

How is gambling related to perceived parenting style and/or family environment for college students?

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Background and aims: The relationship between college student gambling, parenting styles, and family environments is a neglected area of gambling research. Do parenting styles indirectly influence problem gambling behaviors via family environments? Do poor family environments, characterized by high levels of conflict and low levels of cohesion, increase the likelihood of problem gambling among youth? This study explored the interrelationships among college students' current gambling behaviors and a) having an emotionally close and supportive family environment, b) having nagging and critical parents, c) having an authoritative mother, and d) frequency of alcohol consumption. *Methods and results:* Survey data were collected from 450 undergraduate students enrolled in introductory psychology classes at two state universities in a southern state. Feeling that one has nagging and critical parents was associated with gambling in more venues, while the opposite was true for having emotionally close and supportive families. However, perceptions of having authoritative mothers were not related to gambling. The results also showed that more frequent alcohol consumption was associated with higher odds of gambling in casinos, playing cards for money, betting on sports, gambling on the Internet, higher gambling losses, and a larger number of gambling venues. *Conclusions:* As with any exploratory research, there are several unique lines of inquiry that can, and should, follow from these findings, including more research on how college students' attitudes toward gambling activities may have begun prior to college and been influenced by their feelings about their homes and parents.

Keywords: college students, gambling, perceptions of families and parenting styles, alcohol consumption

INTRODUCTION

It has been shown that if college students participate in high risk behaviors such as gambling, as many as 8% of them are at risk for developing into problem gamblers (Blinn-Pike, Worthy & Jonkman, 2007; Blinn-Pike, Worthy, Jonkman & Smith, 2008). Thus far the body of research on college student gambling has been primarily descriptive and focused on documenting frequency and prevalence and the results have been relatively consistent. Ladouceur, Dubé and Bujold (1994) found that 90% of their sample of 1,471 Quebec college students had gambled and 22% did so once a week or more. Oster and Knapp (2001) had similar findings with between 22% and 24% of U.S. college students gambling once a week or more. In addition, Ladouceur et al. (1994) reported that 3% of their college sample met the criteria for classification as problem gamblers. In this study, we explored a different and relatively unexamined area related to perceived family characteristics and college student gambling. We explored the interrelationships between multiple measures of gambling behaviors by traditional age college students and a) how they perceive their parents, b) how they perceive their family environments, and c) their frequency of alcohol use. Disordered gambling was defined as encompassing problem, probable pathological, or pathological gambling (Blinn-Pike et al., 2007). Little attention has been paid to the relationship between disordered college student gambling and perceived parenting style and/or family environment.

Alcohol and college student gambling

It has become generally accepted that there is overlap in problem drinking and problem gambling. Giacomassi, Stitt and Vandiver (1998) asked if this was also true for college student gamblers who may pursue either behavior with reduced intensity. They found that for males, drinking when gambling was significantly related to sizes of bets, amount of money spent at casinos, and losing more than they could afford. They caution that college students need prevention messages because even casual drinkers and gamblers can become involved in risky behaviors when alcohol and gambling are paired. There have been only two reported meta-analyses of disordered gambling studies involving college students. Shaffer, Hall and Vander Bilt (1999), conducted a meta-analysis comparing the reported prevalence rates of disordered gambling college students in 14 studies. The estimated percentage was 5.05. A follow-up test of significance for these data showed that rates of disordered gambling reported in adult studies were significantly lower than in college student studies. Blinn-Pike et al. (2007) conducted a meta-analysis of 15 research articles reporting estimates of disordered gambling among college students in North America. The estimated percentage was 7.89. Their

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gambling assessment scores were significantly and positively correlated with tobacco use, frequency and number of illegal substances used, and having been arrested for a criminal offense. Lesieur et al. (1991) surveyed 1,771 college students from five states and found that 85% had engaged in some form of gambling and between 4% (Nevada) and 8% (New York) met the criteria for having a gambling disorder. The highest rates of disordered gambling were among males, minorities, students who had been arrested for non-traffic violations, and those who had abused alcohol and other drugs.

