

Alexithymia in Young Adulthood: A Risk Factor for Pathological Gambling

James D.A. Parker^a Laura M. Wood^a Barbara J. Bond^b
Peggy Shaughnessy^a

^aDepartment of Psychology, Trent University, and ^bCentre for Interdisciplinary Studies,
Sir Sandford Fleming College, Peterborough, Canada

Key Words

Alexithymia · Gambling · Postsecondary students

Abstract

Background: Pathological gambling is more prevalent among postsecondary students than among the general adult population. While the prevalence of pathological gambling in this group has risen over the past decade, factors underlying the development of problem gambling among university students remain largely unexplored. One early study found alexithymia to be associated with pathological gambling. The aim of the present study was to further examine the relationship between alexithymia and gambling among postsecondary students. **Methods:** The relationship between alexithymia and pathological gambling was examined in 562 postsecondary students who completed the South Oaks Gambling Screen (SOGS) and the 20-item Toronto Alexithymia Scale (TAS-20). **Results:** Approximately 12% of the sample was classified as alexithymic according to the TAS-20. These individuals were found to have significantly more gambling problems, as measured by the SOGS, than nonalexithymic individuals. Approximately 9% of the sample was classified as pathological gamblers according to the SOGS. These individuals were found to have significantly higher levels of alexithymia,

as measured by the TAS-20, than nonproblem gamblers. **Conclusions:** Alexithymia is associated with pathological gambling and may be a risk factor among postsecondary students for developing severe gambling problems.

Copyright © 2005 S. Karger AG, Basel

Introduction

Alexithymia was originally thought to be a personality trait typical of ‘psychosomatic’ patients, but later it was found to be common in many psychiatric conditions, as well as in the general population [1]. This personality construct has come to encompass several related features: alexithymic individuals have difficulty identifying and describing feelings, as well as difficulty distinguishing feelings from bodily sensations of emotional arousal; these individuals also exhibit constricted imaginative processes, and externally oriented thinking [1, 2]. It is speculated that alexithymic individuals attempt to regulate their emotions through compulsive behaviors [2]. In fact, recent research has found elevated levels of alexithymia in individuals with substance use disorders [3–5] and eating disorders [6–8].

Like substance use and eating disorders, pathological gambling is viewed as an addiction [9, 10]. Gambling has been found to be related to several addictive behaviors,

such as substance use and eating disorders [11]. In fact, Ladouceur et al. [12] found gambling behavior to be significantly and positively correlated with alcoholism, drug abuse and eating disorders among a large group of postsecondary students. The similarities between these disorders suggest that elevated levels of alexithymia may be associated with pathological gambling, as has been found with other addictive behaviors [13].

One of the only studies to investigate the relationship between alexithymia and pathological gambling behavior was that of Lumley and Roby [13], who examined the responses of over 1,100 American university students, using the 20-item South Oaks Gambling Screen (SOGS) [14] and the 26-item Toronto Alexithymia Scale (TAS) [15]. Using the SOGS, 3.1% of the participants were classified as pathological gamblers. These individuals were compared with a group of controls made up of those individuals scoring zero on the SOGS (indicating no gambling problems). The prevalence of alexithymia among the pathological gamblers (31.4%) was found to be significantly higher than among the controls (11.1%). Lumley and Roby [13] only examined the 'externally oriented thinking' and the 'difficulty identifying feelings' factors of the TAS. They did not examine the 'difficulty describing feelings' factor as it correlated highly with the 'difficulty identifying feelings' factor. Lumley and Roby [13] found that pathological gamblers scored significantly higher than the controls on the 'externally oriented thinking' factor and total TAS. These findings remained stable even when controlling for the effects of gender, depression and physical illness.

Although Lumley and Roby [13] identified a relationship between alexithymia and gambling behaviors, there is an obvious need for more research. A limitation to the study by Lumley and Roby [13] is the use of the 26-item TAS [15] to measure alexithymia. Some problems have been identified with this version of the TAS [16, 17], and the psychometrically superior TAS-20 [16, 18–20] is now available.

