 pathological gamblers. Professional gamblers were recruited via online message boards and by word of mouth. Due to the fact that there is no widely accepted or established conceptualization of professional gambling, the operational definition of professional gambling utilized in the current study was based by the aforementioned characterization provided by Rosecrance (1988). To that effect, individuals who reported earning at least half of their annual income from gambling in the past year, gambling at least twice per month for the past 2 months, and risking at least \$100 per month for the past 2 months were identified as professional gamblers. Pathological gamblers were recruited from the community and consisted of individuals who met DSM-IV diagnostic criteria for past-year pathological gambling (as assessed by the National Opinion Research Center DSM-IV Screen for Gambling Problems [NODS]—Past Year and Lifetime Versions: Gerstein et al. 1999; Hodgins 2004) and met the same gambling frequency/intensity criterions as the professional gamblers. Additionally, we attempted to balance the demographic characteristics and preferred gambling activity of the pathological gamblers such that they were similar to the professional gamblers. Specifically, the two gambling groups were balanced as best as possible in regards to gender, age (± 3 years), race, and preferred gambling activity. Lastly, individuals who reported acute psychiatric problems that required immediate treatment were excluded from participating in the study. Individuals signed informed consent prior to participating and all study procedures were approved by the university's Institutional Review Board. Overall, a total of 54 people completed a telephone screen and 44 individuals were found eligible and invited to participate. A total of 35 individuals agreed to participate and completed the assessment battery, indicating a 79.5 % participation rate among those screened and deemed eligible. Seven professional gamblers were eligible and declined to participate or did not return the assessment battery (13.0 % of eligible individuals). Two pathological gamblers were eligible and declined to participate (4.5 % of eligible individuals).

Measures

A standardized assessment battery of instruments with known psychometric properties evaluated participant demographics, gambling behaviors and problems, other psychiatric disorders, current psychosocial functioning, recent stressful events, personality characteristics, and intelligence. The battery included the NODS—Past Year and Lifetime Versions (Gerstein et al. 1999; Hodgins 2004), a 90-day Gambling Timeline Followback

(Hodgins and Makarchuk 2003; Weinstock et al. 2004), the Gambling Self-Efficacy Questionnaire (May et al. 2003), the Gambling Beliefs Questionnaire (Steenbergh et al. 2002), the Brief Symptom Inventory (Derogatis 1993), the SF-12 Health Survey, Version 2 (Ware et al. 2002), the Psychiatric Epidemiological Research Interview (Dohrenwend et al. 1978), the Psychiatric Diagnostic Screening Questionnaire which assesses for 13 Axis I psychiatric disorders ([PDSQ] Zimmerman and Mattia 2001; Zimmerman et al. 2004), the Quality of Life Inventory (Frisch et al. 1992), a self-report check list for anti-social personality disorder modified from the Structured Clinical Interview for DSM-IV (Biometrics Research Department 1995), the 40-item Narcissistic Personality Inventory (Emmons 1984; Raskin and Hall 1979, 1981), the Rosenberg Self-Esteem Scale (Rosenberg 1989), the Barratt Impulsiveness Scale—Version 11 (Patton et al. 1995), the Eysenck Impulsivity Questionnaire (Eysenck et al. 1985), a measure of IQ: the Shipley Institute of Living Scales (Zachary 1986), and the Perceived Social Support scale (Zimet et al. 1988).

Procedures

Individuals who called in response to the study recruitment efforts completed a brief 10-min telephone screen to determine study eligibility and interest. Individuals who met all inclusion criteria and no exclusion criteria were invited to participate.

While every attempt was made to conduct the study assessment in person, the battery was mailed to persons residing out of the local area. One professional gambler and twelve pathological gamblers completed the battery in-person. Gamblers who participated in-person completed the study measures individually and in a private setting. For those participants who resided out of the area, the study staff mailed the assessment packet to the participant with a request to return the packet within 2 weeks. Detailed instructions were provided for filling out the various questionnaires, such as the Gambling Timeline Followback. All assessments, whether completed in person or via the mail were reviewed by a research assistant for completeness, discrepancies, and problems. If any issues were detected the research assistant discussed the situation with the individual and attempted to resolve the issue detected. Participants received a \$50 gift certificate to a store or restaurant (e.g., Sears, Starbucks, Borders, Target, Home Depot, etc.) for completing the assessment battery.