Bailey, Burroughs, Dabit, Hambrick and Theriot (1997) conducted a qualitative study about casino gambling among college students in Mississippi. In interviews the students reported that it was easy access to fake identification that allowed them to enter casinos when under 21 years of age, that the availability of free alcohol in casinos was a major attraction for college students, and that some students drop out of college to become employed at casinos. LaBrie, Shaffer, LaPlante and Wechsler (2003) surveyed 10,765 college students from 119 scientifically selected U.S. colleges included in the 2001 Harvard Public Health College Alcohol Study and found that a) 52% of males and 33% of females reported they gambled at least weekly in the last school year; b) previous convenience samples may have overestimated the prevalence of gambling among college students; c) students over 21 years of age were more likely to gamble; d) the availability of gambling venues in the state influenced students' decisions to gamble; and e) the data supported the presence of an underlying problem behavior syndrome among college students that suggests a tendency to engage in several risky activities, including gambling, alcohol use and binge drinking. Martens et al. (2009) assessed if first year college students were entering with existing problems related to gambling and alcohol. Their data showed that, one month after entering college, 12% of 908 students reported already playing lottery games more than once a month, and 14% reported already playing cards for money more than once a month. Alcohol consumption followed the same pattern and was significantly correlated with gambling frequency and gambling losses.

Parenting styles

Parenting styles refer to patterns of parenting driven by the parents' socialization goals for their children and attitudes toward children. This global pattern of parenting behavior has been hypothesized to create an emotional climate in which the child would be more receptive to the parent's more specific and goal-oriented parenting practices. The concept of a parenting style has been described as a) a dimension of personality, which is assumed to be a consistent; b) encompassing both contextual/environmental and individual aspects of child rearing; and c) global and content free (Grigorenko & Sternberg, 2000; Smetana, 1995; Smith, 2006).

Baumrind's (1968, 1991) parenting style typology has dominated the field as a conceptualization and method of describing parental characteristics. This typology consists of three parenting styles: authoritarian, permissive, and authoritative. Authoritarian child rearing techniques consist of harsh disciplinary actions and rigid boundaries, expressed both emotionally and psychologically toward children. Such parents tend to be strict, harsh, punitive, and demanding and tend to discourage verbal give-and-take within the family

setting. These parents demand obedience and uphold fundamental beliefs that a child's will must be broken.

Permissive parenting style refers to child rearing techniques that place few, if any, rules upon children. In extreme cases, children encounter complete freedom to make life decisions without referring to parents for advice. They come and go as they please, and their whereabouts are generally unknown to their parents. Communication has a tendency to be nonexistent or minimal at best as evidenced by a hands-off approach to child rearing.

Finally, authoritative parenting style refers to child rearing techniques in which parents exercise firm yet fair discipline. Despite firm discipline, parents display warmth, love, and affection toward children and are "democratic" in that they participate in bidirectional communication exchanges with children while using induction as a major form of discipline (Dornbusch, Ritter, Leiderman, Roberts & Fraleigh, 1987; Newcomb & Loeb, 1999; Steinberg, Lamborn, Dornbusch & Darling, 1992). Steinberg et al. have used the Baumrind (1968, 1991) typology in numerous studies and have been able to show, using large and diverse samples of adolescents, that authoritative parenting is positively related to school achievement (Glasgow, Dornbusch, Troyer, Steinberg & Ritter, 1997), peer group membership (Durbin, Darling, Steinberg & Brown, 1993), adjustment (Steinberg, Lamborn, Darling, Mounts & Dornbusch, 1994), and school involvement (Steinberg et al., 1992). In addition, authoritative parenting style has been shown to be related to reduction in alcohol consumption among college students (Patock-Peckham, Cheong, Balhorn & Nagoshi, 2001; Patock-Peckham & Morgan-Lopez, 2006, 2008).

Steinberg et al. further delineated that the three sub-dimensions that comprise authoritative parenting are acceptance and positive involvement, behavioral control, and psychological autonomy granting. Acceptance and positive involvement is the degree to which youth perceive their parents as responsive to their needs, loving, and involved. The second dimension of authoritative parenting involves the parents' efforts to control the behavior of the adolescent through limit setting and monitoring (i.e., behavioral control). Psychological autonomy granting refers to the degree that parents use non-coercive, democratic discipline and also encourage the expression of individuality from the family. Authoritative parents score high on all three dimensions, mirroring Baumrind's (1991) initial ideas that the optimal parenting style was a combination of limit setting, emotional warmth, and acceptance of the child's needs for increased independence (Steinberg et al., 1994; Steinberg, Mounts, Lamborn & Dornbusch, 1991).