Another reason for reexamining the relationship between alexithymia and gambling behavior is the increase in the amount of gambling venues since the study by Lumley and Roby [13] was conducted [11, 21]. The vast increase in on-line gambling is of particular relevance. In 1995, Lumley and Roby [13] found a 3.1% prevalence of pathological gambling among a large group of postsecondary students. More recent studies have found prevalence rates of pathological gambling among postsecondary students to be considerably higher (5–6.3%) [22, 23]. The prevalence of pathological gambling among postsecond-

ary students has been consistently higher than that among the general adult population [21, 23–25]. Thus, understanding factors that may exacerbate the risk among this susceptible population is important in order to develop appropriate prevention and intervention measures.

The goal of the present study was to examine the relationship between alexithymia and pathological gambling among young adults using the TAS-20 [16, 18–20]. The relationship was examined among a relatively large sample of university students living in close proximity to several gambling facilities.

Method

Participants

The sample consisted of 562 first-year undergraduate students (113 men and 449 women) attending a small Ontario university located within short driving distances (less than 2 h) of several casinos and gambling venues. The mean age of the sample was 19.86 years ($SD = 3.04$). Ninety-one percent of the participants identified themselves as White, 4% as Asian, 2% as Black, 1% as Native, and 2% as Other.

Measures and Procedure

Students from a large class were recruited as volunteers to participate in a series of studies. In September 2002, at the start of the academic year, participants completed the TAS-20 [16, 18–20] as part of a questionnaire package at the end of a regularly scheduled class. Approximately 12 weeks later, participants completed the SOGS [14] as part of a questionnaire package also at the end of a regularly scheduled class. Informed consent was obtained from all participants at both sessions.

The TAS-20 is a widely used self-report measure of alexithymia with well-established psychometric properties [16, 18–20]. It uses a 5-point Likert rating scale to assess three factors: (1) difficulty identifying feelings, (2) difficulty describing feelings, and (3) externally oriented thinking. These three factors are added to determine the overall level of alexithymia. Individuals with an overall TAS-20 score of ≤ 51 can be considered 'nonalexithymic' (69.6% of the present sample); individuals who score between 52 and 60 can be considered 'moderate alexithymic' (18.1% of the present sample), and individuals with an overall score of ≥ 61 can be considered 'alexithymic' (12.3% of the present sample).

The SOGS [14] is the most commonly used instrument for assessing problem and pathological gambling among adults [19, 21]. The SOGS is a 20-item paper-and-pencil questionnaire which has demonstrated satisfactory reliability and validity [14]. An overall score ≥ 5 on the SOGS indicates probable pathological gambling (8.7% of the present sample) and an overall score of 3 or 4 on the SOGS indicates problem gambling behavior (16.2% of the present sample). An overall score ≤ 2 on the SOGS indicates nonproblem gambling behavior (75.1% of the present sample).

The majority of the participants (72%) also completed a brief general mood scale from the short form of the BarOn Emotional Quotient Inventory [26]. Lower scores on the 8-item scale (which includes a cross-section of optimism and happiness items) indicate more psychological distress and unhappiness.

Table 1. Means (and standard deviations) on the TAS-20 for the nonproblem, problem, and pathological gambling groups

TAS-20	Nonproblem group (n = 422)	Problem group (n = 91)	Pathological group (n = 49)
Difficulty identifying feelings	14.33 (5.63)	15.01 (5.79)	15.78 (6.30)
Externally oriented thinking	19.35 (4.58)	19.92 (4.31)	20.99 (4.77) ^a
Difficulty describing feelings	12.58 (4.51)	13.24 (4.04)	14.22 (4.68) ^a
Total TAS-20	46.26 (10.87)	48.17 (10.16)	50.99 (12.55) ^a

^a Nonproblem ≠ pathological ($p < 0.05$).

Statistical Procedure

Using Statistica Version 6.0 (Statsoft, 2001), several analyses were conducted in order to investigate the relationship between alexithymia and gambling behavior. First, the relationship between alexithymia, as measured by the TAS-20 [16, 18–20], and gambling behavior, as measured by the SOGS [14], was examined within the entire sample ($n = 562$) using Pearson product-moment correlations. Next, a one-way analysis of variance (ANOVA) was conducted using the total SOGS score as the dependent variable and alexithymia group (nonalexithymic, $n = 391$; moderate alexithymic, $n = 102$, and alexithymic, $n = 69$) as the independent variable to determine whether individuals with extreme levels of alexithymia differed with regard to gambling behavior. Finally, several one-way ANOVAs were performed, using the various TAS-20 scales as dependent variables to determine whether nonproblem ($n = 422$), problem ($n = 91$), and pathological ($n = 49$) gamblers differed with regard to alexithymia.