Data Analysis

First we examined gambling specific behaviors, self-efficacy, and pathological gambling diagnostic status of professional gamblers in comparison to the pathological gamblers. Next, we compared the two groups in terms of number of past year stressful life events, Brief Symptom Inventory—global severity scores, and current DSM-IV Axis-I psychiatric problems. We also examined differences in personality and psychosocial functioning between the two groups. Univariate tests assessed differences between the two groups, using composite scores on the instruments whenever possible. Analysis of variance was used for continuous data and Chi-square analysis was used for categorical data. Although we considered an exploratory logistic regression analysis examining predictors of gambling group membership, such an analysis was inappropriate given the small sample size (Tabachnik and Fidell 2007). All analyses were performed using SPSS (v.16.0) with alpha set at .05.

Results

The sample was all male, predominately Caucasian (84 %), with an average age of 40.5 years ($SD = 13.7$), 15.3 years of education ($SD = 2.6$), slightly less than half were single (42.9 %) and almost a third were divorced/separated (31.5 %), and an annual income of \$47,600 ($SD = \$79,013$) from non-gambling sources. Professional gamblers reported annual income of \$125,886 ($SD = \$213,725$) from gambling-related sources whereas pathological gamblers reported earning no income from gambling. Aside from income from gambling-related sources, no significant differences were found in terms of demographic variables between professional and pathological gamblers, $ps > .05$.

As seen in Table 1, professional gamblers differed from pathological gamblers on NODS lifetime and past-year scores. Past-year diagnostic items most commonly endorsed by professional gamblers included preoccupation with gambling (95.5 %), chasing losses (40.9 %), and lying to others about gambling (22.7 %). Within the past year, the most commonly endorsed gambling activity played on a daily to weekly basis was playing cards (90.9 %), followed by sports betting (31.8 %). No significant differences were found between the two groups in terms of types of gambling activities engaged in with the exception of lottery. Pathological gamblers were significantly more likely to play lottery once a month or more than professional gamblers, with 57.2 and 9.0 % of participants reporting this respectively, $\chi^2(1) = 13.0$, $p < .01$. In terms of gambling behavior, the two groups significantly differed only on how frequently they gambled, with professional gamblers gambling more frequently, $p < .05$ (See Table 1). The range of gambling frequency was 22–90 days for professional gamblers with a median of 66 days. For pathological gamblers the range was 15–89 days with a median of 39 days. The two groups did not differ significantly on average gambling episode length (in minutes), average amount risked per gambling episode, and average amount won/lost per episode, $ps > .05$. Finally, gambling self-efficacy was significantly different between professional and pathological gamblers, with pathological gamblers endorsing significantly less self-efficacy than the professional gamblers, $p < .001$.

Table 1 Gambling characteristics of professional and pathological gamblers

Variable	Professional gamblers		Pathological gamblers		Statistic (<i>df</i>)
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	
NODS Lifetime Total Score	3.3	(1.4)	8.5	(1.3)	$F(1, 33) = 121.39^{***}$
NODS Past Year Total Score	2.2	(1.4)	7.5	(2.0)	$F(1, 33) = 84.83^{***}$
Past 90 day gambling frequency	63.6	(22.7)	40.9	(23.1)	$F(1, 31) = 8.15^{**}$
Average duration of gambling episode (minutes)	4.4	(1.7)	4.3	(3.2)	$F(1, 17.36) = 0.24$
Amount risked per gambling episode (\$)	5,943.6	(18,201.9)	653.7	(995.7)	$F(1, 28) = 1.17$
Amount won/lost per episode (\$)	1,532.0	(4,375.8)	-315.0	(789.9)	$F(1, 19.69) = 3.16$
Gambling Self-Efficacy Score	85.9	(15.6)	54.2	(15.4)	$F(1, 33) = 33.99^{***}$
Gambling Beliefs Score	45.0	(8.6)	37.1	(17.3)	$F(1, 15.56) = 2.39$

Brown-Forsythe statistic reported for average duration, net result, and Gambling Beliefs Score

** $p \leq .01$; *** $p \leq .001$

Table 2 Psychiatric and psychosocial variables of professional and pathological gamblers

