

## **Exploring Facets of Personality and Escapism in Pathological Gamblers**

RORY C. REID, PhD, LCSW

*Research Psychologist, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, California, USA*

DESIREE S. LI, BS

*Research Associate, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, California, USA*

JEAN LOPEZ, BA

*Research Associate, Yale University School of Medicine, New Haven, Connecticut, USA*

MICHAEL COLLARD, MA

*Research Associate, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, California, USA*

IMAN PARHAMI, MD

*Research Coordinator, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, California, USA*

REEF KARIM, DO

*Assistant Clinical Professor, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, California, USA*

TIMOTHY FONG, MD

*Associate Professor, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, California, USA*

*This study explored facets of personality between pathological gamblers (n = 69) and nonpathological gamblers (n = 55) in a convenience sample in Los Angeles, California. Pathological*

---

Received July 2, 2010; revised November 19, 2010; accepted November 23, 2010.

The research for this article was funded by National Institute on Drug Abuse Grant 5K23DA019522-04.

Address correspondence to Rory C. Reid, Semel Institute for Neuroscience and Human Behavior, Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, 760 Westwood Boulevard, Suite 38-260, Los Angeles, CA 90024, USA. E-mail: rreid@mednet.ucla.edu

*gamblers were more prone to mood disturbance, impulsivity, feelings of frustration, interpersonal sensitivity, vulnerability to distress, and distrust of others as measured by the NEO Personality Inventory–Revised. Pathological gamblers also reported diminished competence and self-discipline as well as tendencies toward hasty decision making when compared to nonpathological gamblers. A categorical analysis of subtypes revealed that those who gambled to escape experienced significantly greater levels of neuroticism and facets of impulsivity.*

*KEYWORDS* escapism, gambling, impulsive behavior, pathological gamblers, personality

Pathological gambling has been classified as an impulse-control disorder in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision [DSM–IV–TR]; American Psychiatric Association, 2000), with a lifetime prevalence rate estimated between 1% and 3% among North American adult populations (Petry, Stinson, & Grant, 2005; Shaffer & Hall, 2001). Because approximately 70% to 90% of adults have participated in some form of gambling (Raylu & Oei, 2002), the lifetime prevalence rates suggest the vast majority of gambling behavior does not escalate to a pathological level. However, with the proliferation of gambling opportunities via online venues, it is plausible that the number of individuals with problematic and pathological gambling issues might increase, subsequently requiring additional demands for treatment.

Problem gambling can create a constellation of issues for the gambler, the gambler's family, and society. Consequences include a diminished quality of life for the gambler (Scherrer et al., 2005) as well as financial problems, high divorce rates, legal challenges, and interpersonal problems (Grant & Kim, 2001). Suicide attempts are common in this population, with rates as high as 12% to 24% (Blaszczynski & Farrell, 1998; Maccallum & Blaszczynski, 2003). Society also pays the cost of gambling-related crimes that are committed to satisfy gambling debts and perpetuate gambling activities (Blaszczynski & Silove, 1996; Lahn, 2005; Potenza, Steinberg, McLaughlin, Rounsaville, & O'Malley, 2000).

Despite the vast array of problems created by pathological gambling, evidence-based treatment options are limited (Shaffer, Labrie, Laplante, Kidman, & Donato, 2005). Conceptualizing the associated characteristics of gambling behavior through the lens of personality traits can provide clinicians with valuable insights as they attempt to intervene with this population. For example, is there a pattern of personality characteristics that make individuals more vulnerable to pathological gambling? Understanding correlations between pathological gambling and facets of personality can

enable clinicians to generate theories and hypotheses to guide future outcome research. Personality traits among pathological gamblers (PGs) might also predict responsiveness or receptivity to treatment interventions as well as help clinicians understand comorbidity and subtyping issues in this population.

There is some preliminary evidence that PGs might possess distinct personality traits as measured by the Five-Factor Model of personality (FFM; Digman, 1990). One of the earliest studies of personality characteristics among male PGs ( $N = 100$ ) found tendencies toward disregard for authority, impulsivity, feelings of masculinity, and inadequacy (Graham & Lowenfeld, 1986). The study was limited to a sample of inpatient veterans and used the Minnesota Multiphasic Personality Inventory (MMPI), which arguably captures more aspects of psychopathology than personality traits based on the FFM. Another study examined predictive values of personality traits among gamblers ( $N = 114$ ) and found that impulsivity, sensation seeking, and competitiveness all had strong positive relationships with pathological gambling behaviors (Parke, Griffiths, & Irwing, 2004). In comparing personality characteristics of PGs with those of nonpathological gamblers (NPGs), Bagby and colleagues (2007) found that PGs were significantly more impulsive, emotionally unstable, and distrusting of others. PGs also had a low opinion of their own abilities. Interestingly, no group differences were found on facets of excitement-seeking traits, suggesting that this trait characterizes gambling behavior in general rather than pathological gambling specifically. Novelty seeking however, has been implicated in PGs and studies have also found significantly higher levels of emotional distress (e.g., neuroticism), impulsiveness, and less openness among PGs (Kaare, Mottus, & Konstabel, 2009).

