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Gambling and Early Maladaptive Schemas in a Treatment Seeking Sample of Male Alcohol Users: A Preliminary Investigation

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Abstract

Gambling problems are overrepresented among men seeking treatment for substance use problems, including alcohol dependence. Early maladaptive schemas are overrepresented among substance users, although no known study has examined the early maladaptive schemas of men with potential gambling problems. The current study examined the relations among potential gambling problems and early maladaptive schemas among a sample of alcohol dependent men seeking treatment at a residential substance use facility (N = 628). Using pre-existing patient records of self-report measures for early maladaptive schemas and potential gambling problems, results showed that a number of early maladaptive schemas were associated with gambling. Men with potential gambling problems scored significantly higher than non-problem gamblers on a number of early maladaptive schemas. These results suggest that early maladaptive schemas may be an important underlying characteristic for gambling problems, and that substance use treatment programs should considering screening for and targeting gambling problems and early maladaptive schemas.

Keywords

Gambling; substance use; early maladaptive schemas

Problematic gambling is associated with a wealth of negative outcomes, including increased suicidal tendencies, high rates of divorce, bankruptcy, job loss, and arrests, to name a few.[1] Personality disorders and mental health problems are overrepresented in individuals with gambling problems[1,2]. Concurrent substance use is overrepresented in individuals with gambling problems[3], and recent research has shown that early maladaptive schemas are prevalent in individuals with substance use disorders[4,5]. Early maladaptive schemas are cognitive, behavioral, and affective patterns that cause considerable distress and underlie mental health problems[6]. Because early maladaptive schemas are theoretically believed to underlie mental health disorders, and are highly associated with Axis II problems[6], it is possible that early maladaptive schemas are overrepresented in individuals with gambling problems, although no known research has examined this possibility. The current study examined whether early maladaptive schemas were overrepresented in individuals with a potential gambling problem in a sample of men seeking treatment for alcohol dependence.

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[1]Due to the large correlation matrix associated with 18 early maladaptive schemas and because all of the intercorrelations were statistically significant, these results are not presented. All correlations are available from the first author upon request.

Gambling and Substance Use

Gambling behaviors are recognized as a growing problem in society, and research is increasingly viewing gambling as an addictive disorder, similar to substance use disorders[1,7]. General population estimates indicate that approximately 1.1 to 1.6% meet DSM-IV criteria for pathological gambling in their lifetime[8,9]. Men are more likely than women to have gambling problems and to meet criteria for pathological gambling[1]. Further, rates of pathological gambling are elevated in samples seeking treatment for substance use problems[10]. For instance, pathological gambling is two to ten times more likely to be present in individuals with a substance use problem than in non-substance abusers[11–13]. In addition, research has shown that individuals with comorbid gambling and substance use problems report greater impairment across a range of well-being indicators, such as having increased unemployment, incarceration, aggression, and more severe problems associated with gambling and substance use[1,11,14,15]. Thus, evidence suggests that the co-occurrence of problem gambling and substance use is a major problem.

Gambling and Mental Health

Researchers have investigated the relations among gambling behavior and mental health problems, including both Axis I and Axis II psychopathology. A number of studies have shown that individuals meeting diagnostic criteria for pathological gambling have elevated rates of a number of mental health disorders, including (but not limited to) depression, generalized anxiety disorder, phobias, and schizophrenia[1,16]. Echeburúa and Fernández-Montalvo[2] found that 32% of pathological gamblers met diagnostic criteria for at least one personality disorder, with the most common being borderline (16%), antisocial (8%), and narcissistic (8%) personality disorder. Additional studies have shown elevated rates of personality disorders in pathological gamblers[17,18]. Moreover, mental health symptomatology has been associated with an increased severity of gambling problems[16].

