Published in final edited form as:
J Clin Psychiatry. 2012 October ; 73(10): 1293–1297. doi:10.4088/JCP.12m07800.

Marital Status, Childhood Maltreatment, and Family Dysfunction: A Controlled Study of Pathological Gambling

Donald W. Black, MD, **Martha C. Shaw, BA**, **Brett A. McCormick, MA**, and **Jeff Allen, PhD**
Department of Psychiatry, University of Iowa Roy J. and Lucille A. Carver College of Medicine, Iowa City.

Abstract

Background—Pathological gambling is a prevalent public health problem associated with depression, substance misuse, crime, and suicide. Despite these challenges, little attention has been directed to examining its negative consequences on families and marriages, including divorce rates, childhood maltreatment, and family dysfunction.

Method—From February 2005 to June 2010, subjects with *DSM-IV*-defined pathological gambling and community controls were assessed for marital and family variables and indices of childhood maltreatment. The Family Assessment Device (FAD) was used to evaluate family functioning.

Results—Ninety-five subjects with *DSM-IV* pathological gambling and 91 control subjects without pathological gambling were recruited and assessed. They were similar in age, gender, and employment status. Persons with pathological gambling were more likely than controls to have ≥ 1 divorce (odds ratio [OR] = 2.56; 95% Cl, 1.35-4.87; *P*=.004), to live alone (OR=4.49; 95% Cl, 1.97-10.25; *P*<.001), and to report any type of childhood maltreatment (OR =4.02; 95% Cl, 2.12-7.64; *P*<.001). They did not differ on number of siblings or ordinal position among siblings. Pathological gambling subjects reported significantly worse family functioning than control subjects as assessed by all 7 FAD subscales. On the FAD general functioning subscale, 55% of pathological gambling families and 33% of control families were rated “unhealthy” (OR = 2.17; 95% Cl, 1.14–4.12; *P*=.018). Severity of gambling was positively correlated with divorce, childhood maltreatment, and the FAD roles subscale.

Conclusions—People with pathological gambling are more likely than controls to have been divorced, to live alone, and to report having experienced childhood maltreatment than controls. They also report greater family dysfunction.

Pathological gambling is prevalent, costly, and associated with substance misuse, depression, domestic violence, crime, and suicide. [1–7] Nearly 90% of the general adult population participate in some form of gambling,[8] and an estimated 1.2%–3.4% develop pathological gambling, the most severe form of disordered gambling, [1,2] Despite these challenges, little attention has been directed to examining its negative consequences on families and marriages, including divorce, childhood maltreatment, and family dysfunction.

Corresponding author: Donald W. Black, MD, 2-126B MEB, University of Iowa, Carver College of Medicine, Iowa City, IA 52242 (donald-black@uiowa.a.edu). .

Disclosure of off-label usage: The authors have determined that, to the best of their knowledge, no investigational information about pharmaceutical agents that is outside US Food and Drug Administration–approved labeling has been presented in this article.

Financial disclosure: **Ms Shaw, Mr McCormick**, and **Dr Allen** have no personal affiliations or financial relationships with any commercial interest to disclose relative to the article.

Much of the information regarding marital discord and family dysfunction in persons with pathological gambling is anecdotal, but the ill effect has been informally recognized for decades. Gam-Anon, for instance, was founded in 1960 to support and educate families and friends of persons with pathological gambling. Implicit in its founding was the concern that families in which a member had pathological gambling were dysfunctional.[9] Clinical and epidemiologic data have supported these informal observations. For example, in the National Gambling Impact Study,[6] lifetime divorce rates for problem and pathological gamblers were 39.5% and 53.5%, respectively (the rate in nongamblers was 18.2%).

In addition to marital discord, converging evidence suggests that families in which a member has pathological gambling are dysfunctional. Grant and Kim[10] used the Parental Bonding Instrument[11] to assess parenting style in 33 persons with pathological gambling and found that 17%–30% reported optimal parenting, while 39%–43% reported neglectful parenting. By way of comparison, studies that have included normal controls have found rates of optimal bonding between 40%–60%.[12,13] The experience of children who live with a parent with disordered gambling is reported to be noteworthy for the sense of loss engendered by the sense of victimization many offspring experience.[14,15] As a corollary, many persons with pathological gambling retrospectively report having been maltreated during childhood. For example, in a study[16] of 28 adolescents and young adults who reported pathological gambling, 20% reported having experienced moderate to severe emotional/physical abuse, and nearly 18% reported a history of moderate to severe sexual abuse.