In understanding PGs and their associated traits, it should be noted that this group is a heterogeneous population. For example, not all are primarily characterized by personality traits such as impulsiveness (Blaszczynski & Nower, 2002; Toneatto & Ladouceur, 2003; Toneatto & Millar, 2004). Furthermore, depression, loneliness, and other unpleasant affective experiences hypothesized as motivators for pathological gambling are not considered universal (Getty, Watson, & Frisch, 2000; Trevorrow & Moore, 1998). These findings have led researchers to begin exploring typologies and subtypes of gamblers (Blaszczynski & Nower, 2002; Ledgerwood & Petry, 2006).

The field of gambling research is evolving and is moving toward subtyping among PGs. For example, some studies have explored affective motivational states as they pertain to gamblers with comorbid alcohol abuse, showing greater gambling frequency and alcohol consumption among those with emotional coping skills compared to those PGs who had emotional dysregulation (Stewart, Zack, Collins, Klein, & Fragopoulos, 2008). Others have sought to understand subtypes based on patterns of gambling behaviors such as those who chase their losses (continuation of gambling, often with

increased wagers, following a sequence of losing bets) compared to those who do not (Breen & Zuckerman, 1999). In a review of subtyping, Westphal (2007) noted that studies have attempted to classify gamblers based on readiness to change, preferred gambling activities, and comorbid psychiatric disorders.

One subtype of gamblers that has emerged in the literature comprises those who use gambling as a form of escapism from unpleasant mood states (Blaszczynski & Nower, 2002; Rockloff & Dyer, 2006; Rockloff, Greer, Fay, & Evans, 2010). These individuals report continuing to gamble despite the realization that further gambling would not resolve their long-term problems (Wood & Griffiths, 2007). Despite negative consequences, these PGs turn to their mood-altering experience to avoid feelings such as boredom and loneliness (Blaszczynski, McConaghy, & Frankova, 1990; Ledgerwood & Petry, 2006; Porter, Ungar, Frisch, & Chopra, 2004). Such deficits in modulating affect might be a precipitating risk factor for escapism that motivates gambling and appears to exacerbate gambling behaviors (Toce-Gerstein, Gerstein, & Volberg, 2003). However, relationships between personality and tendencies of escapism have yet to be explored, despite important implications for treatment. For instance, if escapism tendencies were correlated with higher levels of personality traits such as stress proneness, tendencies to become easily frustrated, or interpersonal sensitivity, then strategies to intervene in these domains could be developed that would aid social workers and other clinicians to better help patients with this subtype of gambling behavior.

## PURPOSE OF STUDY

The purpose of this study was to explore group differences between non-treatment-seeking PGs and NPGs on facets of personality as measured by the NEO Personality Inventory–Revised (Costa & McCrae, 1992). NPGs were selected as a comparison group to differentiate possible traits that uniquely characterize those who gamble recreationally in nonpathological ways from those who develop serious problems with gambling behaviors. This study is also intended to specifically explore relationships between facets of personality and tendencies to use gambling as a means of escapism (e.g., coping with loneliness or boredom). Finally, we discuss results as they pertain to clinical interventions with this population.

## METHODS

### Participants

All participants were obtained from a convenience sample in the Los Angeles area through advertisements recruiting individuals who gambled.

Participants were required to read and write English, be at least 18 years of age, and not be seeking treatment. Individuals were excluded if they reported the use of recreational or psychoactive drugs that met criteria for a substance-related disorder. These criteria reduced the initial sample of 144 to a final sample of 124 participants, who formed the basis for this study. Eligible participants received \$40 in grocery store coupons.

All participants signed informed consents, and study procedures were approved by the Institutional Review Board for Human Subject Research at the University of California, Los Angeles. The recruitment of participants occurred during 2008 and 2009.

The PG group consisted of men ( $n = 55$ ) and women ( $n = 14$ ), and ethnic representation included Caucasian ( $n = 31$ ), African American ( $n = 19$ ), Hispanic ( $n = 7$ ), Asian ( $n = 9$ ), and Native American ( $n = 3$ ). Participants ranged from 22 to 66 years of age ( $M = 42.9$ ,  $SD = 11.2$ ). Relationship status included never married ( $n = 34$ ), married ( $n = 14$ ), divorced ( $n = 15$ ), separated ( $n = 3$ ), and cohabitating ( $n = 3$ ). Employment status consisted of full time ( $n = 24$ ), part time ( $n = 22$ ), student ( $n = 4$ ), and retired, disabled, or unemployed ( $n = 19$ ).