Early Maladaptive Schemas, Mental Health, and Substance Use

Early maladaptive schemas are cognitive structures that direct how people screen, encode, interpret, and respond to stimuli in their environments[6,19]. Early maladaptive schemas are defined as “self-defeating emotional and cognitive patterns that begin early in our development and repeat throughout life” (p. 7)[6] and are similar to the concept of core beliefs[20]. According to Young and colleagues[6], there are 18 early maladaptive schemas which fall into the domains of disconnection and rejection, impaired autonomy and performance, impaired limits, other directedness, and overvigilance and inhibition[6]. Theoretically, early maladaptive schemas first begin to develop during childhood, predominantly through toxic or traumatic experiences usually involving one’s family of origin and/or primary caretakers[21]. Early maladaptive schemas are often perpetuated and reinforced throughout the lifespan, making them highly resistant to change, and they generate high levels of negative affect, self-defeating consequences, and interfere with meeting basic needs for connection, autonomy, and self-expression[6,22]. Individuals may develop a number of coping behaviors in response to early maladaptive schemas, although the majority of coping behaviors are highly dysfunctional, such as avoidance through the use of substances[6,22,23].

Further, Young and colleagues[6] speculate that early maladaptive schemas may underlie various types of Axis I and Axis II psychopathology, and research has shown early maladaptive schemas are associated with a range of mental health problems, including depression[20], eating disorders[24], posttraumatic stress disorder[25], and personality disorders[4]. In addition, recent research has shown that early maladaptive schemas are overrepresented in individuals with substance use disorders when compared with individuals without a

substance use problem[5,26,27]. Previous research using the sample of men examined in the current study showed that all early maladaptive schemas were endorsed by at least 10% of the sample, with over 50% of the sample endorsing self-sacrifice, unrelenting standards, punitiveness, and insufficient self-control as particularly problematic schemas[28]. Attempts at avoiding the negative cognitive, behavioral, and emotional responses of early maladaptive schemas are associated with increased severity of substance use[29]. Research has also shown that targeting early maladaptive schemas, in conjunction with targeting substance use, results in improved substance use outcomes when compared with treatment that does not focus on modifying early maladaptive schemas[23]. Moreover, schema therapy, or a focus on modifying early maladaptive schemas, has shown to be effective in reducing a range of mental health problems in addition to substance use[6,30]. Thus, theory and research indicate that early maladaptive schemas may represent a generic vulnerability to a range of mental health problems.

To our knowledge, no previous research has examined whether individuals with gambling problems have elevated rates of early maladaptive schemas, or whether early maladaptive schemas are associated with gambling problems. Since gambling problems are associated with a range of mental health problems, and early maladaptive schemas are associated with a range of Axis I and Axis II psychopathology, it is possible that gambling problems and early maladaptive schemas are related. This possibility is further supported by theory, which states that early maladaptive schemas underlie a range of mental health problems, including addictive behaviors[6], and gambling is increasingly being viewed as an addictive behavior[1]. That is, researchers view gambling as similar to substance use disorders[1], and current DSM-IV criteria for pathological gambling are primarily composed of symptoms that are similar to substance dependence[31]. Moreover, researchers speculate that gambling may represent an attempt to escape negative emotions[32], and substance use/addictive behaviors are theoretically believed to be used as a mechanism to escape and avoid the negative emotions produced by early maladaptive schemas[6,22]. Gambling is also associated with stressful early life experiences, such as abuse and maltreatment[33], which are theorized to cause early maladaptive schemas[6]. Knowing whether early maladaptive schemas are associated with gambling problems may help to inform interventions on the underlying core beliefs and behavioral/affective patterns that may be associated with, or perpetuate, problematic gambling.

Current Study

The current study sought to examine the early maladaptive schemas of individuals with and without possible problematic gambling among a sample of men seeking treatment for alcohol dependence. Based on previous research showing high rates of mental health problems among men with pathological gambling, and increased psychopathology among men with both pathological gambling and substance use, we hypothesized that severity of gambling problems would be positively associated with early maladaptive schemas. In addition, we hypothesized that men with a positive screen for possible gambling problems would report higher scores on the majority of early maladaptive schemas than men without a positive screen for a possible gambling problem.