Taken together, these data suggest that disordered gambling is associated with disturbed marital and family functioning and argue for additional study. Further. there are few studies in which family functioning has been specifically assessed, nor the range of types of childhood maltreatment. We had an opportunity to examine these variables in a recently completed family study in which we compared subjects with pathological gambling and controls. We hypothesized that persons with pathological gambling would be more likely than controls to have evidence of marital discord. childhood maltreatment. and impaired family function.

METHOD

Subjects

Subjects were recruited through a registry, by referral from the treatment community, and through advertisements, Gamblers Anonymous meetings, and word of mouth. They were interviewed between February 2005 and June 2010. Controls were recruited through random digit dialing methods by the Center for Social and Behavioral Research at the University of Northern Iowa (Cedar Falls, Iowa) and were group matched to pathological gambling subjects for age, sex, and educational level.

Subjects with pathological gambling were required to have a South Oaks Gambling Screen (SOGS)[17] score ≥ 5 and a National Opinion Research Center (NORC) *DSM* Screen for Gambling Problems (NODS)[6] score ≥ 5; they also had to meet *DSM-IV* pathological gambling criteria.[18] The SOGS is a screener used to identify likely cases of pathological gambling. The NODS is a structured instrument used to diagnose pathological gambling. Subjects were ≥ 18 years, spoke English, and could not have a psychotic, cognitive, or chronic neurologic disorder (eg, Parkinson's disease). Controls were required to have a SOGS score ≤ 2 and a NODS score of 0. Written informed consent was obtained from all subjects according to procedures approved by the University of Iowa Institutional Review Board.

Assessments

Social and demographic data were collected from all subjects. We asked detailed questions on childhood maltreatment from the Revised Childhood Experiences Questionnaire, a semistructured interview with good to moderate-to-good psychometric properties.[19] Family size was determined based on information about the number of first-degree relatives including parents, siblings, children, and the subject.

We administered the Family Assessment Device (FAD)[20,21] to assess 6 dimensionally measured subscales that tap distinct facets of family life. These subscales include problem solving, which measures the family's ability to resolve issues that affect the integrity and functional capacity of the family; communication, which assesses the ability of families to exchange information; roles, which assesses whether a family has established patterns of behavior for handling family issues and in providing nurturance and support; affective responsiveness, which assesses the extent to which individual family members are able to express appropriate affect over a range of stimuli; affective involvement, which assesses the extent to which family members show interest and involvement in others' activities and concerns; and behavior control, which assesses the way in which a family expresses and maintains behavior of its members. A scale assessing overall level of family functioning ("general functioning") is also included. In addition to yielding dimensional scores on the subscales, scores can be dichotomized as "healthy" or "unhealthy." Subjects are asked to describe their current family life when mling out the form.

Statistical Analysis

Pathological gambling and control subjects were compared on social and demographic characteristics using the χ^2 test (or Fisher exact test) for categorical variables and the Mann-Whitney test for dimensional variables. Logistic regression was used to compare pathological gambling and control subjects on dichotomous variables, including divorce, multiple marriages, living alone, and living with children. Odds ratios (ORs) with 95% confidence intervals (CIs) were used to test for group differences. Linear regression was used to compare pathological gambling and control subjects on marital and family variables, including number of children and family size.[22] Mean differences with 95% CIs were used to test for group differences in each dimensional variable. In all logistic and linear regression models comparing pathological gambling and control subjects, years of education and racial/ethnic minority status were used as covariates. The same logistic regression model described above was used to compare pathological gambling and control subjects on childhood abuse variables.