The NPG group consisted of men ( $n = 36$ ) and women ( $n = 19$ ), and ethnic representation among the sample included Caucasian ( $n = 31$ ), African American ( $n = 13$ ), Hispanic ( $n = 6$ ), and Asian ( $n = 5$ ). Participants ranged from 18 to 82 years of age ( $M = 43.0$ ,  $SD = 15.65$ ). Relationship status included never married ( $n = 31$ ), married ( $n = 11$ ), divorced ( $n = 8$ ), widowed ( $n = 3$ ), separated ( $n = 1$ ), and cohabitating ( $n = 1$ ). Employment status consisted of full time ( $n = 27$ ), part time ( $n = 10$ ), student ( $n = 6$ ), and retired, disabled, or unemployed ( $n = 12$ ).

## Measures

Participants completed a small battery of self-report measures, including the NEO Personality Inventory–Revised, the South Oaks Gambling Screen–Revised, a demographic questionnaire, and a urine drug test to exclude illicit substance users. Additionally, diagnostic clinical interviews for pathological gamblers were conducted using the National Opinion Research Center DSM Screen for Gambling Problems (NODS).

The NODS is a short, 17-item brief structured interview based on the *DSM-IV* criteria (Gerstein et al., 1999) and has been demonstrated to be a valid, reliable, and clinically useful tool to screen for gambling-related disorders (Hodgins, 2004; Wickwire, Burke, Brown, Parker, & May, 2008). Participants who answered positively to five or more items were classified as PGs ( $n = 69$ ), whereas those who answered positively to less than five criteria were considered NPGs ( $n = 55$ ).

The South Oaks Gambling Screen–Revised (SOGS–R) was also used to characterize gambling behaviors and the severity of gambling problems. The

SOGS-R (Lesieur & Blume, 1993) is a 16-item self-report questionnaire based on *DSM* criteria for pathological gambling that measures problems with gambling over the past 3 months and inquires about specific gambling behavior. It is scored on a scale from 0 to 20, with scores of 5 or higher categorized as probable PGs. The SOGS-R is a validated and reliable instrument that serves to screen clinical populations of alcoholics and drug abusers as well as general populations for pathological gambling (Lesieur & Blume, 1987, 1993). The SOGS-R was used in this study to characterize the samples based on gambling behaviors and also to provide an index of the severity of gambling problems.

The NEO Personality Inventory-Revised (NEO-PI-R; Costa & McCrae, 1992), designed to measure the FFM, was used to assess self-reported personality traits. The NEO has 240 items, consisting of self-statements such as "I am a worrier," answered on a 5-point Likert scale ranging from 0 = *strongly disagree* to 4 = *strongly agree* with some items reversed scored. The NEO assesses 30 facets, 6 for each dimension of the FFM. Raw scores are standardized as T-scores ( $M = 50$ ,  $SD = 10$ ) using respective sex norms reported in the NEO manual. Evidence on convergent and discriminant validity is presented in the NEO manual (Costa & McCrae, 1992), including cross-observer agreement and prediction of external criteria (e.g., psychological well-being, needs, motives, creativity, educational and occupational achievements, and coping mechanisms). The NEO was selected because it has been broadly used in numerous studies to capture elements of personality and has demonstrated good psychometric properties. It is also widely available to clinicians who might want to use it in clinical practice.

Escapism tendencies among participants were queried during a diagnostic interview to determine if they used gambling to cope with and escape from feelings of (a) loneliness, (b) boredom, or (c) sadness or depression. Participants reported whether these patterns were true for them as it pertained to patterns of gambling behaviors. Those who reported gambling frequently to escape at least one of these uncomfortable feelings were classified in the escapism group. Frequent gambling behaviors among the participants included playing cards ( $n = 67$ ), betting on animal races ( $n = 25$ ), betting on sports ( $n = 33$ ), playing dice games ( $n = 31$ ), lotteries ( $n = 59$ ), playing bingo ( $n = 14$ ), slot machines ( $n = 37$ ), and skill gambling ( $n = 14$ ).

## RESULTS

### Comparing Pathological Gamblers With Controls

Means, standard deviations, and effect sizes for the study variables are found in Table 1. First, PGs were compared to the control group of NPGs with a multivariate analysis of variance (MANOVA) on the five NEO factor domain

