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4-2009

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# Gambling Interacts with Trauma to Predict Alexithymia Scores among College Students

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## Introduction

>Gambling is fairly common among college age students, with estimates ranging from 15% (Kerber, 2005) to 42% (LaBrie, Shaffer, LaPlante, & Wechslet, 2003). Furthermore, gambling among college students is associated with a variety of negative consequences, particularly for men (Engwall, Hunter, & Steinberg, 2004). Despite this, less is known about psychological factors linking gambling among college age students.

> In a recent study conducted among college students, the relationship between pathological gambling and psychological variables (e.g., alexithymia) was examined. Findings indicate that psychological variables like alexithymia might be a noteworthy risk factor to problem gambling (Parker, Wood, Bond, & Shaughnessy, 2005).

> Alexithymia is characterized by a difficulty identifying and describing feelings, externally oriented thinking and limited imaginal capacity. Alexithymia has been linked with behavioral problems such as pathological gambling (Parker et al. 2005), trauma (Frewen, Pain, Dozois, & Lanius, 2006), and the onset and maintenance of several psychiatric disorders (Lumley, Neely, & Burger, 2007). Despite this, little is known on how alexithymia scores among gamblers might be influenced by psychological factors associated with alexithymia (e.g., trauma).

>The relationship between trauma and alexithymia is well pronounced. For instance, among individuals with posttraumatic stress disorder (PTSD), a subset are identified as alexithymic (Frewen, et al, 2006). Furthermore, a history of trauma may also affect the severity of alexithymia presentation (Frewen, Lanius, Dozois, Neufeld, Pain, Hopper, et al, 2008). Lastly, gender differences between trauma and alexithymia have been observed, including among male combat with PTSD (Frewen, Dozois, Neufeld, & Lanius, 2008).

>Given findings on the relationship found between gambling-alexithymia, alexithymia-trauma, and trauma-gender, the purpose of this exploratory study was to examine the interactive effects of gambling (high/low) and trauma (high/low) on alexithymia scores for male and female college students.

## Method

### Participants

N = 160 (Female = 68%)  
Age: M = 19.79 (SD = 2.33) Range: 18 – 37 (95% ≤ 22)  
Ethnicity: Caucasian = 138 (86.8%), African-American = 6 (3.8%)  
Hispanic = 4 (2.5%), Asian-American = 5 (3.1%)

### Measures

>Early Trauma Inventory Self Report - Short Form (ETISRF; Brenner, Vermetten, & Mazure, 2000), is a 29-item questionnaire that incorporates four scales examining general traumas, physical punishment, emotional abuse, and sexual events before the age of 18. A median-split was conducted on the trauma total score to determine cutoffs, a procedure consistent with other studies (Watkins & Baracacia, 2001). Participants with scores of ≤ 5 were classified as Low Trauma, while those with scores >= 6 were classified as High Trauma.

>Toronto Alexithymia Scale - 20 (TAS-20; Bagby, Taylor, & Parker, 1994), is a 20-item questionnaire rated on a 5-point Likert scale on which 1 = "strongly disagree" and 5 = "strongly agree." Clinical cutoff for alexithymia is ≥ 61.

>Gambling habits questionnaire, a 20-item questionnaire that examines gambling habits of participants and their parents. Respondents were asked to rate each item as something they do "never," "rarely," "sometimes," or "often." Cumulative scores were obtained for the 20 questions and a median-split was conducted on the gambling total score to determine appropriate cutoffs. Participants with a score ≥ 12 were classified as High in gambling, while those with scores ≤ 11 were classified as Low in gambling.

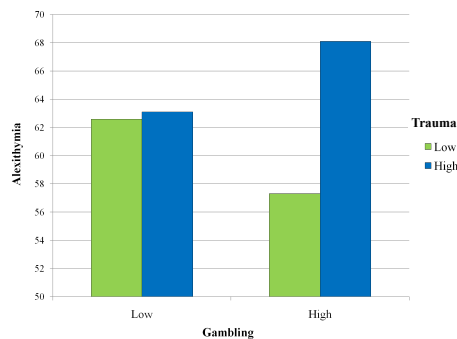
### Procedures

The current study recruited college students interested in participating in research to earn extra credit in various undergraduate psychology classes. Participants were run in groups of 8-20. After receiving informed consent from each participant, research assistants distributed a battery of questionnaires examining items such as risky behaviors, family characteristics and affect. Participants completed one survey each. Each session took approximately 90 minutes.