Method

Participants and Procedures

Patient records from an adult residential program (ARP), an inpatient substance use treatment program, located in the Southeastern United States, were reviewed for the current study. This treatment program is a 30-day adult residential program that is guided by the traditional 12-step model and places a heavy emphasis on the identification and treatment of

patients' early maladaptive schemas. The treatment center admits individuals into the facility if they have a primary substance use disorder diagnosis and are approximately 25 years of age or older.

Upon admission to the treatment facility each patient completed an intake assessment, which included the completion of self-report questionnaires and semi-structured interviews. Substance use diagnoses, based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition – Text Revision (DSM-IV-TR) criteria[34], were made in consultation with a psychiatrist, a general physician, a Ph.D. Licensed Psychologist, and substance use counselors.

Patient records were searched from January 2006 to December 2010 to identify male patients with a primary diagnosis of alcohol dependence with no comorbid substance use disorders. This resulted in a total of 628 patients diagnosed with alcohol dependence. This sample of men has been reported on elsewhere[28]. The mean age of patients was 43.1 (*SD* = 10.6). Ethnically, the majority of patients were non-Hispanic Caucasian (87.4%), with the remaining patients being African American (5.7%), Hispanic (1%), and "other" (e.g., Multi-Racial, Native American, etc., 1%). Thirty one patients did not indicate their ethnicity. At the time of admission to the treatment facility, 50% were married, 19.6% were never married, 19.4% were divorced, and 3.8% indicated "other" (e.g., widowed, life partner). Forty five patients did not indicate their relationship status. Over half of the patients were employed full-time (62.1%) prior to admission into the treatment facility.

Measures

Demographics—Upon intake into the treatment facility, patients indicate their gender, age, ethnicity, employment status, and relationship status.

Gambling—The substance use treatment facility created five questions to screen for potential gambling problems at intake. These questions were based on DSM-IV-TR criteria for pathological gambling, although they were not intended to fully capture the possible range of behaviors that comprise pathological gambling. Each patient was instructed to answer Yes/No to the following five questions, with a time frame of the past 12 months: (1) I have gambled more than I intended; (2) I have claimed to be winning money when I was not; (3) I have felt guilty about the way I gamble or about what happens when I gamble; (4) I have had people criticize my gambling; (5) I have had money problems that centered on my gambling. This measure was scored in two ways. First, a total score was obtained by summing all five items, with scores ranging from 0 to 5. Second, scores were dichotomized such that individuals who responded "Yes" to any of the five questions were given a score of "1" to indicate the presence of a possible gambling problem and individuals who answered "No" to all questions were given a score of "0" to indicate the absence of a gambling problem.

Early Maladaptive Schemas—The Young Schema Questionnaire – Long Form, Third Edition (YSQ-L3)[35] was employed to assess patients' early maladaptive schemas. The YSQ-L3 was completed as part of patients' intake assessment to the treatment facility and after medical detoxification, if applicable. The YSQ-L3 is a 232-item self-report measure that assesses the 18 early maladaptive schemas identified by Young and colleagues[6]. Patients were instructed to rate on a six point scale (*1 = completely untrue of me; 6 = describes me perfectly*) how much each item describes themselves. A score of 4 or greater on each item contributes to the total score for each specific schema[35], with total scores for each schema obtained by summing the number of responses rated as a 4, 5, or 6 for all items associated with each schema. Score ranges for the 18 early maladaptive schemas are: emotional

deprivation (0–54), abandonment (0–102), mistrust/abuse (0–102), social isolation (0–60), defectiveness (0–90), failure (0–54), dependence (0–90), vulnerability (0–72), enmeshment (0–66), subjugation (0–60), self-sacrifice (0–102), emotional inhibition (0–54), unrelenting standards (0–96), entitlement (0–66), insufficient self-control (0–90), approval-seeking (0–84), negativity/pessimism (0–66), and punitiveness (0–90)[6,35].

Scores on the YSQ-L3 can also be placed into interpretive categories that reflect low, medium, high, and very high schema endorsement by using established cutoff scores for each early maladaptive schema[35]. A score in the *low* range indicates that a particular schema is not a problem for an individual; a *medium* score indicates that a schema may be a problem for an individual and should be given further consideration; scores of *high* and *very high* indicate that a particular schema is a problem for an individual[35]. Research has demonstrated good factor structure, validity, and reliability of the YSQ-L3[25,36].