**TABLE 1** Means, Standard Deviations, Significance, and Effect Size for NEO-PI-R Scores

NEO Domains/facets	NPGs <sup>a</sup>		PGs <sup>b</sup>		Cohen's	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>d</i>
Neuroticism	46.04	12.19	59.80	12.22	38.88***	1.13
Anxiety	46.71	13.22	57.07	11.81	21.20***	0.83
Angry hostility	46.65	13.27	59.86	12.40	32.60***	1.03
Depression	46.73	10.28	60.30	11.16	48.57***	1.27
Self-consciousness	45.62	12.59	56.07	12.01	22.23***	0.85
Impulsiveness	48.62	12.49	58.07	11.00	19.81***	0.80
Vulnerability	45.09	12.01	58.52	14.12	31.55***	1.03
Extraversion	54.00	7.32	53.06	10.48	0.32	0.11
Warmth	52.04	11.21	47.54	12.61	4.30*	0.38
Gregariousness	53.40	10.94	49.29	9.83	4.84*	0.40
Assertiveness	56.07	9.87	53.10	10.25	2.66	0.30
Activity	50.24	10.40	52.49	10.42	1.44	0.22
Excitement-seeking	56.49	9.11	58.52	8.96	1.55	0.22
Positive emotions	55.25	9.45	48.49	11.27	12.67***	0.65
Openness	52.45	9.59	48.74	11.01	3.90*	0.36
Fantasy	50.93	10.08	55.09	10.02	5.25*	0.41
Aesthetics	51.58	10.49	51.33	11.22	0.02	0.02
Feelings	51.58	10.91	50.42	11.44	0.39	0.11
Actions	47.85	11.87	45.78	10.82	1.03	0.18
Ideas	55.05	10.96	48.70	12.77	8.59**	0.54
Values	52.96	10.37	47.48	8.80	10.15**	0.57
Agreeableness	48.58	12.07	39.96	9.36	20.10***	0.81
Trust	48.42	13.20	37.33	12.65	22.61***	0.86
Straightforwardness	48.82	11.17	42.84	13.35	7.07**	0.49
Altruism	52.93	13.36	6.61	12.27	7.50**	.49
Compliance	8.42	12.66	9.90	12.15	14.50***	0.69
Modesty	7.05	9.31	4.84	9.77	1.64	.23
Tender-mindedness	4.38	11.49	7.59	10.81	11.41***	0.61
Conscientiousness	51.42	11.66	5.81	10.53	7.89**	.51
Competence	3.38	12.85	2.52	12.04	23.47***	0.87
Order	50.11	10.21	7.00	10.76	2.67	.30
Dutifulness	50.00	11.94	1.77	10.33	16.92***	0.74
Achievement striving	53.04	10.89	8.54	11.08	5.13*	.41
Self-discipline	0.87	11.98	0.19	12.52	23.15***	0.87
Deliberation	4.22	13.68	3.58	11.20	22.67***	0.86

Note. NEO-PI-R = NEO Personality Inventory-Revised; PG = pathological gambler; NPG = nonpathological gambler.

<sup>a</sup>*n* = 55, <sup>b</sup>*n* = 69.

\**p* ≤ .05. \*\**p* ≤ .01. \*\*\**p* ≤ .001.

scores. The groups were significantly different overall (Wilks's  $\lambda = .674$ ),  $F(5, 118) = 11.42$ ,  $p < .001$ . Post-hoc univariate analysis revealed that this overall difference arose primarily from differences in Neuroticism,  $F(1, 122) = 38.87$ ,  $p < .001$ ; Openness,  $F(1, 122) = 3.77$ ,  $p < .001$ ; Agreeableness,  $F(1, 122) = 20.12$ ,  $p < .001$ ; and Conscientiousness,  $F(1, 122) = 7.89$ ,  $p < .01$ , such that PGs, as a group, exhibited more neuroticism and were less open, agreeable, and conscientious than NPGs. Note, however, that the magnitudes of the differences were modest for Openness, with only 4 T-score

points separating the groups. This is reflected in the effect size of .36, which is generally regarded as small to moderate (Cohen, 1988). Analysis of differences based on gender and ethnicity did not produce any meaningful results, likely due to the small sample size.

Because multivariate statistical comparisons for four of the five NEO domains yielded significant results, post-hoc univariate examination of the facet scores was justified without correction for multiple comparisons. These scores are noted in Table 1. These data reveal several differences between the groups, including large effect sizes (i.e., Cohen's  $d \geq .80$ ) that emerged on three of four impulsivity traits, with PGs scoring higher on facets of Impulsiveness, Self-Discipline, and Deliberation compared to NPGs. Large effect sizes and significant differences between the groups also suggest that the PG sample experienced greater neuroticism when compared to NPGs. Neuroticism, as measured by the NEO-PI-R, generally captures elements of emotional distress and maladjustment, although it is possible to obtain high scores on the domain of Neuroticism without meeting criteria for a psychiatric disorder. Other differences of clinical interest included data suggesting that PGs exhibited greater tendencies toward stress proneness, greater willingness to manipulate others or use deception, more competitive behavior, and more interpersonal aggression compared to the NPG group. PGs also experienced fewer positive emotions, less trust for others, lower opinions of their abilities, and were less likely to be governed by their conscience in comparison to NPGs.