Family environments

It has been well established that the family environment exerts an important influence on adolescent and young adult outcomes. Since the early 1970s, specific familial characteristics have been examined and found to either negatively or positively influence youth development and behavior. In one of the rare studies that connected youth gambling and family characteristics, Ste. Marie (2002) found that parenting styles indirectly influence problem gambling behavior via family environment. Negative family environments, characterized by high levels of conflict and low levels of cohesion, were found to significantly increase the likelihood of gambling problems among youth.

In another rare study relating family environment and adolescent gambling, Lussier, Derevensky, Gupta, Beregevin and Ellenbogen (2007) found that resilient adolescents scored lower on reported gambling severity compared to vulnerable youth. Conflict within the family has consistently been associated with vulnerability to a wide variety of emotional and behavioral problems in youth including anxiety, depression, suicide, aggression, psychological maladjustment, lower life satisfaction, delinquency, conduct disorder, antisocial behavior, and promiscuous sexual activity (Jaycox & Repetti, 1993; Pfeffer, Normandin & Kakuma, 1998; Repetti, Taylor & Seeman, 2002; Suldo & Huebner, 2004). Repetti et al. (2002) proposed a model whereby a “risky family environment” (i.e., families characterized by high levels of conflict and aggression, and low levels of nurturing) creates and/or interacts with genetic vulnerabilities in offspring, to produce disruptions in a host of developmental outcomes including psychosocial functioning, physical health, and mental health. More specifically, they report that children growing up in these unhealthy environments are more likely to exhibit high-risk behaviors such as smoking, alcohol abuse, drug abuse, and promiscuous sexual activity. According to this model, these youth engage in such behaviors as a means of “self-medicating” against dysfunction produced or exacerbated by their poor family environments. It is argued that the negative family environment in which children develop makes them more reactive to stress and interferes with their development of appropriate coping mechanisms. As a result, these children attempt to deal with life’s stresses through distraction and escape. Despite the extensive research in the area of parenting, studies examining the influence of the family environment on gambling behaviors among youth are lacking (Ste. Marie, 2002).

The following study points to the need for additional research on how parenting, family environment, and alcohol use impact the likelihood of problem gambling among college students. Dane, McPhee, Root and Derevensky (2004) conducted surveys with 674 Canadian parents and adolescents and reported that adolescents who were high risk/problem gamblers reported lower levels of maternal acceptance. In addition, they found that when maternal acceptance was low, younger adolescents were as likely as older adolescents to develop gambling problems and be classified as high risk/problem gamblers. They were 50% as likely to be high risk/problem gamblers when maternal acceptance was high. Finally, they reported that when levels of maternal psychological autonomy granting were low, the adolescents were more likely to be classified as high risk/problem gamblers. Psychological autonomy granting involves encouraging the adolescent to become involved in developmentally appropriate self-expression and autonomous activities and not using manipulation as a means of control (e.g., guilt or withholding love).

RESEARCH QUESTIONS

The broad question in this study asked if gambling among college students is related to perceived parenting style and/or family environment. The specific research question for this exploratory study was: What are the relationships among college students’ current gambling behaviors (disordered gambling assessment scores, types of gambling, number of venues, financial losses, frequency of gambling), and a) perceptions of belonging to a family where the environ-

ment is close and supportive, b) perceptions of belonging to a family where the environment is nagging and critical, c) perceptions of having a mother with an authoritative parenting style, and d) frequency of alcohol use?

METHODS

Sample

The 450 students in the sample ranged in age from 18 to 25 years and had a mean age of 19.64 years ($SD = 1.41$). They were from a variety of college majors (i.e., arts and sciences 45%; business 18%; education 10%; applied and life sciences 10%; and engineering 6%). Seventy-eight percent were first or second year students. The sample was 55% female. The ethnicity of the sample was 75% White, 21% African-American, and 4% “other”. Two percent of the students in the sample were married, and 9% were parents.

