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Interpersonal guilt in college student pathological gamblers

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Abstract

Background—Interpersonal guilt is associated with psychopathology, but its relationship to pathological gambling has not been studied.

Objectives—This study examined the relationship between interpersonal guilt and pathological gambling.

Methods—In total, 1,979 college students completed a questionnaire containing the South Oaks Gambling Screen, Interpersonal Guilt Questionnaire, and questions about substance use. Students identified as pathological gamblers ($n = 145$) were matched to non-problem gamblers with respect to demographics and substance use.

Results—Pathological gamblers had significantly higher interpersonal guilt than their non-problem gambling peers.

Conclusions and Scientific Significance—Pathological gambling college students have excessive interpersonal guilt, and these findings may lead to novel treatment approaches.

Pathological gambling is characterized as repetitive and maladaptive gambling despite negative consequences. Prevalence estimates of pathological gambling among adult samples in the general population range from 0.15% to 3.5% (1). In college students, prevalence rates are even higher, ranging from 2.9% to 11.8% (2–4).

The college years represent a time of separation and independence from the nuclear family, which may be accompanied by risky behaviors such as excessive gambling, as well as emotional responses to these behaviors and the separation experience (5). Interpersonal guilt is an altruistic and adaptive emotion that helps maintain relationships through concern and loyalty (6). However, when interpersonal guilt becomes excessive by way of cognitive distortions related to feeling better off than or different from others, the emotional response can be burdened with maladaptive and irrational guilt (6), that may lead to or stem from psychopathology. This conceptualization of guilt is not necessarily related to morals or actual behaviors. Instead, it involves painful thoughts, which may result in emotions of deep concern and responsibility for others and self-blame regarding the suffering of others.

The theoretical literature has proposed a causal relationship between guilt and psychopathology. Weiss (6) claimed that excessive guilt is often a core component of psychopathology and self-sabotaging behaviors. Anecdotally, Freud (7) hypothesized that Dostoevsky, the 19th Century Russian writer, gambled pathologically to relieve his guilt due

to aggressive fantasies toward his father. Furthermore, Niederland (8, p237) identified a “severe and persevering guilt complex” in some survivors of Nazi concentration camps who gambled heavily; in his writings, gambling was an attempt to ward off and relieve guilty feelings about having survived the Holocaust.

No known empirical research has examined a relationship between guilt and gambling. Only one known study has evaluated the association between guilt and substance abuse; a study of adult substance abusers (9) found higher levels of interpersonal guilt in substance abusers than controls. Pathological gambling is associated with substance abuse (10) and negative emotions (11–14). Further, psychological distress is related to interpersonal guilt in college students (13).

The purpose of this study was to compare interpersonal guilt in college students with and without pathological gambling. Because pathological gambling is associated with demographic characteristics and substance use (e.g. 2), a case-control design was utilized in which each student identified with pathological gambling was matched to a non-pathological gambler. We hypothesized that pathological gambling would be associated with increased interpersonal guilt.

Methods

Participants

A total of 1,979 participants were recruited at three college/university campuses in two northeastern states. Study inclusion criteria were 18 to 25 years of age and enrollment as either a part-time or full-time undergraduate at one of the colleges. Institutional Review Boards approved the study, and all participants signed written informed consent.

Procedures

Eligible participants were recruited in classroom settings (with the instructors’ permission) and student centers between November 2008 and March 2009. Participants received a candy bar, and, in some cases, extra course credit.

Measures

Demographic questions were included in the questionnaire, along with the South Oaks Gambling Screen (SOGS;15). Scores range from 0 to 20 with a score of 5 or higher indicating probable lifetime pathological gambling (15). The SOGS has adequate test-retest reliability and is correlated with other indices of pathological gambling (15). In this sample, Cronbach’s alpha internal consistency was 0.78.