Family functioning measured with the FAD resulted in 7 scale scores (range, 1.0–4.0) and classification of families as "healthy" or "unhealthy," with higher scores indicating worse functioning. The cutoffs for unhealthy functioning for each of the 7 scales are as follows: problem solving (2.2), communication (2.2), roles (2.3), affective responsiveness (2.2), affective involvement (2.1), behavior control (1.9), and general functioning (2.0). Logistic regression was used to compare pathological gambling and control subjects using the cutoffs for unhealthy functioning. Linear regression was used to compare pathological gambling and control subjects using the FAD scale scores.

We also examined the relationship between severity of pathological gambling, as measured by the SOGS and NODS total scores, and selected marital and family variables, as well as childhood abuse. This analysis was confined to the subjects with pathological gambling. Simple correlations were used to measure the relationship between severity of pathological gambling and dimensional measures (eg, number of children and FAD scale scores). Logistic regression was used to measure the relationship between severity of pathological

gambling and dichotomous measures (eg, divorce, living alone, and the childhood maltreatment variables). *P* values less than .05 were considered statistically significant.

RESULTS

Table 1 shows the social and demographic characteristics of 95 subjects with pathological gambling and 91 controls. The groups were similar in age, sex, and employment status. Pathological gambling subjects were more likely to be divorced/separated or single. Minority status and years of education were used as covariates in all analyses comparing pathological gambling and control subjects. SOGS and NODS scores indicated that pathological gambling subjects had moderate to severe pathological gambling.

Pathological gambling subjects were more likely to have at least 1 divorce (47% vs 25%, adjusted OR = 2.56; 95% CI, 1.35–4.87; $P = .004$) and to live alone (35% vs 10%, OR = 4.49; 95% CI, 1.97–10.25; $P < .001$). Of those with children, pathological gambling subjects were less likely to live with their children (40% vs 55%), although the difference was not statistically significant (OR = 0.53; 95% CI, 0.26–1.07; $P = .077$). On average, pathological gambling subjects had fewer children than controls (mean [SD] of 1.8 [1.6] vs 2.3 [1.3] children). When only those subjects with children were compared, the mean number of children in both groups was 2.5, suggesting no difference between groups in family size. Pathological gambling and control subjects were not significantly different in number of siblings (mean = 2.8 for pathological gambling subjects, 2.6 for controls) or ordinal position among siblings.

Pathological gambling subjects were more likely to report childhood maltreatment (Table 2). The majority of pathological gambling subjects (61 %) reported some form of abuse, compared to 25% of control subjects (adjusted OR = 4.02, $P<.001$). The most prevalent forms of abuse reported by pathological gambling subjects were verbal (48%) and emotional (40%) abuse. Reports of neglect and physical abuse were more prevalent in pathological gambling subjects than in controls, but the differences were not statistically significant. Pathological gambling subjects (41 %) were more likely than controls (14%) to report multiple forms of abuse (adjusted OR=3.74, $P<.001$).

Pathological gambling subjects were significantly more likely to have unhealthy family relationships, and this held true across all scales of the FAD (Table 3). Nearly half of the pathological gambling subjects (48%) exceeded the unhealthy cutoff on roles, compared to 12% of controls (adjusted OR = 5.99, $P < .001$). The scale showing the highest prevalence of unhealthy behavior was affective involvement (57% for pathological gambling subjects, 35% for controls, adjusted OR = 2.55, $P = .004$). Over half of the pathological gambling subject families (55%) were classified as having unhealthy general functioning, as compared to one-third of the control families (adjusted OR = 2.17, $P = .018$). The group differences in the scale scores of the FAD were all significant as well.

Within the pathological gambling group, severity of problem gambling (as measured by the NODS total score) was positively correlated with worse FAD problem solving ($R = 0.23$, $P = .029$) and roles ($R = 0.29$, $P = .007$) functioning (data not shown). This finding did not hold when the SOGS total score was used as the measure of pathological gambling severity. Other relationships between pathological gambling severity and dimensional variables were not significant. Severity of pathological gambling (measured by SOGS total score) was related to divorce (data not shown); the OR of 1.60 indicates that the odds of divorce increased by a factor of 1.60 for each standard deviation increase in SOGS total score ($P = .036$). Severity of pathological gambling (measured by NODS total score) was related to living with one's children (OR = 2.12, $P = .013$). Severity of pathological gambling (SOGS

total score) was also related to any type of childhood abuse (OR = 2.14, $P = .002$) and verbal abuse (OR = 1.94, $P = .006$).