Results

Although males (mean = 2.30, SD = 2.97) scored significantly higher than females (mean = 1.42, SD = 1.92) on the SOGS, there were no sex differences on any of the TAS-20 variables ($p > 0.05$). There were also no differences ($p > 0.05$) in the proportion of men and women in the nonalexithymic, moderate alexithymic, and alexithymic groups. Correlations between gambling behavior and alexithymia were significant, but of very low magnitude in the total sample. The total SOGS score correlated with the ‘difficulty identifying feelings’ subscale ($r = 0.13$, $p = 0.002$), ‘difficulty describing feelings’ subscale ($r = 0.10$, $p = 0.02$), ‘externally oriented thinking’ subscale ($r = 0.11$, $p = 0.007$), and the total TAS-20 ($r = 0.16$, $p < 0.001$).

The one-way ANOVA revealed that the alexithymia groups (nonalexithymic, moderate alexithymic, and alexithymic) significantly differed on the total SOGS score [$F(2, 559) = 3.78$, $p = 0.02$]. A subsequent post hoc analysis (Student-Newman-Keuls) revealed that the alexithy-

mic group (mean = 2.35, SD = 4.25) scored significantly higher than the nonalexithymic group (mean = 1.51, SD = 2.05) on the SOGS. Analyses also revealed that there was a significantly greater proportion ($p = 0.03$) of pathological gamblers among alexithymic (14.9%) than nonalexithymic (6.6%) individuals.

Another set of one-way ANOVAs revealed that the gambling groups (nonproblem, problem, and pathological) significantly differed on the ‘externally oriented thinking’ subscale [$F(2, 559) = 3.17$, $p = 0.04$], ‘difficulty describing feelings’ subscale [$F(2, 559) = 3.45$, $p = 0.03$] and the total TAS-20 [$F(2, 559) = 4.77$, $p = 0.009$]. Subsequent post hoc analyses (Student-Newman-Keuls) revealed that the pathological gambling group scored significantly higher on the ‘externally oriented thinking’ subscale, ‘difficulty describing feelings’ subscale, and total scale than the nonproblem gambling group. Table 1 presents the mean TAS-20 scores for the three groups. Analyses also revealed that there was a significantly greater proportion ($p = 0.03$) of alexithymic individuals among pathological (22.5%) than nonproblem (11.4%) gamblers.

Since previous research [27, 28] has reported that alexithymia levels may be influenced by various types of negative mood states (and general mood scores were available for 404 participants), a one-way ANOVA was conducted to compare the three alexithymia groups on general mood. The three alexithymia groups were found to differ on general mood [$F(2, 401) = 15.18$, $p < 0.001$]. Subsequent post hoc analyses revealed that the nonalexithymic group reported significantly more positive mood than the other two groups, and the moderate alexithymic group reported significantly more positive mood than the alexithymic group. Additional analyses revealed, however, that general mood state had little impact on gambling behavior. A one-way ANOVA comparing the three gambling groups (nonproblem, problem, and pathological) on

general mood found no significant difference ($p > 0.05$). A one-way ANCOVA (with mood as the covariate) also found that the three alexithymia groups continued to differ on the SOGS after controlling for mood [$F(2, 400) = 5.90, p = 0.003$]. A final set of one-way ANCOVAs (also with mood as the covariate) revealed that the three gambling groups continued to differ on the 'externally oriented thinking' subscale [$F(2, 400) = 3.22, p = 0.040$], 'difficulty describing feelings' subscale [$F(2, 400) = 2.97, p = 0.049$], and the total TAS-20 [$F(2, 400) = 5.20, p = 0.006$] after controlling for mood.