### Comparing Subtypes of Gamblers on Tendencies of Escapism

Categorical analysis was conducted based on whether participants endorsed using gambling to escape (e.g., reporting frequently gambling to distract or escape from feelings of loneliness, boredom, or depression). As noted previously, this information was gathered by asking each participant to indicate the extent to which he or she pursued gambling to escape uncomfortable feelings. Those who endorsed frequent escapism patterns of gambling across multiple domains were classified as such. Although a minority of the entire combined sample reported escapism tendencies (52/124; 42%), a chi-square analysis revealed that PGs made up a significantly greater percentage of the escapism gambling group (39/52; 75%) compared to NPGs (13/52; 25%),  $\chi^2(1, N = 124) = 13.59, p = .001$ . When participants were classified within their own respective gambling group, 57% (39/69) of PGs reported escapism tendencies compared to 24% of NPGs (13/55). Although a majority of PGs gambled to escape (57%), slightly less than half of this group denied escapism tendencies. Therefore, some individuals who gamble pathologically do so for other reasons than escapism, and such persons belong to a group exhibiting significantly less impulsivity and neuroticism than those who report using gambling to escape. Escapism, however, does appear to be

**TABLE 2** Group Differences for Gambling Based on Escapism, Combined Sample

Study variables	Escapism <sup>a</sup>		Nonescapism <sup>b</sup>		Cohen's	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>d</i>
SOGS-R total	10.88	4.48	5.97	5.09	31.07***	1.03
NEO Neuroticism facets						
Anxiety	56.19	13.43	49.79	12.87	7.199**	0.49
Angry hostility	58.25	13.05	50.93	14.53	8.34**	0.53
Depression	58.37	11.39	51.33	12.84	9.94***	0.58
Self-consciousness	54.90	11.80	48.93	13.80	6.37**	0.47
Vulnerability	57.35	13.24	49.11	14.95	10.07***	0.58
NEO Impulsivity facets						
Impulsiveness	57.44	11.72	51.35	12.57	7.51**	0.50
Excitement-seeking	59.69	8.94	56.13	8.88	4.84*	0.40
Self-discipline	40.77	12.96	47.93	12.89	9.28**	0.55
Deliberation	43.48	12.04	51.78	13.34	12.66***	0.65

Note. *N* = 124. SOGS-R = South Oaks Gambling Screen-Revised. Impulsiveness is a facet on the Neuroticism domain but was included with the other facets hypothesized to capture impulsive tendencies for the purposes of presentation.

<sup>a</sup>*n* = 52. <sup>b</sup>*n* = 72. \**p* ≤ .05. \*\**p* ≤ .01. \*\*\**p* ≤ .001.

a distinguishing factor between the groups, given that NPGs demonstrated much less prevalence toward tendencies of escapism (76% denied escapism patterns). Group differences among gamblers based on escapism tendencies were explored using one-way analysis of variance. The means, standard deviations, and effect sizes of this analysis are reported in Table 2. To justify the analysis, we specifically focused on facets of emotional dysregulation captured by neuroticism and traits associated with impulsivity. As can be seen in Table 2, those who used gambling to escape were much more likely to exhibit neurotic tendencies and were significantly more impulsive. When simultaneously examining level of pathology and level of escapism, interactions were not present.

## DISCUSSION

In comparing a sample of PGs to NPGs, significant differences with moderate to large effect sizes were observed for a number of facets of personality. In particular, facets reflecting neuroticism produced large effect sizes between the groups, suggesting that when compared to NPGs, the PG sample experienced greater anxiety, frustration proneness, depression, sensitivity to personal ridicule, and proneness to feelings of inferiority. Additionally, PGs, compared to NPGs, were significantly less trusting and straightforward and perceived themselves as lacking competence. Not surprisingly, PGs, on average, exhibited greater traits associated with impulsivity compared to NPGs.

Tendencies to use gambling as a form of escapism appear to be important among some, but not all, of those who gamble. This appears to be

disproportionately true among PGs, as they reported significantly more gambling behaviors associated with escapism. Although normal controls are also likely to gamble to escape at times, those who gambled frequently to escape were on average more emotionally distressed as measured by personality facets of neuroticism. This finding provides support for the notion that impulse control is often sacrificed in times of emotional distress, when individuals give special status and priority to affect regulation (Tice, Bratslavsky, & Baumeister, 2001). In essence, when individuals feel unpleasant emotion, they generally seek some type of symptom relief, and this desire is perceived as urgent. Thus, the inability to regulate unpleasant affective experiences undermines impulse control because emotional distress creates a short-term focus on the present moment, whereas impulse control requires future-directed thinking (e.g., recognizing the benefits of delayed gratification to obtain a more distant goal). This pattern is not unique to pathological gambling and has been noted in other populations with impulse-control problems, such as hypersexual individuals (Reid, 2010; Reid, Carpenter, Spackman, & Willes, 2008), individuals with substance-related disorders (Ashton & Stepney, 1982; Hull, Young, & Jouriles, 1986; Pickens, Hatsukami, Spicer, & Svikis, 1985), and individuals with eating disorders (Heatherton, Herman, & Polivy, 1991; Heatherton, Striepe, & Wittenberg, 1998).