The Interpersonal Guilt Questionnaire-67 (IGQ-67) measured interpersonal guilt (16). Responses are rated on a 5-point Likert scale, ranging from “very untrue or strongly disagree” to “very true or strongly agree,” with some items reverse scored, and higher scores represent greater guilt. The measure is composed of four subscales: Survivor Guilt, Separation Guilt, Omnipotent Responsibility Guilt, and Self-Hate Guilt (16). The 22 items measuring Survivor Guilt capture the belief that acquiring good things, or pursuing normal goals, comes at the expense of harming others, and an example includes, “I conceal or minimize my successes.” Separation Guilt is the belief that separating from others, such as a parent, might have damaging effects on the other; an example of one of the 15 items on this subscale is, “I feel bad when I disagree with my parent’s ideas or values, even if I keep it to myself.” Omnipotent Responsibility Guilt relates to feelings of exaggerated responsibility and concern for the well-being of others. An example of the 14 items of this subscale is, “I often find myself doing what someone else wants me to do rather than doing what I would

most enjoy.” Finally, Self-Hate Guilt is a general sense of badness; an example of one of the 16 items is, “I do not deserve other people’s respect or admiration.”

The IGQ-67 subscales have construct validity with other guilt measures (16). In this sample, internal consistency of items on the full-scale score was 0.91, and 0.78, 0.78, 0.75 and 0.86 for each of the four subscales, respectively.

The Alcohol Use Disorders Identification Test (AUDIT;17) assessed current alcohol use and problems. The AUDIT is a 10-item questionnaire, and scores range from 0 to 40. A score of 8 reflects harmful or hazardous alcohol use (17). This measure is reliable and valid for assessing problem drinking in college students (18), and internal consistency in this sample was 0.81. In addition, the questionnaire included items about use of cigarettes, cannabis, and “other” illicit drugs, as well as expenditures and frequency of gambling.

Data Analysis

Participants who had a SOGS score of 5 or higher were classified as pathological gamblers. Because of the unbalanced group sizes and confounding variables related to both pathological gambling and interpersonal guilt, we utilized a case-control design for the primary analyses. Each pathological gambler was matched to a participant who had a SOGS score of 2 or less using a one-to-one exact matching algorithm without replacement for the following variables: recruitment site, gender, racial identity, income, GPA, cigarette use, alcohol use, cannabis use, and “other” drug use. If there was more than one match for a pathological gambler, a control was randomly selected from matches. If there was no identical match, a control was selected using a limited exact matching algorithm with a subset of the nine confounding variables, again without replacement. The SOGS cut-off of 2 for the control group maximized potential differences between the pathological gamblers and controls, because scores of 3–4 on the SOGS reflect “problem gambling” (19), that may also be associated with guilt.

After chi-square tests for categorical variables and independent t-tests for continuous variables confirmed groups were not significantly different on any baseline characteristics except those relating to gambling, a *t*-test compared pathological gamblers and controls on total IGQ-67 scores. Subsequent *t*-tests evaluated group differences on each of the four IGQ-67 subscales. Effect sizes were estimated via Cohen’s *d* (20), with *d*=0.2 reflecting small effect sizes and *d*=0.4 reflecting medium effect sizes. Data were analyzed using PASW Statistics 17.0 with *p*-value of < 0.05 (two-tailed) considered significant.

RESULTS

In this sample of 1,979 college students, 7.3% were identified as pathological gamblers. As expected, pathological gamblers were more likely to be male, to be African American, to maintain a lower GPA, to have a higher income, to have higher scores on an alcohol problem scale (the AUDIT), and to use more cigarettes, cannabis, and other illicit drugs than the full sample (Table 1).

The 145 participants selected as non-problem gambling controls did not differ from the pathological gamblers on any baseline characteristics, except those related to gambling. SOGS scores and frequency of and expenditures on gambling in past two months differed between groups in the expected manner (p s < 0.001; Table 1).

The pathological gamblers had significantly higher interpersonal guilt on the full scale IGQ-67. Subsequent analyses found that the pathological gamblers had significantly higher scores on the Separation Guilt, Omnipotent Responsibility Guilt, and Self-Hate Guilt

subscales, with small to medium effect sizes. On the Survivor Guilt subscale, the effect size was small, and the difference between groups was close but did not reach statistical significance. Table 2 displays scores on the IGQ-67 full scale and subscales.

Similar results to those reported herein were noted (data not shown; available from authors) when analysis of covariance examined IGQ-67 total scores between pathological gamblers and the full sample of non-pathological gamblers. These analyses controlled for the nine demographic and substance use variables outlined earlier, and again found associations between pathological gambling status and higher guilt.