Discussion

The results of this study indicate that alexithymia is associated with pathological gambling behavior among postsecondary students (even after controlling for general mood state). Individuals classified as alexithymic reported significantly more gambling problems than individuals that were identified as nonalexithymic. In addition, pathological gamblers possessed more alexithymic characteristics than nonproblem gamblers. Specifically, pathological gamblers scored significantly higher than nonproblem gamblers on the 'externally oriented thinking' and 'difficulty describing feelings' factors of the TAS-20, as well as on the total TAS-20. Also, there was a significantly greater proportion of alexithymics among pathological gamblers (22%) than nonproblem gamblers (11%).

The results of this study are similar to findings reported by Lumley and Roby [13]. Consistent with the present study, Lumley and Roby [13] found alexithymia to be more prevalent among pathological gamblers (31%) than among nonproblem gamblers (11%). Lumley and Roby [13] also found pathological gamblers to score significantly higher than nonproblem gamblers on the 'externally oriented thinking' factor of the TAS and on the total TAS, while no significant difference was found on the 'difficulty identifying feelings' factor. Lumley and Roby [13] did not investigate the 'difficulty describing feelings' factor of the TAS.

Taken together, these findings suggest that alexithymia may be a risk factor among postsecondary students for developing gambling problems. Rather than turning to peers during stressful times, postsecondary students with alexithymic characteristics may use gambling as a form of stress relief or emotional regulation [13]. With diminished ability to use their own feelings and cognitions to guide behavior [1], alexithymic individuals may resort to

gambling as a solution to financial or social problems [13].

Like the study by Lumley and Roby [13], the present study has some limitations that need to be addressed in future research. As with the earlier research, the present study was limited to a rather homogeneous sample of postsecondary students (the majority of which were white and female). There was a relatively high prevalence of pathological gamblers among the present sample, 8.7% compared with 3.1% found by Lumley and Roby [13]. The higher prevalence in the present study is likely due to the close proximity of the university to several gambling venues. In both studies, however, the most severe cases are unlikely to be represented. It is probable that students with very severe gambling pathology do not attend regularly scheduled classes. In addition to examining the relationship between alexithymia and gambling behaviors in individuals with more diverse ethnic and sociodemographic backgrounds, future research might also want to include a larger proportion of males to allow for separate analyses by gender. It may also be beneficial to look at the relationship between pathological gambling and alexithymia among upper-year postsecondary students, as they have had more time to adjust to the postsecondary environment.

As existing research on the relationship between alexithymia and gambling behavior is limited to postsecondary students, there is a need for research in the area among the general adult population and even more so among groups of pathological gamblers. Lumley and Roby [13] have suggested research involving Gamblers Anonymous members. It is expected that the prevalence of alexithymia will be much higher in these individuals and research involving chronic pathological gamblers will lend more insight into the association between gambling and alexithymia. Clinicians developing intervention programs for treating gambling problems may want to take into account the likelihood that many of their clients may have elevated levels of alexithymia.

Acknowledgements

This study was supported by research grants to the first author from the Social Sciences and Humanities Research Council of Canada and the Ontario Problem Gambling Research Centre. The authors would like to thank Jennifer Eastabrook, Cheryl Foster, Marjorie Hogan, Sarah Majeski, and Amber Oke for their help with data collection.