DISCUSSION

Persons with pathological gambling are more likely than controls to be divorced, live alone, and report evidence of disturbed family life. They are also likely to report childhood maltreatment, including physical, emotional, and sexual abuse, at rates greater than among controls. Our study adds to the literature by confirming these differences in a wellcharacterized sample of persons with pathological gambling and controls selected through random digit dialing methods. Importantly, among persons with pathological gambling, increasing gambling severity (measured with the SOGS and NODS) was positively correlated with worse family functioning in terms of FAD subscale scores, divorce, and childhood maltreatment.

As evidence of unstable marital life, pathological gamblers report having more divorces than controls, are more likely to be currently divorced, and are more likely to live alone. The results are consistent with clinical and epidemiologic studies that show higher rates of divorce in persons with pathological gambling than in comparison groups.[23] These findings are not entirely surprising in light of the known effect of having a spouse with pathological gambling. Lorenz and Yaffee[24] found that women belonging to Gam-Anon frequently endorsed feelings of anger or resentment toward their spouse (74%), depression (47%), isolation (44%), and guilt about contributing to his gambling (30%), while 86% contemplated leaving their gambling spouses and 29% did so. Sexual intimacy is another casualty of pathological gambling.[25,26]

Childhood maltreatment has been associated with several psychiatric disorders including borderline personality disorder and posttraumatic stress disorder.[27–29] In the current study, we found that 61 % of subjects with pathological gambling reported experiencing some type of childhood maltreatment, including emotional, verbal, physical or sexual abuse, as well as neglect. These rates are comparable to those recently reported by Felsher et al.[16] While the impact of childhood maltreatment is unclear, Jacobs[30] suggests that negative feelings and rejection in childhood may lead a person to seek aversive stimuli to modulate their negative affective state. This theory is partially consistent with the pathways model proposed by Blaszczynski and Nower,[31] which describes a subgroup of “emotionally vulnerable gamblers” who suffer premorbid depression or anxiety. They have a history of poor coping, frequent life events, and adverse developmental experiences including abuse. For these individuals, gambling serves to modulate negative affective states or to meet other psychological needs. Although we do not know the direction of the relationship between abuse and pathological gambling, the fact that persons with pathological gambling report high rates of childhood maltreatment is at the very least another indicator of family dysfunction.

Pathological gambling families had higher (more pathological) scores than control families on all FAD subscales; this was also true for 6 of 7 subscales when the families were rated as “healthy” or “unhealthY:” Thus, family dysfunction is not limited to 1 specific domain of functioning, but occurs in all rated dimensions indicating more generalized dysfunction, rather than targeted issues. Dysfunction ranges from poor communication to inability to resolve problems. While these observations will not surprise those who work with pathological gambling families, this study provides an objective assessment documenting the extent of the family problems.

These data extend what is known about the families of persons with disordered gambling.[4] While it has been known for decades that pathological gambling has a negative impact on families, only recently have quantitative data confirmed these observations. Bergh and Kühlhorn[32] found in a sample of 40 pathological gamblers that pathological gambling caused problems for at least 1 family member for 83% of their sample, mainly marital problems or having no time for children. In a quantitative study of nuclear families, Ciarrocchi and Reinert[33] recruited 67 married male problem gamblers (34 with alcohol dependence, 33 Without) from treatment programs and had them complete the Family Environment Scale (FES),[34] a self-report measure of family structure and relations. Compared with control families, the gamblers scored significantly lower on family commitment and support; they also scored lower on independence within their families. Those in the problem gambling–only group reported a lower level of familial participation in intellectual activities, and the gamblers who were also alcohol dependent reported a significantly higher level of expressed anger within the family. Both groups differed Significantly from controls on 6 of 10 FES subscales.