DISCUSSION

These results suggest pathological gambling college students suffer from excessive interpersonal guilt. The findings are consistent with past research showing interpersonal guilt is associated with psychopathology in college students (21), and extend this relationship to pathological gambling. Of the four IGQ-67 subscales, self-hate guilt is most strongly associated with psychopathology (21). Similarly, in this study, the Self-Hate Guilt subscale had a medium effect size when comparing pathological gambling to non-pathological gambling students, while effect sizes were in the small to medium range for the other subscales.

Pathological gamblers are sometimes viewed as lacking concern and responsibility toward others because of antisocial behaviors that go along with pathological gambling (lying, stealing) and high rates of comorbidity between the disorders (10). The excessive interpersonal guilt found in this study, marked by highly altruistic thoughts, stands in stark contrast to features of antisocial personality disorder (ASPD). Although ASPD is strongly associated with pathological gambling in epidemiological samples (10), data from this study reveal high levels of interpersonal guilt, at least in college students with pathological gambling.

This study has several limitations. Participants were a non-random sample drawn from three campuses in the Northeast. Therefore, these results may not be generalized to other college students or the non-college population. The data were derived from a sample identified as pathological gamblers based on responses to a screening questionnaire, which prevents direct application of these results to a clinical population. The SOGS classified participants as pathological gamblers, but it is not a diagnostic instrument and may overestimate the prevalence of pathological gambling relative to instruments more closely tied to diagnostic criteria (22). Issues related to the assessment of interpersonal guilt using the IGQ-67 may also limit the findings. The IGQ-67 has only preliminary testing of its reliability and validity. The internal consistency in this and prior samples (16) was adequate, but additional validations of this instrument are needed.

Because this study used a cross-sectional design, conclusions cannot be drawn concerning the temporal relationships between interpersonal guilt and pathological gambling. Interpersonal guilt may be associated with the development of pathological gambling, and gambling may help some college students manage and escape from difficult thoughts and emotions related to interpersonal guilt. Conversely, or in addition, some pathological gambling college students may be more prone to experience excessive guilt as a result of their gambling.

Although directionality is unknown, interpersonal guilt was associated with pathological gambling in this large sample of college students. Future studies are needed to replicate these findings in other samples, including treatment-seeking gamblers. If high levels of interpersonal guilt exist, such data may suggest novel approaches for treating pathological

gambling. For example, pathological gambling college students also perceive they have less social support than their non-pathological gambling peers (23), and those with high interpersonal guilt, especially self-hate guilt, may have the perception that they do not deserve support from friends and family (16). Because social support plays an important role in gambling treatment outcomes (24), modifying perceptions of guilt and improving social support, via cognitive-behavioral approaches (19), may assist college student pathological gamblers in reducing gambling as well as guilt.

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REFERENCES

1. Stucki S, Rihs-Middell M. Prevalence of adult problem and pathological gambling between 2000 and 2005: An update. *J Gambi Stud.* 2007; 23(3):245–257. [PubMed: 17216582]
2. Engwall D, Hunter R, Steinberg M. Gambling and other risk behaviors on university campuses. *J Am Coll Health.* 2004; 52(6):245–255. [PubMed: 15134098]
3. Petry N, Weinstock J. Internet gambling is common in college students and associated with poor mental health. *Am J Addict.* 2007; 16(5):325–330. [PubMed: 17882602]
4. Winters K, Bengston P, Door D, Stinchfield R. Prevalence and risk factors of problem gambling among college students. *Psychol Addict Behav.* 1998; 12(2):127–135.
5. Lopez F, Watkins C, Manus M, Hunton-Shoup J. Conflictual independence, mood regulation, and generalized self-efficacy: Test of a model of late-adolescent identity. *J Couns Psychol.* 1992; 39(3): 375–381.
6. Weiss, J. Unconscious guilt. In: Weiss, J.; Sampson, H., editors. *The Psychoanalytic Process: Theory, Clinical Observation and Empirical Research.* New York, NY: Guilford; 1986. p. 43-67.
7. Freud, S. Dostoevsky and parricide. In: Strachey, J., editor. *The Standard Edition of the Complete Psychological Works of Sigmund Freud.* Vol. vol 21. London, England: Hogarth; 1961. p. 175-196.
8. Niederland WG. The problem of the survivor. *J Hillside Hosp.* 1961; 10:233–247.
9. Meehan W, O'Connor L, Berry J, Weiss J, Acampora A. Guilt, shame, and depression in clients in recovery from addiction. *J Psychoactive Drugs.* 1996; 28(2):125–134. [PubMed: 8811581]
10. Petry N, Stinson F, Grant B. Comorbidity of DSM-IV pathological gambling and other psychiatric disorders: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry.* 2005; 66(5):564–574. [PubMed: 15889941]
11. Hodgins DC, el-Gueblay N. Retrospective and prospective reports of recitpant to relapse in pathological gambling. *J Consult Clin Psych.* 2004; 72(1):72–80.
12. Ledgerwood DM, Petry NM. Psychological experience of gambling and subtypes of pathological gamblers. *Psychiat Res.* 2006; 144(1):17–27.
13. Morasco BJ, Weinstock J, Ledgerwood DM, Petry NM. Psychological factors that promote and inhibit pathological gambling. *Cogn Behav Pract.* 2007; 14(2):208–217.
14. Ricketts T, Macaskill A. Gambling as emotion management: Developing a grounded theory of problem gambling. *Addict Res and Theor.* 2003; 11(6):383–400.
15. Lesieur H, Blume S. The South Oaks Gambling Screen (SOGS): A new instrument for the identification of pathological gamblers. *Am J Psychiatry.* 1987; 144(9):1184–1188. [PubMed: 3631315]
16. O'Connor L, Berry J, Weiss J, Bush M, Sampson H. Interpersonal guilt: The development of a new measure. *J Clin Psychol.* 1997; 53(1):73–89. [PubMed: 9120036]
17. Saunders J, Aasland O, Babor T, de la Fuente J. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption: II. *Addiction.* 1993; 88(6):791–804. [PubMed: 8329970]