Results

All analyses were run using SPSS 18.0. We first examined bivariate correlations between early maladaptive schemas and gambling. These results are presented in Table 1. Gambling was significantly and positively associated with 12 of the 18 early maladaptive schemas. This included abandonment, approval-seeking, dependence, emotional deprivation, emotional inhibition, entitlement, insufficient self-control, mistrust/abuse, negativity/pessimism, punitiveness, social isolation, and vulnerability. All early maladaptive schemas were positively and significantly associated with each other, with the majority of correlations falling into the .40 to .50 range.[1]

We next categorized individuals into potential problem gamblers or non-problem gamblers by taking all patients who scored 1 or greater on the gambling screening measure and placing them into the potential problem gambler group. This resulted in 7.8% ($n = 49$) of the patients being classified as potential problem gamblers and 92.2% ($n = 579$) non-problem gamblers, consistent with rates of potential gambling problems in substance use samples[10]. Among individuals indicating any “yes” response to the gambling screen, 40.8% endorsed one item, 20.4% endorsed two items, 6.1% endorsed three items, 18.4% endorsed four items, and 14.3% endorsed all five items. We then compared potential problem gamblers and non-problem gamblers on early maladaptive schemas using Mann-Whitney U tests. The Mann-Whitney U is a nonparametric test that is equivalent to the standard *t*-test but does not assume a normal distribution of the data. This test was employed due to the majority of early maladaptive schemas being positively skewed (i.e., skewness > 1.5)[37]. Effect sizes (d) were also calculated by comparing the mean scores of potential problem gamblers and non-problem gamblers, divided by their pooled standard deviations[38]. Cohen[38] stated that an effect size is considered small when $d = .20$ or less, an effect size is medium when $d = .50$, and an effect size is large when $d = .80$.

Table 2 presents differences between potential problem gamblers and non-problem gamblers on early maladaptive schemas. As displayed, potential problem gamblers scored significantly higher than non-problem gamblers on 11 of the 18 schemas. The significant differences included abandonment ($U = 110$, $Z = 2.577$, $p < .05$, $d = .42$), approval-seeking ($U = 118$, $Z = 1.963$, $p < .05$, $d = .37$), dependence ($U = 118$, $Z = 2.050$, $p < .05$, $d = .30$), emotional deprivation ($U = 107$, $Z = 2.922$, $p < .01$, $d = .42$), emotional inhibition ($U = 984$, $Z = 3.648$, $p < .001$, $d = .60$), enmeshment ($U = 113$, $Z = 2.610$, $p < .01$, $d = .23$), entitlement ($U = 115$, $Z = 2.196$, $p < .05$, $d = .31$), insufficient self-control ($U = 933$, $Z = 3.983$, $p < .001$, $d = .59$), punitiveness ($U = 113$, $Z = 2.309$, $p < .05$, $d = .33$), self-sacrifice ($U = 117$, $Z = 1.958$, $p < .05$, $d = .25$), and social isolation ($U = 115$, $Z = 2.354$, $p < .05$, $d = .32$).

Finally, we examined interpretive scores for early maladaptive schemas for patients with potential gambling problems and non-problem gamblers. These results are presented in Table 3. For potential problem gamblers the early maladaptive schemas rated as high or very high most often were self-sacrifice (79.9%), unrelenting standards (65.4%), insufficient self-control (63.3%), punitiveness (57.2%), and emotional inhibition (51.1%). For non-problem gamblers the early maladaptive schemas rated as high or very high most often were self-sacrifice (60.5%), unrelenting standards (57.0%), punitiveness (40.7%), insufficient self-control (37.3%), and negativity/pessimissm (32.6%). We also compared potential problem gamblers to non-gamblers on schema interpretations using chi-squares. Very high and high schema scores were coded a "1" and low and medium scores a "0." Results showed that potential problem gamblers were more likely to rate the following schemas as high or very high: emotional inhibition, insufficient self-control, approval-seeking, punitiveness, emotional deprivation, abandonment, mistrust/abuse, social isolation, and self-sacrifice (see Table 3). Non-gamblers did not rate any schemas as more problematic than potential problem-gamblers.