The findings from this study support treatment strategies that focus on affect regulation, especially for those who might use gambling as a form of escapism. However, clinicians should exercise caution in assuming that interventions targeting affect regulation are required for all PGs. A significant portion of those who gambled for reasons other than escapism met criteria for pathological gambling, but did not appear to experience neuroticism or significant deficits in general impulse control. This finding supports the notion of heterogeneity among PGs. Perhaps this subset of gamblers experience a loss of impulse control that is unique to context-specific factors (e.g., gambling opportunities) rather than experiencing impulsive characteristics in general.

The reason for the lack of trust and straightforwardness among PGs compared to NPGs is unclear, because mixed explanations exist in the literature regarding these associations. For example, attachment theories suggest that those who distrust are less likely to be emotionally vulnerable in their interpersonal relationships, which in turn, exerts a negative effect on emotional well-being. Others have suggested that emotions influence trust depending on the direction of the emotion's valence, such that positive valence (e.g., happiness) increases trust, whereas negative valence (e.g., sadness or depression) decreases trust (Dunn & Schweitzer, 2005; Lerner & Keltner, 2000, 2001). The degree to which these interactions, regardless of directionality, might influence gambling behavior is not clear. However, given the current data, the relevance of the finding might be a topic for future

research and for discussion with those seeking treatment for pathological gambling.

### Relevance of Findings for Clinical Practice

The findings of this study provide clinicians with a number of insights about associated characteristics among PGs. The pragmatic implications for these findings suggest that the following considerations and interventions might be useful when working with this population in clinical practice:

1. Clinicians will likely benefit from conceptualizing pathological gambling as a phenomenon in which many, but not all, individuals seek relief from emotional distress. The findings of this study support the notion that PGs disproportionately experience unpleasant mood states when compared to individuals in a control group. If this is true, it will be important to balance time spent in therapy between attempting to arrest problematic gambling behaviors and focusing on underlying emotional issues that might perpetuate these patterns.
2. Clinicians should help clients identify situations in which they are likely to experience unpleasant emotions and elucidate the process of how such affective experiences translate into problematic gambling.
3. Given the paucity of positive emotions among the PGs in this study, clinicians might want to explore the expectations of clients about things that create happiness in their lives. It is plausible that negative attention bias or other cognitive distortions among these clients predispose them to negative mood states. Alternatively, unrealistic expectations might leave them vulnerable to serial disappointments in their lives. This hypothesis needs to be explored further.
4. Clinicians might consider strategies that increase tolerance for uncomfortable affective experiences. In many ways, experiential therapists might afford clients the opportunity to process these emotionally difficult states in a safe environment where they can discover their ability to survive unpleasant affect they might otherwise fear or avoid. Mindfulness exercises are one example of a treatment strategy that can facilitate this type of increased coping with unpleasant affective states (Toneatto & Nguyen, 2007).
5. Emotional distress, which was highly correlated with pathological gambling in this study, can also be modulated through interventions targeting physiological processes. For example, biofeedback exercises that help reduce internal arousal (e.g., perceived emotional stress or anxiety) have shown to be helpful in the reduction of these states, which could in turn reduce the perceived need to escape (Fedotchev, 2010). Additionally, interventions to target physiological processes might include neurofeedback as a tool for regulatory control, mindfulness meditation to

enhance focused attention, yoga, and breathing exercises for anxiety and affect stabilization.

### Limitations of Study

Despite a number of interesting findings, this study was limited in several ways. First, this study is correlational and therefore does not address whether facets of personality, including neuroticism, exert a causal or interactive effect on pathological gambling. It is also difficult to assert directionality about impulsivity and escapism without further research. This study also possesses the limitations commonly associated with self-report measures and was conducted in a small sample demographically constrained to Los Angeles, California. Inferences about our findings beyond those listed in this study should be made with caution, in part because our sample consisted of non-treatment-seeking individuals. Although this study lacked participants with comorbid substance-related disorders, this dynamic afforded the opportunity to minimize potential confounds that could have complicated the interpretation of our results.

### CONCLUSION

This study examined group differences between non-treatment-seeking samples of PGs and NPGs regarding facets of personality. PGs were more likely to exhibit facets of personality reflecting neuroticism, impulsivity, distrust of others, and low sense of competence when compared to NPGs. Individuals who gambled as a form of escapism from unpleasant affective experiences were more likely to exhibit pathological tendencies, including greater impulsivity and emotional dysregulation compared to those who gambled for reasons other than escapism. However, this pattern of escapism will need to be explored on an individual basis because our findings provide further evidence of heterogeneity among PGs.

Future research might consider further investigation of subtypes among pathological gambling populations, as well as outcome studies that explore the efficacy of treatment interventions, such as those targeting affect regulation. Continued clinical trials exploring pharmacological interventions with PGs should also be considered (Grant, Kim, & Potenza, 2003; Topf, Yip, & Potenza, 2009).

### REFERENCES

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- Ashton, H., & Stepney, R. (1982). *Smoking: Psychology and pharmacology*. London, UK: Tavistock.