18. Kokotailo P, Egan J, Gangnon R, Brown D, Mundt M, Fleming M. Validity of the Alcohol Use Disorders Identification Test in college students. *Alcohol Clin Exp Res*. 2004; 28(6):914–920. [PubMed: 15201634]
19. Petry, NM. Pathological gambling: Etiology, comorbidity, and treatment. Washington, DC: American Psychological Association; 2005.
20. Cohen, J. Statistical power analysis for the behavioral sciences. New York, NY: Academic Press; 1969.
21. O'Connor L, Berry J, Weiss J. Interpersonal guilt, shame, and psychological problems. *J Soc Clin Psychol*. 1999; 18(2):181–203.
22. Stinchfield R. Reliability, validity, and classification accuracy of the South Oaks Gambling Screen (SOGS). *Addictive Behav*. 2002; 27:1–19.
23. Weinstock J, Petry NM. Pathological gambling college students' perceived social support. *J Col Student Dev*. 2008; 49(6):625–632.
24. Petry NM, Weiss L. Social support is associated with gambling treatment outcomes in pathological gamblers. *Am J Addict*. 2009; 18:402–408. [PubMed: 19874160]

Table 1

Demographic, substance use, and gambling characteristics of samples.

Continuous variables	Full Sample (<i>n</i> = 1,979)		Pathological gamblers (<i>n</i> = 145)		Controls (<i>n</i> = 145)		Pathological gamblers vs. controls	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> (<i>df</i>)	<i>p</i>
Age	19.51	1.42	19.68	1.53	19.73	1.54	0.27 (288)	.79
Years of education	13.16	1.07	13.23	1.11	13.27	1.11	0.36 (283)	.72
AUDIT score	8.06	5.98	13.50	7.16	12.61	7.06	-1.07 (288)	.29
SOGS score	1.18	2.03	6.80	2.19	0.61	0.76	-32.18 (178)	.001
Categorical variables	% <i>n</i>		% <i>n</i>		% <i>n</i>		χ^2 (<i>df</i>)	
Recruitment site							3.33 (2)	
Campus A	34.4	680	37.2	54	37.2	54		
Campus B	10.5	207	16.6	24	9.7	14		
Campus C	55.2	1,092	46.2	67	53.1	77		
Male gender	49.0	970	89.0	129	86.9	126	0.13 (1)	.72
Racial identity							0.58 (4)	
Caucasian	83.0	1,642	79.3	115	82.8	120		
African-American	6.3	125	9.0	13	7.6	11		
Latino	4.5	90	4.1	6	3.4	5		
Asian American	4.2	83	4.8	7	4.1	6		
Native American	0.2	3	0.0	0	0.0	0		
Other	1.7	33	2.8	4	2.1	3		
Grade point average							3.69 (4)	
3.5 to 4.0	31.8	630	22.1	32	24.8	36		
3.0 to 3.4	40.7	805	35.9	52	40.7	59		
2.5 to 2.9	22.4	443	31.7	46	29.7	43		
2.0 to 2.4	4.3	85	9.0	13	4.1	6		
Below 2.0	0.6	12	1.4	2	0.7	1		
Yearly personal income							0.37 (4)	
Under \$2,000	43.3	856	36.8	53	37.9	55		