Discussion

Research indicates that problem gambling is associated with a range of mental health problems, including Axis I and Axis II psychopathology[1,2]. Gambling problems are also overrepresented among substance users, and early maladaptive schemas, which often underlie Axis I and Axis II psychopathology[6], are overrepresented in substance users[26,27]. Therefore, the current study examined the relations among potential gambling problems and early maladaptive schemas in a sample of men seeking treatment for alcohol dependence. To our knowledge, this is the first study to examine the relationship between early maladaptive schemas and gambling.

Although the results from this study should be considered preliminary until they are replicated, a number of early maladaptive schemas were associated with gambling problems, consistent with our hypothesis. These results are consistent with research showing that mental health symptoms are associated with gambling problems[1]. Although the cross-sectional nature of the current study precludes determination of causality, it is possible that early maladaptive schemas underlie and increase risk for gambling problems, which would be consistent with theory suggesting that early maladaptive schemas underlie mental health problems[6]. Future research should examine the mechanisms behind the relationship between early maladaptive schemas and gambling. For instance, it is possible that avoidance coping accounts for part of the relation between early maladaptive schemas and gambling, which would be consistent with research on substance use[29]. Additionally, Axis I and Axis II symptoms might account for these relations, as it is possible that more symptom level problems (e.g., impulsivity associated with borderline personality; social isolation associated with depression, etc.) mediate the early maladaptive schema – gambling relation.

Our second hypothesis, which stated that men with a positive screen for potential gambling problems would score higher on a number of early maladaptive schemas than men without a positive gambling screen, was also supported. Results demonstrated that men with a positive gambling screen scored significantly higher on 11 of the 18 early maladaptive schemas than men without a positive screen, which may indicate that individuals with more underlying and dysfunctional cognitive and behavioral core patterns are more likely to develop addictive behaviors. It should be noted that the majority of these differences fell into the small to medium range for effect sizes, although two differences were larger in magnitude, which were insufficient self-control ($d = .59$) and emotional inhibition ($d = .60$). Insufficient self-control represents a "pervasive difficulty or refusal to exercise sufficient self-control and frustration tolerance to achieve one's personal goals" (p. 15)[6], and includes attempts at

avoiding discomfort, including discomfort associated with personal responsibility, and a lack of attention to the possible consequences of behavior[6]. It seems plausible that individuals with insufficient self-control beliefs may view gambling and alcohol use as acceptable outlets to cope with distress in their lives. Alternatively, due to the belief that they have little control over their impulses, they may simply be engaging in behavior (i.e., gambling and alcohol use) that is consistent with their core belief system. Additional research would benefit from examining more specifically the cognitive and behavioral aspects of this schema that are associated with gambling and alcohol use.

The emotional inhibition schema is defined as "the excessive inhibition of spontaneous action, feeling, or communication, usually to avoid disapproval by others, feelings of shame, or losing control of one's impulses" (p. 17)[6]. Individuals with this schema often present as emotionally constricted and withhold expressions of caring and warmth, which is often in response to fear of feeling shame or having other people abandon them due to expressing vulnerable emotions[6]. It is possible that individuals with this schema are more likely to turn to activities that can serve to avoid situations that require expressions of emotions to significant, close others, which may include both gambling and alcohol use conjointly. This would be consistent with research indicating that gambling may be used as a method to escape or avoid negative emotions[32]. Research is needed to replicate and extend this finding, as well as to determine whether this finding spans different substances (e.g., cocaine) or is specific to alcohol use among gamblers.