- Bagby, R. M., Vachon, D. D., Bulmash, E. L., Toneatto, T., Quilty, L. C., & Costa, P. T. (2007). Pathological gambling and the five-factor model of personality. *Personality and Individual Differences, 43*, 873–880.
- Blaszczynski, A., & Farrell, E. (1998). A case series of 44 completed gambling-related suicides. *Journal of Gambling Studies, 14*, 93–109.
- Blaszczynski, A., McConaghy, N., & Frankova, A. (1990). Boredom proneness in pathological gambling. *Psychological Reports, 67*, 35–42.
- Blaszczynski, A., & Nower, L. (2002). A pathways model of problem and pathological gambling. *Addiction, 97*, 487–499.
- Blaszczynski, A., & Silove, D. (1996). Pathological gambling: Forensic issues. *Australia New Zealand Journal of Psychiatry, 30*, 358–369.
- Breen, R. B., & Zuckerman, M. (1999). Chasing in gambling behavior: Personality and cognitive determinants. *Personality and Individual Differences, 27*, 1097–1111.
- Cohen, J. (1998). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York, NY: Academic.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO personality inventory (NEO-PI-R) and NEO five-factor inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology, 41*, 417–440.
- Dunn, J. R., & Schweitzer, M. E. (2005). Feeling and believing: The influence of emotion on trust. *Journal of Personality and Social Psychology, 88*, 736–748.
- Fedotchev, A. I. (2010). Efficacy of EEG biofeedback procedures in correcting stress-related functional disorders. *Human Physiology, 36*(1), 86–90.
- Gerstein, D., Murphy, S., Toce, M., Hoffmann, J., Palmer, A., Johnson, R., . . . Hill, M. A. (1999). *Gambling impact and behavior study: Report to the National Gambling Impact Study Commission*. Chicago, IL: National Opinion Research Center.
- Getty, H. A., Watson, J., & Frisch, G. R. (2000). A comparison of depression and styles of coping in male and female GA members and controls. *Journal of Gambling Studies, 16*, 377–391.
- Graham, J. R., & Lowenfeld, B. H. (1986). Personality dimensions of the pathological gambler. *Journal of Gambling Behavior, 2*(1), 58–66.
- Grant, J. E., & Kim, S. W. (2001). Demographic and clinical features of 131 adult pathological gamblers. *Journal of Clinical Psychiatry, 62*, 957–962.
- Grant, J. E., Kim, S. W., & Potenza, M. N. (2003). Advances in the pharmacological treatment of pathological gambling. *Journal of Gambling Studies, 19*(1), 85–109.
- Heatherton, T. F., Herman, C. P., & Polivy, J. (1991). Effects of physical threat and ego threat on eating. *Journal of Personality and Social Psychology, 60*, 138–143.
- Heatherton, T. F., Strieppe, M., & Wittenberg, L. (1998). Emotional distress and disinhibited eating: The role of self. *Personality and Social Psychology Bulletin, 24*, 301–313.
- Hodgins, D. C. (2004). Using the NORC DSM Screen for Gambling Problems as an outcome measure for pathological gambling: Psychometric evaluation. *Addictive Behaviors, 29*, 1685–1690.

- Hull, J. G., Young, R. D., & Jouriles, E. (1986). Applications of the self-awareness model of alcohol consumption: Predicting patterns of use and abuse. *Journal of Personality and Social Psychology, 51*, 790–796.
- Kaare, P. R., Mottus, R., & Konstabel, K. (2009). Pathological gambling in Estonia: Relationships with personality, self-esteem, emotional states and cognitive ability. *Journal of Gambling Studies, 25*, 377–390.
- Lahn, J. (2005). Gambling among offenders: Results from an Australian survey. *International Journal of Offender Therapeutics and Comprehensive Criminology, 49*, 343–355.
- Ledgerwood, D. M., & Petry, N. M. (2006). Psychological experience of gambling and subtypes of pathological gamblers. *Psychiatry Research, 144*, 17–27.
- Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgment and choice. *Cognition and Emotion, 14*, 473–493.
- Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology, 81*, 146–159.
- Lesieur, H. R., & Blume, S. B. (1987). The South Oaks gambling screen (SOGS): A new instrument for the identification of pathological gamblers. *American Journal of Psychiatry, 144*, 1184–1188.
- Lesieur, H. R., & Blume, S. B. (1993). Revising the South Oaks gambling screen in different settings. *Journal of Gambling Studies, 9*, 213–223.
- Maccallum, F., & Blaszczynski, A. (2003). Pathological gambling and suicidality: An analysis of severity and lethality. *Suicide and Life-Threatening Behavior, 33*(1), 88–98.
- Parke, A., Griffiths, M., & Irwing, P. (2004). Personality traits in pathological gambling: Sensation seeking, deferment of gratification and competitiveness as risk factors. *Addiction Research and Theory, 12*, 201–212.
- Petry, N. M., Stinson, F. S., & Grant, B. F. (2005). Comorbidity of DSM-IV pathological gambling and other psychiatric disorders results from the national epidemiologic survey on alcohol and related conditions. *Journal of Clinical Psychiatry, 66*, 564–574.
- Pickens, R. W., Hatsukami, D. K., Spicer, J. W., & Svikis, D. S. (1985). Relapse by alcohol abusers. *Alcoholism: Clinical and Experimental Research, 9*, 244–247.
- Porter, J., Ungar, J., Frisch, G. R., & Chopra, R. (2004). Loneliness and life dissatisfaction in gamblers. *Journal of Gambling Issues, 7*, 118–139.
- Potenza, M. N., Steinberg, M. A., McLaughlin, S. D., Rounsaville, B. J., & O'Malley, S. S. (2000). Illegal behaviors in problem gambling: Analysis of data from a gambling helpline. *Journal of Academy of Psychiatry and Law, 28*, 389–403.
- Raylu, N., & Oei, T. P. S. (2002). Pathological gambling: A comprehensive review. *Clinical Psychological Review, 22*, 1009–1061.
- Reid, R. C. (2010). Differentiating emotions in a sample of men in treatment for hypersexual behavior. *Journal of Social Work Practice in the Addictions, 10*, 197–213.
- Reid, R. C., Carpenter, B. N., Spackman, M., & Willes, D. L. (2008). Alexithymia, emotional instability, and vulnerability to stress proneness in patients seeking help for hypersexual behavior. *Journal of Sex and Marital Therapy, 34*, 133–149.