Continuous variables	Full Sample (<i>n</i> = 1,979)		Pathological gamblers (<i>n</i> = 145)		Controls (<i>n</i> = 145)		Pathological gamblers vs. controls		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> (<i>df</i>)		
\$2,001 to \$5,000	31.8	629	27.8	40	29.0	42			
\$5,001 to \$10,000	16.3	323	22.2	32	22.1	32			
\$10,001 to \$25,000	7.4	147	11.8	17	9.7	14			
More than \$25,000	1.0	20	1.4	2	1.4	2			
Times gambled in past two months							68.46 (4)		.001
None	48.3	955	11.1	16	40.0	58			
1–2 times	32.5	643	22.2	32	36.6	53			
3–5 times	10.1	200	19.4	28	13.8	20			
6–10 times	4.0	80	13.2	19	5.5	8			
>10 times	5.1	100	34.0	49	4.1	6			
Money spent gambling in past two months							80.45 (5)		.001
\$0	49.0	970	13.1	19	41.4	60			
\$1–\$9	20.6	408	6.2	9	26.2	38			
\$101–\$49	19.9	393	30.3	44	21.4	31			
\$501–\$99	5.5	109	18.6	27	6.2	9			
\$1001–\$499	3.9	77	22.1	32	4.8	7			
>\$500	1.0	19	9.7	14	0.0	0.0			
Cigarette use							7.58 (5)		.18
None	85.3	1,688	69.0	100	75.2	109			
Occasionally	7.6	151	13.8	20	12.4	18			
1 to 5/day	4.3	85	11.7	17	6.9	10			
6 to 15/day	2.4	47	4.8	7	5.5	8			
More than 15/day	0.4	7	.7	1	0.0	0.0			
Cannabis use							7.58 (5)		.18
Never	57.0	1,128	37.2	54	36.6	53			
Yearly or less	9.6	189	9.0	13	9.0	13			
Less than monthly	12.2	241	12.4	18	7.6	11			
1 to 4 times/month	9.6	189	15.2	22	15.9	23			
1 to 6 times/week	7.0	139	9.7	14	19.3	28			

Continuous variables	Full Sample (<i>n</i> = 1,979)		Pathological gamblers (<i>n</i> = 145)		Controls (<i>n</i> = 145)		<i>t</i> (<i>df</i>)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Daily	4.6	92	16.6	24	11.7	17		
Other illicit drug use							7.98 (5)	.16
Never	91.6	1,813	77.2	112	80.0	116		
Yearly or less	2.7	54	2.8	4	6.2	9		
Less than monthly	3.3	66	11.0	16	7.6	11		
1 to 4 times/month	1.6	31	5.5	8	6.2	9		
1 to 6 times/week	0.4	8	2.8	4	0.0	0.0		
Daily	0.1	2	0.7	1	0.0	0.0		

Note. Numbers may not equal group sample size due to missing responses.

Table 2

Interpersonal guilt scores.

Variables	Full Sample		Pathological gamblers		Controls		Pathological gamblers vs. controls		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> (<i>df</i>)			
Total IGQ-67 score	179.59	25.06	187.94	23.15	177.33	26.29	-3.65 (288)	< .001		.43
Survivor Guilt	61.13	9.13	61.72	7.68	59.74	9.72	-1.92 (273)	.056		.23
Separation Guilt	41.51	7.79	43.83	7.33	41.37	7.61	-2.80 (288)	.005		.33
Omnipotent Responsibility Guilt	45.74	7.18	46.41	7.11	44.21	6.89	-2.68 (288)	.008		.31
Self-Hate Guilt	31.21	9.10	35.99	10.08	32.00	9.19	-3.52 (288)	.001		.41

Note. *d* = Cohen's *d*.