It is also worth mentioning the schemas that were rated most often as problematic among men with potential gambling problems. These included self-sacrifice, unrelenting standards, and punitiveness (in addition to insufficient self-control and emotional inhibition). Potential problem gamblers rated the schemas of self-sacrifice and punitiveness as more problematic than non-gamblers (there was no difference on unrelenting standards). These schemas were also the schemas rated most often as problematic among men without a potential gambling problem. Self-sacrifice refers to voluntarily and excessively meeting the needs of other people, which is at the expense of meeting one's own needs, particularly emotional needs, and is similar to the concept of co-dependence[6]. Unrelenting standards is the underlying belief that one must meet very high internalized standards of behavior, which is usually done to avoid criticism from other people, and results in feelings of pressure to perform/behave in a rigid, perfect way[6]. Punitiveness represents the underlying belief that individuals should be punished harshly for mistakes, which results in a tendency to feel angry, impatient, and intolerant with people (including oneself) who do not live up to appropriate standards of behavior[6]. These schemas have been found to be some of the most commonly endorsed schemas of substance users broadly[5]. Although continued research is needed to replicate these findings and to determine why these schemas are associated with gambling, it is possible that individuals are using gambling as a way to avoid the negative emotional and cognitive components of these schemas. Schema avoidance through the use of substances has been proposed as one mechanism through which schemas are associated with substance use[5,6,23,28], and it is possible that the same mechanism holds true for problem gambling.

There are a number of limitations to the present study that should be considered when interpreting its findings. First, the cross-sectional design precludes the determination of causality among variables. Longitudinal research is needed to determine the temporal relations among gambling, substance use, and early maladaptive schemas over time. We did not use a standardized measure of gambling behavior, as the treatment facility where records were obtained only screens patients on a few particularly problematic gambling behaviors. Thus, while our measure captured severe gambling behaviors, the use of standardized gambling measures that can classify individuals as pathological gamblers should be used in future research. For instance, the South Oaks Gambling Screen (SOGS)[39] could be used to

classify individuals into pathological, problem, and non-pathological gamblers, as well as structured diagnostic interviews that assess DSM-IV-TR criteria for pathological gambling. This will allow researchers to examine whether pathological gamblers have more early maladaptive schemas than gamblers not meeting criteria for pathological gambling and/or non-gamblers. It is also possible that our measure of gambling was an indicator of individuals with impulsive tendencies, not necessarily gambling problems. Future research should examine the relations between impulsivity, gambling, and early maladaptive schemas among substance users.

Our study was further limited because no measure of alcohol use severity or frequency was available, and future research should examine whether there are differences in the relationship between early maladaptive schemas and gambling at different severities of alcohol involvement. It is possible that differences observed between potential problem gamblers and non-gamblers on early maladaptive schemas are accounted for by differences in alcohol severity or other personality factors (e.g., antisocial tendencies). Future research should examine this possibility. Our sample consisted of primarily Caucasian patients, limiting the generalizability of findings to more diverse samples. Furthermore, while the use of a treatment seeking sample of alcohol users is a strength of the study, it also limits the generalizability of findings to non-clinical, non-alcohol using samples. Future research would benefit from comparing men with comorbid gambling and substance use problems to a non-clinical control group of men without gambling or alcohol problems on early maladaptive schemas.

In summary, the current study examined the early maladaptive schemas of alcohol dependent men with and without potential gambling problems. Men with potential gambling problems scored significantly higher than non-problem gamblers on the majority of early maladaptive schemas, and a number of early maladaptive schemas were associated with increased gambling problems. These results suggest that future research should continue to investigate the relations among early maladaptive schemas and gambling. If future research is consistent with our findings and shows that early maladaptive schemas are overrepresented in individuals with gambling problems, treatment programs for gambling problems may benefit from targeting early maladaptive schemas.

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Table 1

Bivariate Correlations between Gambling and Early Maladaptive Schemas.

Early Maladaptive Schema	Gambling (*r*)
Abandonment	.13**
Approval-Seeking	.13**
Defectiveness	.07
Dependence	.10**
Emotional Deprivation	.12**
Emotional Inhibition	.19***
Enmeshment	.04
Entitlement	.14**
Failure	.00
Insufficient Self-Control	.17***
Mistrust/Abuse	.10*
Negativity/Pessimism	.08*
Punitiveness	.11**
Self-Sacrifice	.05
Social Isolation	.09*
Subjugation	.03
Unrelenting Standards	.04
Vulnerability	.09*

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 2

Mean Differences between Potential Problem Gamblers and Non-Gamblers on Early Maladaptive Schemas.