The findings raise questions about the strength and direction of these associations. Does pathological gambling contribute directly to poor marital and family functioning, or are persons with these problems more likely to become pathological gamblers? Gambling could contribute to these problems through its direct impact on the family budget, or to time devoted to gambling taken at the expense of family togetherness. The prevarication, untruthfulness, or illegal behaviors that often accompany pathological gambling also undermine the family unit. However, it is important to recognize that the families of gamblers are often filled with members who are psychiatrically ill or addicted to alcohol or drugs, and this would have an independent and negative impact on family life.[35]

There are several methodological limitations to acknowledge. First, people with pathological gambling were mainly recruited through a study registry, advertising, or participation in treatment programs and not through epidemiologic sampling methods. Therefore, the pathological gamblers may not be representative of persons with pathological gambling as a whole. Next, data were largely obtained through self-report, and it is possible that a subject's perception of his or her marital and family functioning is inaccurate because of denial or exaggeration. For example, people sometimes underreport the extent of marital or family discord due to embarrassment. Lastly, the large number of outcomes tested could have resulted in a higher risk of a type I error.

Acknowledgments

Dr Black has received research support from AstraZeneca and Psyadon and royalties from American Psychiatric Publishing, Inc, and Oxford University Press.

Funding/support: The study was funded through grant ROIDA021361 from the National Institute on Drug Abuse (Dr Black).

REFERENCES

1. Kessler RC, Hwang I, LaBrie R, et al. *DSM-IV* pathological gambling in the National Comorbidity Survey Replication. Psychol Med. 2008; 38(9):1351–1360. [PubMed: 18257941]
2. Petry NM, Stinson FS, Grant BE. 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]
3. Grinols, EL. Gambling in America: Costs and Benefits. Cambridge University Press; New York, NY: 2004.

4. Shaw MC, Forbush KT, Schlinder J, et al. The effect of pathological gambling on families, marriages, and children. CNS Spectr. 2007; 12(8):615–622. [PubMed: 17667890]
5. Petry NM, Kiluk BD. Suicidal ideation and suicide attempts in treatment-seeking pathological gamblers. J Nerv Ment Dis. 2002; 190(7):462–469. [PubMed: 12142848]
6. National Opinion Research Center at the University of Chicago (NORC). Gambling Impact and Behavior Study. Report to the National Gambling Impact Study Commission. Apr 1. 1999 http://govinfo.library.unt.edu/ngisclreports/gibstdy.pdf
7. Lesieur HR, Custer RL. Pathological gambling: roots, phases, and treatment. Ann Am Acad Pol Soc Sci. 1984; 474(1):146–156.
8. Welte JW, Barnes GM, Wieczorek WF, et al. Gambling participation in the US—results from a national survey. J Gambl Stud. 2002; 18(4):313–337. [PubMed: 12514913]
9. Hodgins, DC.; Petry, NM. Cognitive and behavioral treatments for pathological gambling. In: Grant, JE.; Potenza, MN., editors. Pathological Gambling: A Clinical Guide to Treatment. American Psychiatric Publishing, Inc; Washington, DC: 2004. p. 169-187.
10. Grant JE, Kim SW. Parental bonding in pathological gambling disorder. Psychiatr Q. 2002; 73(3): 239–247. [PubMed: 12143085]
11. Parker G, Tupling H, Brown LB. A parental bonding instrument. J Media Psychol. 1979; 52(1):1–10.
12. Leon CA, Leon A. Panic disorder and parental bonding. Psychiatr Ann. 1990; 20:503–508.
13. Torgersen S, Alnaes R. Differential perception of parental bonding in schizotypal and borderline personality disorder patients. Compr Psychiatry. 1992; 33(1):34–38. [PubMed: 1555407]
14. Darbyshire P, Oster C, Carrig H. Children of parent(s) who have a gambling problem: a review of the literature and commentary on research approaches. Health Soc Care Community. 2001; 9(4): 185–193. [PubMed: 11560734]
15. Lorenz, VC. Family dynamics of pathological gamblers. In: Galski, T., editor. The Handbook of Pathological Gambling. Charles e. Thomas; Springfield, IL: 1987. p. 83-84.
16. Felsher JR, Derevensky JL, Gupta R. Young adults with gambling problems: the impact of childhood maltreatment. Int J Ment Health Addict. 2010; 8(4):545–556.
17. Lesieur HR, Blume SB. 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]
18. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Fourth Edition, Text Revision. American Psychiatric Association; Washington, DC: 2000.
19. Zanarini, MC. Revised Childhood Experiences Questionnaire (CEQ-R). McLean Hospital, Harvard Medical School; Boston, MA: 1992.
20. Epstein NB, Baldwin LM, Bishop OS. The McMaster Family Assessment Device. J Marital Fam Ther. 1983; 9(2):171–180.
21. Miller IW, Kabacoff RI, Keitner GI, et al. Family functioning in the families of psychiatric patients. Compr Psychiatry. 1986; 27(4):302–312. [PubMed: 3731767]
22. SAS Institute Inc.. SAS/STAT: 9.1 Users Guide. SAS Institute, Inc; Cary, NC: 2004.
23. Argo, T.; Black, DW. The characteristics of pathological gambling. In: Grant, JE.; Potenza, M., editors. Understanding and Treating Pathological Gambling. American Psychiatric Publishing, Inc; Washington, DC: 2004. p. 39-53.
24. Lorenz VC, Yaffee RA. Pathological gambling: psychosomatic, emotional and marital difficulties as reported by the gambler. J Gambl Behav. 1986; 2(1):40–49.
25. Lorenz VC, Yaffee RA. Pathological gambling: psychosomatic, emotional and marital difficulties as reported by the spouse. J Gambl Behav. 1988; 4(1):13–26.
26. Lorenz VC, Shuttlesworth DE. The impact of pathological gambling on the spouse of the gambler. J Comp Psychol. 1983; 11(1):67–76.
27. Zanarini MC, Gunderson JG, Marino MF, et al. Childhood experiences of borderline patients. Compr Psychiatry. 1989; 30(1):18–25. [PubMed: 2924564]