- Rockloff, M., & Dyer, V. (2006). The four Es of problem gambling: A psychological measure of risk. *Journal of Gambling Studies*, *22*(1), 101–120.
- Rockloff, M. J., Greer, N., Fay, C., & Evans, L. G. (2010). Gambling on electronic gaming machines is an escape from negative self-reflection. *Journal of Gambling Studies*. doi:10.1007/s10899-010-9176-2
- Scherrer, J. F., Xian, H., Shah, K. R., Volberg, R., Slutske, W., & Eisen, S. A. (2005). Effect of genes, environment, and lifetime co-occurring disorders on health-related quality of life in problem and pathological gamblers. *Archives of General Psychiatry*, *142*, 405–424.
- Shaffer, H. J., & Hall, M. N. (2001). Updating and refining prevalence estimates of disordered gambling behaviour in the United States and Canada. *Canadian Journal of Public Health*, *92*, 168–172.
- Shaffer, H. J., Labrie, R. A., Laplante, D. A., Kidman, R. C., & Donato, A. N. (2005). The Iowa Gambling Treatment Program: Treatment outcomes for a follow-up sample. *Journal of Gambling Studies*, *21*(1), 59–71.
- Stewart, S. H., Zack, M., Collins, P., Klein, R. M., & Fragopoulos, F. (2008). Subtyping pathological gamblers on the basis of affective motivations for gambling: Relations to gambling problems, drinking problems, and affective motivations for drinking. *Psychology of Addictive Behaviors*, *22*, 257–268.
- Tice, D. M., Bratslavsky, E., & Baumeister, R. F. (2001). Emotional distress regulation takes precedence over impulse control: If you feel bad, do it! *Journal of Personality and Social Psychology*, *80*(1), 53–67.
- Toce-Gerstein, M., Gerstein, D. R., & Volberg, R. A. (2003). A hierarchy of gambling disorders in the community. *Addiction*, *98*, 1661–1672.
- Toneatto, T., & Ladouceur, R. (2003). Treatment of pathological gambling: A critical review of the literature. *Psychology of Addictive Behaviors*, *42*, 92–99.
- Toneatto, T., & Millar, G. (2004). Assessing and treating problem gambling: Empirical status and promising trends. *Canadian Journal of Psychiatry*, *49*, 517–525.
- Toneatto, T., & Nguyen, L. (2007). Does mindfulness meditation improve anxiety and mood symptoms? A review of the controlled research. *Canadian Journal of Psychiatry*, *52*, 260–266.
- Topf, J. L., Yip, S. W., & Potenza, M. N. (2009). Pathological gambling: Biological and clinical considerations. *Journal of Addiction Medicine*, *3*, 111–119.
- Trevorrow, K., & Moore, S. (1998). The association between loneliness, social isolation and women's electronic gaming machine gambling. *Journal of Gambling Studies*, *14*, 263–284.
- Westphal, J. R. (2007). The evidence base supporting the subtyping of gamblers in treatment. *International Journal of Mental Health Addiction*, *5*, 123–140.
- Wickwire, E. M., Burke, R. S., Brown, S. A., Parker, J. D., & May, R. K. (2008). Psychometric evaluation of the National Opinion Research Center *DSM-IV* Screen for Gambling Problems (NODS). *The American Journal on Addictions*, *17*, 392–395.
- Wood, R. T. A., & Griffiths, M. D. (2007). A qualitative investigation of problem gambling as an escape-based coping strategy. *Psychology and Psychotherapy: Theory, Research and Practice*, *80*, 107–125.