Schema	Potential Problem Gamblers (*n* = 49) *M* (*SD*)	Non-Gamblers (*n* = 579) *M* (*SD*)	*d*
Emotional Deprivation	15.4 (15.7)	9.3 (12.8)**	.42
Abandonment	27.5 (26.6)	17.3 (21.6)*	.42
Mistrust/Abuse	24.3 (26.2)	17.5 (21.6)	.28
Social Isolation	13.2 (15.8)	8.4 (13.3)*	.32
Defectiveness	15.3 (21.1)	11.0 (18.1)	.21
Failure	6.2 (9.6)	5.6 (10.3)	.06
Dependence	14.1 (21.1)	8.6 (14.4)*	.30
Vulnerability	13.7 (15.1)	10.2 (13.9)	.24
Enmeshment	8.5 (11.7)	5.9 (10.8)**	.23
Entitlement	15.8 (16.3)	11.1 (13.7)*	.31
Insufficient Self-Control	35.5 (22.2)	22.9 (20.2)***	.59
Subjugation	11.0 (14.1)	8.1 (11.9)	.22
Self-Sacrifice	43.8 (25.6)	37.3 (25.6)*	.25
Emotion Inhibition	20.5 (17.1)	11.3 (13.2)***	.60
Unrelenting Standards	38.9 (27.6)	32.9 (24.8)	.22
Approval-Seeking	24.5 (24.7)	16.2 (18.8)*	.37
Negativity/Pessimism	20.1 (19.9)	14.9 (17.3)	.27
Punitiveness	30.7 (21.9)	23.6 (20.2)*	.33

Note: d = Effect size differences between potential problem gamblers and non-gamblers

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 3

Differences between Potential Problem Gamblers and Non-Gamblers on Schema Interpretations.

Schema	Potential Problem Gamblers (*n* = 49) (%)	Non-Gamblers (*n* = 579) (%)	$\chi^2(df)$, *p*
Emotional Deprivation			9.18(1), < .01
High	20.4	10.9	
Very High	18.4	9.3	
Abandonment			6.87(1), < .01
High	10.2	9.8	
Very High	32.7	15.7	
Mistrust/Abuse			4.68(1), < .05
High	14.3	11.1	
Very High	26.5	15.4	
Social Isolation			6.69(1), < .05
High	14.3	7.8	
Very High	18.4	9.8	
Defectiveness			3.52(1), > .05
High	12.2	6.6	
Very High	14.3	9.5	
Failure			.730(1), > .05
High	8.2	5.9	
Very High	6.1	4.5	
Dependence			2.64(1), > .05
High	4.1	5.4	
Very High	14.3	5.4	
Vulnerability			3.01(1), > .05
High	2.0	10.4	
Very High	14.3	10.2	
Enmeshment			1.54(1), > .05
High	8.2	5.4	
Very High	8.2	5.2	
Entitlement			2.76(1), > .05
High	16.3	12.4	
Very High	18.4	11.6	
Insufficient Self-Control			12.75(1), < .001
High	24.5	15.7	
Very High	38.8	21.6	
Subjugation			2.19(1), > .05
High	14.3	9.2	
Very High	10.2	7.1	
Self-Sacrifice			7.02(1), < .01
High	16.3	17.1	
Very High	63.3	43.4	

Schema	Potential Problem Gamblers (n = 49) (%)	Non-Gamblers (n = 579) (%)	$\chi^2(df)$, p
Emotional Inhibition			14.67(1), < .001
High	18.4	13.5	
Very High	32.7	12.1	
Unrelenting Standards			1.27(1), > .05
High	20.4	19.5	
Very High	44.9	37.5	
Approval-Seeking			4.54(1), < .05
High	6.1	10.5	
Very High	32.7	14.3	
Negativity/Pessimism			1.35(1), > .05
High	10.2	13.8	
Very High	30.6	18.8	
Punitiveness			4.97(1), < .05
High	24.5	18.8	
Very High	32.7	21.9	