28. Stein MB, Walker JR, Anderson GE, et al. Childhood physical and sexual abuse in patients with anxiety disorders and in a community sample. Am J Psychiatry. 1996; 153(2):275–277. [PubMed: 8561213]

29. Black DW, Moyer T. Clinical features and psychiatric comorbidity of subjects wilh pathological gambling behavior. Psychiatr Serl'o. 1998; 49(11):1434–1439.

30. Jacobs JF. A general theory of addictions: a new theoretical model. J Gambl Behav. 1986; 2(1):15–31.

31. Blaszczynski A, Nower L. A pathways model of problem and pathological gambling. Addiction. 2002; 97(5):487–499. [PubMed: 12033650]

32. Bergh C, Kühlhorn E. Social, psychological, and physical consequences of pathological gambling in Sweden. J Gambl Stud. 1994; 10(3):275–285.

33. Ciarrocchi JW, Reinert DF. Family environment and length of recovery for married male members of Gamblers Anonymous and female members of Gam-Anon. J Gambl Stud. 1993; 9(4):341–352.

34. Moos, RH.; Moos, BS. Family Environment Scale Mlmua/. Consulting Psychologists; Palo Alto, CA: 1984.

35. Black DW, Monahan PO, Temkit M, et al. A family study of pathological gambling. Psychiatry Res. 2006; 141(3):295–303. [PubMed: 16499975]

For Clinical Use

- Pathological gambling is associated with indices of family dysfunction including divorce, living alone, self-reported childhood maltreatment, and worse functioning on the Family Assessment Device.
- While dysfunctional marital and family variables are associated with pathological gambling, the direction of the relationship is unclear.
- Pathological gambling treatment programs should take into account the emotional needs of those who report having experienced childhood maltreatment or are experiencing disturbed marital and family relationships.