Variable	Professional gamblers		Pathological gamblers		Statistic (<i>df</i>)
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	
Brief Symptom Inventory—Global Severity Index Score	0.3	(0.3)	1.1	(0.7)	$F(1, 14.77) = 17.22^{***}$
SF-12 Version 2					
General Health <i>T</i> -Score	49.7	(9.6)	42.6	(11.8)	$F(1,34) = 3.97$
Mental Health <i>T</i> -Score	44.3	(3.9)	44.1	(3.9)	$F(1,34) = 0.03$
Number of past-year stressful life events	5.3	(5.8)	12.7	(8.5)	$F(1, 31) = 8.91^{**}$
Number of PDSQ Axis I Diagnoses	0.6	(0.9)	5.2	(3.1)	$F(1, 13.10) = 27.33^{***}$
Quality of Life—Summary Score	2.0	(1.3)	0.2	(2.2)	$F(1, 32) = 9.07^{**}$
Rosenberg Self-Esteem Scale Total Score	23.5	(4.2)	17.9	(5.7)	$F(1, 33) = 11.08^{**}$
Perceived Social Support Total Score	5.0	(1.1)	4.3	(1.5)	$F(1, 33) = 2.14$
Narcissistic Personality Inventory Score	14.7	(7.2)	14.8	(5.9)	$F(1,33) = 0.00$
WAIS FSIQ estimate	125.0	(6.3)	112.4	(10.7)	$F(1, 15.36) = 14.09^{**}$
Barratt Impulsivity Scale—11 Total Score	56.1	(9.8)	71.3	(9.5)	$F(1, 33) = 20.36^{***}$
Eysenck Impulsivity Questionnaire					
Impulsivity Subscale Score	4.3	(3.6)	11.5	(3.3)	$F(1, 33) = 35.45^{***}$
Venturesomeness Subscale Score	7.1	(3.4)	11.5	(3.2)	$F(1, 33) = 14.69^{***}$
Empathy Subscale Score	9.1	(4.1)	13.3	(4.0)	$F(1, 33) = 8.84^{**}$

Brown-Forsythe statistic reported for Brief Symptom Inventory, Number of PDSQ Axis I Diagnoses, and WAIS FSIQ
 PDSQ Psychiatric Diagnostic Screening Questionnaire, WAIS FSIQ Wechsler Adult Intelligence Scale—full scale intelligence quotient
 ** $p \leq .01$; *** $p \leq .001$

Table 3 Prevalence of past year DSM-IV Axis I disorders

Variable	Professional gamblers (n = 22) %	Pathological gamblers (n = 13) %	Statistic (df)
Major depressive disorder	0.0	30.8	$\chi^2(1) = 7.6^{**}$
Post traumatic stress disorder	0.0	69.2	$\chi^2(1) = 20.5^*$
Eating disorder	0.0	15.4	$\chi^2(1) = 3.6$
Generalized anxiety disorder	0.0	30.8	$\chi^2(1) = 7.6^{**}$
Obsessive compulsive disorder	4.5	15.4	$\chi^2(1) = 3.6$
Panic disorder	0.0	30.8	$\chi^2(1) = 7.6^{**}$
Agoraphobia disorder	4.8	7.7	$\chi^2(1) = 0.1$
Social phobia	4.5	53.8	$\chi^2(1) = 10.8^{***}$
Alcohol use disorder	18.2	30.8	$\chi^2(1) = 0.7$
Drug use disorder	0.0	30.8	$\chi^2(1) = 7.3^{**}$
Psychotic disorder	4.8	53.8	$\chi^2(1) = 10.8^{***}$
Somatization disorder	13.6	46.2	$\chi^2(1) = 4.5^*$
Hypochondriasis disorder	9.1	46.2	$\chi^2(1) = 6.4^*$

* $p \leq .05$; ** $p \leq .01$;
 *** $p \leq .001$

Table 2 provides results of the assessment of psychosocial functioning. In terms of psychiatric problems, professional gamblers were less likely to experience these difficulties in comparison to pathological gamblers (see Table 2). Pathological gamblers endorsed more past-year DSM-IV Axis-I disorders, past-year stressful life events, and greater acute distress as assessed by the Brief Symptom Inventory. Prevalence of specific past-year DSM-IV Axis-I disorders are presented in Table 3. In terms of Axis II disorders, we assessed anti-social personality disorder, and about 46 % of pathological gamblers ($n = 6$) met criteria while no professional gamblers met criteria for the personality disorder, $\chi^2(1) = 12.3, p < .01$. In terms of overall mental health, no significant differences were noted in SF-12 scores, $p > .05$. A trend was noted for SF-12 physical health scores with professional gamblers endorsing better physical health than pathological gamblers, $p = .055$. Lastly, professional gamblers reported greater quality of life satisfaction in comparison to pathological gamblers, $p < .01$.