Data collection

Survey data were collected from 450 undergraduate students enrolled in introductory psychology classes at two state universities in a southern state approximately 100 miles apart. Each school was within 100 miles of a gambling casino. There were no significant differences in the levels of gambling across the two study sites and the data from the two schools were pooled. The students received extra credit points for participating.

Measures

Gambling. The SOGS-RA is a 12-item scale (dichotomous response items) that assesses gambling behavior and gambling-related problems. An example of a question from the SOGS-RA is “Have you ever felt that you would like to stop betting money but didn’t think you could?” Poulin (2002) surveyed over 13,000 students in high schools in Canada and reported that the SOGS-RA had adequate stability and internal reliability (.80). The SOGS-RA was chosen over the adult SOGS (Lesieur & Blume, 1987) as the measure for assessing disordered gambling here because the mean age of the sample was 19 years.

Type of gambling venue was assessed with four questions (yes/no) regarding whether they had visited casinos, played cards for money, bet on sports, and/or gambled on the Internet in the previous 12 months (Blinn-Pike et al., 2008). Gambling frequency and venue choices were assessed by asking how often they had participated in each of the four different venues (casinos, playing cards for money, betting on sports, gambling on the Internet) in the previous 12 months (never, 1–9 times, 10–19 times, or 20 or more times). Finally, gambling financial losses were assessed with one question that asked: “What is the largest amount of money you were behind when you left a gambling activity, such as at the end of the evening?” There were 10 categories of choices ranging from \$0–\$49 to more than \$400.

Parenting style and family environment. The parenting style and family environment questions for this study were from the Student Attitudes and Perceptions Survey (SAPS) developed and used by Strage (1998) and Strage and Brandt (1999) in studies of authoritative parenting and the development of self-regulation in college students. According to

Strage and Brandt (1999, p. 149), the SAPS items were “designed to approximate the dimensions of authoritative parenting suggested in the literature [by Baumrind], while also being developmentally and contextually appropriate for college students”. All of the questions were answered using a five-point scale from strongly disagree to strongly agree. The SAPS includes identical but separate sets of questions pertaining to mother and father. In this study, only the maternal set of questions was included. This decision was made a) based on the literature pointing to concordant descriptions between perceptions of maternal and paternal parenting styles among youth (Ste. Marie, 2002; Strage, 1998), and b) to accommodate students who were raised by their mothers in single-parent families within a Southern sample that was 21% African-American. Measures of both authoritative mother and emotionally close and supportive family were included here because they are related but conceptually distinct ($r = .64$). Likewise, having nagging and critical parents and a supportive and close family were both included because they are moderately correlated ($r = -.27$). Authoritative mothering was measured by nine questions all of which began with “When I was growing up...” For example, a question asked: “When I was growing up, my mother was supportive if I was having problems.” Cronbach’s alpha for these nine items was .85. Being in an emotionally close and supportive family was measured by seven items with a Cronbach’s alpha of .83. One of the questions asked: “I see my parents as happy.” Having nagging and critical parents was measured by three questions, such as “My parents are critical of my failures.” The Cronbach alpha for these three questions was .76.

Frequency of alcohol use. Frequency of alcohol consumption was assessed by asking on how many days they drank in the previous 30 days, ranging from 0 to 30.

DATA ANALYSIS

The analyses in this study cover both a general assessment of disordered gambling (SOGS-RA) and several more specific measures of gambling behavior such as participation in each venue, losing more than \$50, etc. The SOGS-RA analysis gives a good basis for general conclusions, and the second set of models with the specific gambling behaviors helps break findings down more finely. The relationships among gambling behavior, perceived parenting style, perceived family environment, and frequency of alcohol use were assessed using logistic regression. The dependent variable was based on the SOGS-RA score. The distribution of SOGS-RA scores was extremely skewed, so ordinary least squares regression was not appropriate for these data. Instead, each student’s SOGS-RA score was categorized as follows: never gambled (thus did not complete the SOGS-RA), gambled but not in the last 12 months (SOGS-RA = 0), non-problem gambler (SOGS-RA = 1 or 2), or potential problem gambler (SOGS-RA = 3). Because the dependent variable included more than two categories, a multinomial logistic regression model was used. The independent variables were the three measures of parenting style and family environment and frequency of alcohol use described above.