Table 1

Demographic Characteristics of Pathological Gambling and Control Subjects

Characteristic	Pathological Gambling (n = 95)	Control (n = 91)	χ^2_1	*P* Value
Female, n (%)	55 (58)	57 (63)	0.44	.509
Age, mean (SD), y	45.6 (12.8)	49.4 (16.0)	2.33[a]	.127
Caucasian, n (%)	81 (85)	86 (95)	4.33	.038
Occupational status, n (%)				
Employed	73 (77)	68 (75)	0.11	.736
Unemployed	17 (18)	9 (10)	2.48	.116
Student	16 (17)	8 (9)	2.68	.102
Homemaker	4 (4)	14 (15)	6.64	.010
Retired	9 (9)	20 (22)	5.52	.019
Disabled	20 (21)	4 (4)	11.47	< .001
Any children, n (%)	68 (72)	84 (92)	13.37	< .001
Marital status, n (%)			FET	< .001
Married	33 (35)	73 (80)		
Divorced/separated	34 (36)	7 (8)		
Widowed	3 (3)	5 (5)		
Single	25 (26)	6 (7)		
Years of school, mean (SO)	14.1 (1.9)	15.2 (2 .4)	7.37[a]	.007
NODS score, mean (SO)	13.9 (4.2)	0.0 (0.0)		
SOGS score, mean (SD)	13.4 (3.7)	0.2 (0.4)		

[a]Mann-Whitney test.

Abbreviations: FET = Fisher exact test, NODS= National Opinion Research Center *DSM* Screen for Gambling Problems, SOGS = South Oaks Gambling Screen.

Table 2

Comparison of Childhood Abuse Variables in Persons With Pathological Gambling and Control Subjects

Abuse Type	Prevalence, n (%)		Adjusted OR (95% CI)	*P* Value
	Pathological Gambling (n = 95)	Control (n = 91)		
Neglect	14 (15)	6 (7)	2.17 (0.78–6.09)	.139
Emotional	38 (40)	11 (12)	4.51 (2.09–9.70)	< .001
Verbal	46 (48)	17 (19)	3.53 (1.79–6.97)	< .001
Physical	25 (26)	12 (13)	1.93 (0.88–4.23)	.102
Sexual	22 (23)	6 (7)	3.65 (1.38–9.68)	.009
Any type	58 (61)	23 (25)	4.02 (2.12–7.64)	< .001
Multiple types	39 (41)	13 (14)	3.74 (1.80–7.76)	< .001

Abbreviations: CI = confidence interval, OR = odds ratio.

Table 3

Family Assessment Device Results in Subjects With Pathological Gambling and Control Subjects

	Prevalence			
	Pathological Gambling (n = 95)	**Control (n = 91)**	**Adjusted OR (95% CI)**	***P* Value**
Dichotomous variables: n (%) unhealthy				
Problem solVing	38 (40)	13 (14)	3.85 (1.79–8.29)	< .001
Communication	48 (51)	28 (31)	2.20 (1.16–4.18)	.016
Roles	46 (48)	11 (12)	5.99 (2.69–13.31)	< .001
Affective responsiveness	45 (47)	20 (22)	3.27 (1.64–6.48)	< .001
Affective involvement	54 (57)	32 (35)	2.55 (1.34–4.84)	.004
Behavior control	52 (55)	21 (23)	3.81 (1.94–7.49)	< .001
General functioning	52 (55)	30 (33)	2.17 (1.14–4.12)	.018
Dimensional variables: mean (SD)			Adjusted Difference [SE] (95% CI)	
Problem solving	2.2 (0.4)	1.9 (0.4)	0.29 [0.07] (0.14–0.43)	< .001
Communication	2.3 (0.5)	2.0 (0.4)	0.21 [0.07] (0.08–0.34)	.002
Roles	2.3 (0.4)	2.0 (0.4)	0.22 [0.06] (0.09–0.35)	< .001
Affective responsiveness	2.2 (0.6)	1.9 (0.5)	0.30 [0.09] (0.12–0.48)	.001
Affective involvement	2.2 (0.5)	1.9 (0.4)	0.29 [0.07] (0.15–0.43)	< .001
Behavior control	2.0 (0.4)	1.7 (0.4)	0.29 [0.06] (0.17–0.42)	< .001
General functioning	2.1 (0.5)	1.8 (0.5)	0.30 [0.08] (0.14–0.46)	< .001

Abbreviations: CI = confidence interval, OR = odds ratio, SE = standard error.