Next, we examined personality and other psychosocial characteristics. As shown in Table 2, the two groups did not differ on the Narcissistic Personality Inventory, $p > .05$. Meanwhile, differences were found between professional and pathological gamblers on the Rosenberg Self-Esteem Scale, Barratt Impulsivity Scale, and the Eysenck Impulsivity, Empathy and Venturesomeness subscale scores, $ps < .05$. Estimated Wechsler Adult Intelligence Scale (WAIS) full scale intelligence quotient (FSIQ) scores were calculated from Shipley Institute of Living Scale using the formula provided by Zachary et al. (1985). Significant differences were found between professional and pathological gamblers on WAIS FSIQ scores with professional gamblers having significantly higher IQ scores,

$p < .05$. However, within professional gamblers WAIS FSIQ was not significantly correlated with income from gambling-related sources, $r = -0.143$, $p = .526$, or amount of money won/lost on the G-TLFB, $r = -0.027$, $p = .912$. Lastly, perceived social support did not differ between the two groups, $p > .05$.

Discussion

Our study examined similarities and differences between professional and pathological gamblers. Study procedures intentionally balanced pathological gambling participants with professional gamblers on demographic characteristics and preferred gambling activity. Overall, study procedures were successful in ensuring similar samples in terms of demographic characteristics and gambling activity. Professional gamblers predominately played cards for money (i.e., poker), gambled about 70 % of days in the past 3 months, and reported annual income from gambling-related sources of about \$125,000. Meanwhile, pathological gamblers also predominately played cards for money but were also more likely to play the lottery than professional gamblers. Pathological gamblers gambled about 45 % of days in the past 3 months and reported no net income from gambling-related sources.

Additionally, the professional gamblers' scores on various measures of psychosocial functioning, aside from IQ, were similar to those provided by normative samples. The overall prevalence of psychiatric disorders was consistent with general population surveys with about 20 % meeting diagnostic criteria for an Axis I disorder (Kessler et al. 2005). While professional gamblers indeed experienced stressful life events in the past-year, the frequency at which these events were occurring was consistent with other studies of the general population (Hatch and Dohrenwend 2007). Self-reported health, current psychiatric distress, social support, quality of life, and self-esteem were also within the normative range (Frisch et al. 1992; Rosenberg 1989). These findings are in contrast to Bjerg (2010) and Griffiths et al. (2010) who suggest that poker players, while not fitting the traditional definition of pathological gambling in relation to financial problems, are still experiencing significant problems, primarily related to emotional and social factors.

Not surprisingly, pathological gamblers in our sample were very consistent with what is currently known about pathological gamblers. They experience greater levels of psychopathology (i.e., psychiatric comorbidity) in comparison to the general population (Petry et al. 2005) and professional gamblers. They experience elevated levels of psychiatric distress, more stressful events, less social support, and have lower self-esteem than the general population (Afifi et al. 2010; Burton et al. 2000; Morasco et al. 2006; Petry et al. 2005; Thomas et al. 2011).

In terms of gambling intensity and beliefs, only frequency of gambling differed between professional and pathological gamblers, with professional gamblers gambling more often than pathological gamblers. However, the lower frequency of gambling behavior in pathological gamblers was associated with significant problems, as evidenced by the number of diagnostic criteria endorsed. In contrast, professional gamblers on average endorsed about three lifetime diagnostic criteria and about two within the past year, with preoccupation with gambling being the most commonly endorsed criterion. These comparisons raise questions about how two groups of gamblers, who are similar in some respects, eventually diverge dramatically in regard to their psychosocial functioning. Underlying motivations for and circumstances related to gambling may be the reason for these differences. Pathological gamblers frequently gamble for reasons secondary to

winning money, such as gambling to regulate mood or in response to impulsive decisions or stress (Alessi and Petry 2003; McGrath et al. 2010; Reid et al. 2011). These reasons for gambling may be less applicable to professional gamblers.

The gambling self-efficacy measure also highlights these differences in motivation to gamble, as pathological gamblers reported that they were less likely to be able to control their gambling in a variety of social and emotional situations in comparison to professional gamblers. Bjerg (2010) also noted loss of control as a critical variable in distinguishing between transition from non-problem and problem poker player, although he focuses more specifically on the ability to stop gambling in response to an accurate self-assessment of the individual's current play, emotional state, and abilities.