Table 1. Summary of Factorial ANOVA Analyses (N = 211, df = 203, Mse = 139.425)

	F	p
Alexithymia		
Trauma*Gambling*Gender	5.510	.020
Trauma*Gambling	.101	.751
Trauma*Gender	2.232	.137
Gambling*Gender	.004	.951
Trauma	2.155	.144
Gambling	.000	.995
Gender	.761	.384

Figure 1. Alexithymia Scores for Males



Project supported by UCARE

## Results

To examine how trauma, gambling and gender relate to alexithymia, a between groups analysis of variance (ANOVA) was utilized. Pairwise comparisons were conducted using a Least Significant Difference (LSD). Univariate statistics are presented in Table 1.

There was a significant three-way interaction among trauma, gambling and gender as they relate to alexithymia ( $F(1,203) = 5.510, p = .020, Mse = 139.425, r = .16$ ). Follow-up analyses (LSD = 6.438) revealed that for males with high gambling, those with high trauma had higher alexithymia levels than those with low trauma. For males with low gambling, there was no significant difference in alexithymia between levels of trauma. For males with high trauma and males with low trauma, there was no significant difference in alexithymia levels between levels of gambling.

For females with high gambling and females with low gambling, alexithymia was statistically equivalent regardless of gambling. For females with high trauma and females with low trauma, there was no significant difference in alexithymia levels between levels of gambling.

Among participants with high trauma, males with high gambling had higher alexithymia levels than females with high gambling. Participants with high trauma and low gambling had statistically equivalent levels of alexithymia, regardless of gender. Among participants with low trauma, those with low gambling and those with high gambling had statistically equivalent levels of alexithymia between genders.

There was no significant two-way interaction between trauma and gambling as they relate to alexithymia ( $F(1,203) = 101, p = .751, Mse = 139.425, r = .02$ ). However, this is potentially misleading, as there does seem to be an interaction between trauma and gambling for males. Among males with high gambling, participants with high trauma had higher alexithymia levels than males with low trauma. For males with low gambling, alexithymia levels were statistically equivalent regardless of trauma.

There was no significant two-way interaction between trauma and gender as they relate to alexithymia ( $F(1,203) = 2.232, p = .137, Mse = 139.425, r = .10$ ). However, this is potentially misleading, as there does seem to be an interaction between trauma and gender for those with high gambling. Among participants with high gambling, males with high trauma had higher levels of alexithymia than females with high trauma. For participants with high gambling and low trauma, males and females had statistically equivalent levels of alexithymia.

There was no significant two-way interaction between gambling and gender as they relate to alexithymia ( $F(1,203) = 951, p = .826, Mse = 139.425, r = .07$ ). However, this is potentially misleading, as there does seem to be an interaction between gambling and gender for those with high trauma. Among participants with high trauma, males with high gambling had higher alexithymia levels than females with high gambling. For participants with high trauma and low gambling, males and females had statistically equivalent levels of alexithymia.

## Discussion

The purpose of the present study was to examine how gambling, trauma and gender relate to college students' level of alexithymia. The results show males with high gambling scores have higher levels of alexithymia if they have a history of trauma. For females, alexithymia was the same, regardless of trauma. This suggests among males who gamble often, trauma is a good predictor of alexithymia.

>Additionally, the data shows that among college students with high trauma who gamble often, males display punctuated levels of alexithymia. For college students with low trauma, alexithymia was the same, regardless of gender. Also for this group, alexithymia scores were the same, regardless of gambling level. These findings suggest that gender differences exist among college students who have experienced trauma and who gamble often, as it relates to alexithymia.

>Despite interesting findings, several limitations of this study should be noted. First, although there was an adequate sample size for the study, sample size for some of the conditions might raise concerns related to statistical power. Second, the cutoff scores used to differentiate between high and low levels of gambling and trauma might not reflect clinical cutoff scores. Lastly, concerns are raised as to our measure of gambling because of its limited utility and dearth of evidence on its test-retest reliability. As such, future research should address the aforementioned limitations.

>Overall, this study adds to existent literature that reports alexithymia is linked with gambling among college-aged students (Parker, et al, 2005). We found that variables associated with alexithymia, such as trauma, had an effect on the relationship between alexithymia and gambling, and that this relationship differed between genders. Future studies should further examine the role of trauma and individual differences that may predispose college students to risky behaviors such as gambling.

Presented at Nebraska Symposium on Motivation. Lincoln, NE. Apr. 2009.

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