A second set of logistic regression models was fit to assess the relationships of specific gambling behaviors with perceived parenting style, perceived family environment,

and frequency of alcohol use. In each model, a measurement of a specific gambling behavior was used as the dependent variable, and the independent variables were frequency of alcohol use, perceived parenting style, and perceived family environment. The first model looked at whether each student participated in each type of gambling (casinos, playing cards for money, betting on sports, and gambling on the Internet, respectively). The second model used the number of gambling venues (out of the four possible venues listed above) in which a student participated as the dependent variable. For the third model, gambling behavior was assessed by whether a student lost \$50 or more in any single gambling session. The dependent variable for the fourth model was frequency of gambling, defined as participating in any venue 10 or more times in the past 12 months. Lastly, a Poisson regression model was used to investigate the relationship between the parenting style and family environment variables and the frequency of alcohol consumption. Poisson regression was used instead of linear regression due to the strongly skewed distribution of frequency of alcohol consumption. All statistical analyses were performed using SAS 9.2 software. Individuals with missing data were excluded from the analyses, but less than 2% of the students in the sample had missing responses for any of the variables analyzed here.

RESULTS

Table 1 shows the descriptive results for the categorical variables, except for SOGS-RA scores which are summarized in Table 3. The sample for this study can be described as rarely losing more than \$50.00 during one gambling experience (87%), participating in one or two gambling venues (30%), and most often playing cards for money (31%). The means for the quantitative variables were as follows: nagging and critical parents (2.81), close and supportive family (4.07), authoritative mother (4.14), number of gambling venues (0.80), and frequency of alcohol use (6.4 days per month).

Table 1. Descriptive results for categorical variables

Variable	Category	N (%)
Types of gambling	Casinos	86 (19.1)
	Playing cards for money	139 (30.9)
	Betting on sports	91 (20.2)
	Internet	52 (11.6)
# of gambling venues	0	265 (58.9)
	1	71 (15.8)
	2	64 (14.2)
	3	31 (6.9)
	4	19 (4.2)
Gambling losses	Less than \$50	390 (86.7)
	More than \$50	60 (13.3)
Gambling frequency	Often	76 (16.9)
	Seldom	374 (83.1)

In the multinomial logistic regression model for the SOGS-RA scores, having nagging and critical parents ($p = .007$, odds ratio = 1.089) and greater frequency of alcohol consumption ($p < .001$, odds ratio = 1.045) were significantly associated with being in a higher category of SOGS-RA scores. Having an authoritative mother ($p = .212$) or an emotionally close and supportive family ($p = .459$) had

no significant association with the SOGS-RA score categories. Results of the multinomial logistic regression analysis, including coefficients, odds ratios and associated 95% confidence intervals, and *p*-values, are shown in Table 2.

Table 2. Results of multinomial logistic regression analysis

Independent variable	Coefficient	Odds ratio (95% CI)	<i>p</i> -value
Authoritative mother	-0.0228	0.977 (0.943, 1.013)	0.212
Emotionally close family	-0.0170	0.983 (0.940, 1.028)	0.459
Nagging, critical parents	0.0854	1.089 (1.024, 1.159)	0.007
Frequency of alcohol use	0.436	1.045 (1.019, 1.070)	<0.001

Interpretation of the coefficients from multinomial logistic regression is not straightforward, so the means of the two significant independent variables for each of the four gambling categories are shown in Table 3 to help illustrate the magnitude of the effects. For example, students who had never gambled consumed alcohol an average of 5.26 days per month, while students who were classified as potential problem gamblers consumed alcohol an average of 9.66 days per month, nearly twice as often. Similarly, students classified as potential problem gamblers scored an average of 3.26 (out of 5) on the measure of having nagging and critical parents, 25% higher than students who had never gambled.