Related to loss of control is impulsivity. Impulsivity was one personality characteristic that consistently differentiated pathological gamblers and professional gamblers. Pathological gamblers endorsed higher levels of impulsivity than professional gamblers using both the BIS and the EIS. These results are consistent with past research demonstrating that self-reported or behavioral measures of impulsivity are some of the best predictors of pathological gambling (Chui and Storm 2010; Goudriaan et al. 2008). Potential explanations for the higher rates of impulsivity among pathological gamblers in our sample come from research concerning abnormalities found at the neurobiological or physiological level in such individuals, as well as from studies that contend that impulsivity may represent a mechanism that leads to increased emotional vulnerability and distress in pathological gamblers (Iancu et al. 2008; Krueger et al. 2005; Myrseth et al. 2009). It is possible that the heightened impulsivity among the pathological gamblers included in our study may have represented a phenotypic indicator of underlying neurocognitive differences. Additionally, pathological gamblers in our sample also reported higher rates of psychopathology; this increased likelihood of mental illness could reflect a basic psychopathological susceptibility that pathological gamblers then cope with via impulsive behaviors.

Professional gamblers also appear to gamble as a means to make money and reported greater self-efficacy in regards to controlling their gambling behavior. Other motivations such as gambling for excitement or to cope with negative affect do not appear to be reasons for gambling. Future research should explore the behavioral or cognitive strategies used by professional gamblers to manage their gambling activities and control their losses, such as placing limits on their gambling (e.g., loss limits, percent of bank roll used each session).

These results can inform treatment and prevention efforts surrounding pathological gambling. Our results reify the importance of impulsivity and addressing its many manifestations both in treatment and prevention efforts. For example, interventions may focus on practicing self-control in non-stressful situations so clients can build their self-regulatory resources. By practicing these skills, clients can learn to maintain greater self-control in the face of future taxing circumstances (Baumeister et al. 2006). Additionally, for pathological gamblers who wish to gamble in moderation, increasing self-awareness and clarity around motivations for gambling is another appropriate therapeutic target. Lastly, in terms of prevention gambling in moderation is an important factor that will reduce the likelihood of experiencing negative consequences from gambling. For those desiring moderation, development of concrete rules for ending a gambling episode is suggested. We suggest these rules go beyond current recommendations regarding amount of time and money gambled (Currie et al. 2008; Weinstock et al. 2007) and include a focus on emotional states while gambling.

With regard to study limitations, generalizability of our study is hampered due to a small sample size, all male gender, and a focus on card games. However, our sample balancing procedures were effective in ensuring a reasonably similar demographic composition of the two gambling groups. This balancing process may have reduced some

variability in our results that could have been attributable to gender or other demographic factors. Additionally, the multiple comparisons conducted in the current project may have contributed to a greater likelihood of Type I error. Nonetheless, the present study represents a novel, exploratory investigation of the similarities and differences between pathological and professional gamblers. Regardless, investigators should attempt to replicate these analyses in future research. Another limitation of the present study is that individuals who responded to advertisements and may not be representative of professional and pathological gamblers in the community. In addition, the proportion of study surveys that were sent and returned by mail is potentially confounded by gambling group status (i.e., professional gamblers). Although this possible confound should be taken into account when considering the results of this study, the relative rarity of professional gamblers available in one geographic region created the need to cast a wide net when recruiting such gamblers. On a similar note, it is possible that manner of participation, (i.e., in-person versus via mail) could have influenced the results of the current project. However, because every effort was made to preserve the privacy and anonymity of all the gamblers included in the present study, regardless of their manner of participation, it is unlikely that any systematic differences derived from this concern actually exist. Lastly, our results point to the potential importance of emotional factors in maintaining pathological gambling behaviors. However, a limitation of the current data is that it is unable to elucidate how various emotional states may *precede* or *initiate* pathological gambling. Future studies should further examine how emotional factors may function as a causal mechanism in the development of pathological gambling. Ecological momentary assessment methods could be used to investigate these empirical questions and have been utilized in the areas of substance use with much success (e.g., Epstein and Preston 2010).

Despite these limitations, this study provides a preliminary investigation of the unique circumstances of professional gamblers, as well as examines the similarities and differences between professional and pathological gambling. In terms of their distinctive traits, professional gamblers were characterized as spending substantial amounts of time engaged in gambling activities, yet experiencing relatively few adverse outcomes. In regard to the similarities and differences between the two groups, pathological gamblers in our project described themselves as risking as much when gambling as professional gamblers, but pathological gamblers evidenced greater psychopathology, lower gambling self-efficacy, and a heightened tendency towards impulsive behavior than did professional gamblers. Collectively, these findings serve as a significant quantitative description of the gambling behaviors and psychosocial functioning of professional gamblers, a population about which little is known. Additionally, the current investigation illustrates how pathological and professional gamblers differ and highlights important links between gambling and emotional functioning that can be explored in future research and incorporated into subsequent interventions for pathological gambling.

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