References

- 1 Taylor GJ, Bagby RM, Parker JDA: Disorders of Affect Regulation: Alexithymia in Medical and Psychiatric Illness. Cambridge, Cambridge University Press, 1997.
- 2 Taylor GJ, Bagby RM, Parker JDA: The alexithymia construct: A potential paradigm for psychosomatic medicine. *Psychosomatics* 1991;32:153-164.
- 3 Haroun El Rasheed A: Alexithymia in Egyptian substance abusers. *Subst Abus* 2001;22:11-21.
- 4 Pinard L, Negrete JC, Annable L, Audet N: Alexithymia in substance abusers. *Am J Addict* 1996;5:32-39.
- 5 Uzun O: Alexithymia in male alcoholics: Study in a Turkish sample. *Compr Psychiatry* 2003;44:349-352.
- 6 Corcos M, Guilbaud O, Speranza M, Paterniti S, Loas G, Stephan P, Jeammet P: Alexithymia and depression in eating disorders. *Psychiatry Res* 2000;93:263-266.
- 7 Sureda B, Valdes M, Jodar I, de Pablo J: Alexithymia, type A behavior and bulimia nervosa. *Eur Eat Disord Rev* 1999;7:286-292.
- 8 Taylor GJ, Parker JDA, Bagby RM, Bourke MP: Relationships between alexithymia and psychological characteristics associated with eating disorders. *J Psychosom Res* 1996;41:561-568.
- 9 Briggs JR, Goodin BJ, Nelson T: Pathological gamblers and alcoholics: Do they share the same addiction? *Addict Behav* 1996;21:515-519.
- 10 Coman GJ, Burrows GD, Evans BJ: Stress and anxiety as factors in the onset of problem gambling: Implications for treatment. *Stress Med* 1997;13:235-244.
- 11 Langewisch MWJ, Frisch GR: Gambling behavior and pathology in relation to impulsivity, sensation seeking, and risky behavior in male college students. *J Gambl Stud* 1998;14:245-262.
- 12 Ladouceur R, Dube D, Bujold A: Prevalence of pathological gambling and related problems among college students in the Quebec metropolitan area. *Can J Psychiatry* 1994;39:289-293.
- 13 Lumley MA, Roby KJ: Alexithymia and pathological gambling. *Psychother Psychosom* 1995;63:201-206.
- 14 Lesieur HR, Blume SB: The South Oaks Gambling Screen (SOGS): A new instrument for the identification of pathological gamblers. *Am J Psychiatry* 1987;144:1184-1188.
- 15 Taylor GJ, Ryan DP, Bagby RM: Toward the development of a new self-report alexithymia scale. *Psychother Psychosom* 1985;44:191-199.
- 16 Bagby RM, Parker JDA, Taylor GJ: The twenty-item Toronto Alexithymia Scale. 1. Item selection and cross-validation of the factor structure. *J Psychosom Res* 1994;38:23-32.
- 17 Parker JDA, Bagby RM, Taylor GJ, Endler NS, Schmitz P: Factorial validity of the 20-item Toronto Alexithymia Scale. *Eur J Pers* 1993;7:221-232.
- 18 Bagby RM, Taylor GJ, Parker JDA: The twenty-item Toronto Alexithymia Scale. 2. Convergent, discriminant, and concurrent validity. *J Psychosom Res* 1994;38:33-40.
- 19 Parker JDA, Taylor GJ, Bagby RM: The twenty-item Toronto Alexithymia Scale. 3. Reliability and factorial validity in a community population. *J Psychosom Res* 2003;55:269-275.
- 20 Taylor GJ, Bagby RM, Parker JDA: The twenty-item Toronto Alexithymia Scale. 4. Cross-cultural validity and reliability. *J Psychosom Res* 2003;55:277-283.
- 21 Shaffer HJ, Hall MN, Vander Bilt J: Estimating the prevalence of disordered gambling behavior in the United States and Canada: A research synthesis. *Am J Public Health* 1999;89:1369-1376.
- 22 Lightsey OR, Hulseley CD: Impulsivity, coping, stress, and problem gambling among university students. *J Couns Psychol* 2002;49:202-211.
- 23 Neighbors C, Lostutter TW, Larimer ME, Takushi RY: Measuring gambling outcomes among college students. *J Gambl Stud* 2002;18:339-360.
- 24 Oster SL, Knapp TJ: Underage and pathological gambling by college students: Emerging problem on campus? *Psychol Edu* 2001;38:15-19.
- 25 Winters KC, Bengston P, Dorr D, Stinchfield R: Prevalence and risk factors of problem gambling among college students. *Psychol Addict Behav* 1998;12:127-135.
- 26 Bar-On R: Emotional Quotient Inventory: Short. Technical Manual. Toronto, Multi-Health Systems Inc, 2002.
- 27 Elzinga BM, Bermond B, van Dyck R: The relationship between dissociative proneness and alexithymia. *Psychother Psychosom* 2002;71:104-111.
- 28 Kojima M, Senda Y, Nagaya T, Tokudome S, Furukawa TA: Alexithymia, depression and social support among Japanese workers. *Psychother Psychosom* 2003;72:307-314.