Table 3. Means of significant explanatory variables versus gambling category

Gambling	<i>N</i> (%)	Frequency of alcohol use in past 30 days Mean (<i>SD</i>)	Nagging and critical parents Mean (<i>SD</i>)
Never gambled	202 (44.9)	5.26 (7.26)	2.60 (1.02)
Gambled, but not in last 12 months (SOGS-RA = 0)	142 (31.6)	6.26 (6.85)	2.94 (1.03)
Non-problem gambler (SOGS-RA = 1 or 2)	56 (12.4)	8.16 (7.50)	2.84 (1.05)
Potential problem gambler (SOGS-RA ≥ 3)	50 (11.1)	9.66 (9.35)	3.26 (0.93)

Two approaches were used to assess whether parenting and family environment affect the relationship between gambling and frequency of alcohol use. First, we tested for interactions between each of the three parenting and family environment variables and frequency of alcohol consumption in the multinomial logistic regression model. Interactions were added to the model and tested one at a time in order to minimize the effects of multicollinearity. None of the three was close to being statistically significant ($p = .565$ for nagging and critical parents, $p = .753$ for authoritative mother, and $p = .683$ for emotionally close and supportive family). Second, a multinomial logistic regression model was fit using the parenting and family environment variables as independent variables without frequency of alcohol use, and a multinomial logistic regression model was fit using frequency of alcohol use as the only dependent variable. Without frequency of alcohol consumption in the model, the magnitude and statistical significance of the effect due to having nagging and critical parents did not change substan-

tially. Similarly, when the parenting and family environment variables were removed from the model, the magnitude and statistical significance of the alcohol effect did not change substantially. These results suggest strongly that the parenting and family environment variables measured here do not moderate the effect of frequency of alcohol consumption on gambling.

Turning to the results of the binomial logistic regression models for specific gambling behaviors, the perception of having more nagging and critical parents was associated with higher odds of playing cards for money ($p = .007$, odds ratio 1.107). Frequency of alcohol consumption was significantly related to every type of gambling behavior investigated. Specifically, the models for individual gambling venues showed that greater frequency of alcohol consumption was associated with higher odds of gambling in casinos ($p < .001$, odds ratio = 1.056), playing cards for money ($p < .001$, odds ratio = 1.075), betting on sports ($p < .001$, 1.081), and gambling on the Internet ($p = .029$, odds ratio = 1.040). Otherwise, the parenting style and family environment variables were not significantly related to participation in any single venue.

However, family environment variables, as well as frequency of alcohol consumption, were significantly related to the number of gambling venues in which a student participated. Having an emotionally close and supportive family was associated with participation in fewer venues ($p = .012$, odds ratio = 0.962), while nagging and critical parents ($p = .014$, odds ratio = 1.054) and increased frequency of alcohol consumption ($p < .001$, odds ratio = 1.062) were both associated with participation in more venues. Having an authoritative mother was not significantly associated with number of gambling venues ($p = .325$).

Increased frequency of alcohol consumption was also significantly associated with losing more than \$50 in a single gambling session ($p < .001$, odds ratio = 1.060) and with gambling frequently in any single venue ($p < .001$, odds ratio = 1.063). None of the three parenting style and family environment scales was significantly associated with either of these responses. It is worth noting, however, that both of the family environment scales were significantly related to frequency of alcohol consumption. Having a more emotionally close and supportive family was significantly associated with lower frequency of alcohol consumption ($p < .001$, $\beta = -0.108$ in the Poisson regression model). The coefficient can be interpreted to mean that scoring one point higher on the emotionally close and supportive family scale is associated with a 10.71% lower frequency of alcohol use on average. Having more nagging and critical parents was associated with greater frequency of alcohol consumption ($p = .001$, $\beta = 0.119$), corresponding to a 12.65% higher frequency of alcohol use per one point increase on the nagging and critical parents scale. Interestingly, having a more authoritative mother was not significantly associated with frequency of alcohol consumption ($p = .786$).

DISCUSSION

An important question in this study asked if parenting style and/or family environment is related to gambling among college students. More attention has been paid to studying the link between parenting style/family environment and substance use, than has been paid to parenting style/family environment and gambling among college students

(Adalbjarnardottir & Hafsteinsson, 2001; Adamczyk-Robinette, Fletcher & Wright, 2002; Broman, Reckase & Freedman-Doan, 2006; Montgomery, Fisk & Craig, 2008; Patock-Peckham, et al., 2001; Patock-Peckham & Morgan-Lopez, 2006, 2008; Wood, Read, Mitchell & Brand, 2004). Likewise, more is known about family environment and parenting as protective factors against problem behaviors among adolescents than among college students (Boyle & Boekeloo, 2009; Dane, Lawrence, Derevensky, McPhee & Panetta, 2008; Kelly et al., 2011; Marsiglia, Kulis, Parsai, Villar & Garcia, 2009).

One of the key findings in this study was that parenting and family environment variables do not appear to be related to the effect of frequency of alcohol use on gambling. In other words, the impact on gambling behavior of having negative or positive perceptions of one's family was independent of frequency of alcohol use.

Having nagging and critical parents and greater frequency of alcohol consumption were significantly associated with SOGS-RA scores, while having authoritative mothers or emotionally close and supportive families were not. Specifically, having more nagging and critical parents and more frequently consuming alcohol were associated with greater likelihood of having a higher SOGS-RA score. These findings have implications for gambling prevention efforts of college campuses. Should prevention efforts be aimed, at least in part, on reducing alcohol use and/or on psychological counseling regarding their perceptions of their parents and families?

In addition, the gambling research has concentrated more on the relationship between parental gambling and youth gambling than on the impact of the parent-youth relationship or parenting style and youth gambling (Browne & Brown, 1993; Dane et al., 2004; Gupta & Derevensky, 1998; Ladouceur, Boudreault, Jacques & Vitaro, 1999; Magoon & Ingersoll, 2006; Vachon, Vitaro, Wanner & Tremblay, 2004; Weinstock, Whelan & Meyers, 2008). And finally, researchers who study parenting style and youth development have focused on high school age adolescents more than they have college students, many of whom are still considered late adolescents or emerging adults (Arnett, 2000, 2004, 2005).

This study pointed out the need for additional research on the topic of college student gambling, particularly as it relates to perceptions of perceived parenting and gender. Perhaps the non-significant findings about perceptions of authoritative mothers were due to that fact that it was the only measure that involved one parent as the referent, rather than the family unit or both parents. Approximately half of this sample was female and family closeness has been shown to be directly associated with less problem drinking among young adult females. On the other hand, greater parental control has been directly associated with less problem drinking among young adult males (Roche, Ahmed & Blum, 2008). Two findings appeared particularly noteworthy in this research. The results pointed to the need for exploration related to a) different models for preventing gambling among male and female college students, and b) separate measures of perceptions of maternal and paternal parenting styles. A gender of college student by gender of parent interaction may be revealed related to gambling in future analyses.

CONCLUSIONS

In this exploratory study the researchers included measures of perceived parenting styles and environments and gathered data from an adequately-sized, mixed-gender, and somewhat ethnically diverse sample. The perceptions of having a close and supportive family and having nagging and critical parents were related to some, but different, aspects of gambling both directly and as pathways to gambling through frequency of alcohol use. This research showed that frequency of alcohol consumption can have both direct and indirect effects on college students' gambling behaviors. More frequent alcohol consumption was associated with higher odds of gambling in casinos, playing cards for money, betting on sports, and gambling on the Internet. It is reasonable to assume a temporal relationship between perceptions of family environment and parents while growing up and current gambling in college. Directionality between frequency of alcohol use and gambling behaviors cannot be assumed in the resulting model that emerged. However, as with any exploratory research, there are several unique lines of research that can, and should, follow from these findings, including more research on how college students' gambling activities may have begun prior to college and been influenced by their feelings about their homes and parents. Entering college students can be screened for previous family and gambling experiences that point them toward disordered gambling in and after college.

Note: Out of 450 students in the sample, just 28 (or 6%) scored 4 or higher on the SOGS-RA. This figure is line with the body of research showing that between 6 and 8 percent of college students can be classified as having gambling problems. An additional 22 students scored 3 on the SOGS-RA, for a total of 50 (11%) who scored 3 or above. In order to gain more flexibility for modeling, we used 3 as a cut-off score and used the term "potential problem gambler" for those students, rather than "disordered gambler".

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