

Exploring the Relationship Between Social Interest, Social Bonding, and Collegiate Substance Abuse

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Abstract:

Substance abuse continues to be prevalent on college campuses. This study explored the relationships between social interest, social bonding, and hazardous drinking and marijuana use among college students. Results indicate that the social bonding elements of religious commitment, respect for authority, and acceptance of conventional beliefs, along with social interest, significantly differ between groups of students engaged in hazardous drinking and marijuana use.

Keywords: substance abuse | social interest | social bonding

Article:

The prevalence of substance abuse on college campuses in the United States continues to be problematic (Johnston, O'Malley, Bachman, & Schulenberg, 2010), with alcohol and marijuana identified as the two most commonly abused substances among college students (Core Institute. 2008). Furthermore, substance abuse is associated with a host of negative consequences, ranging from hangovers and poor test performance to drunk driving and suicide attempts (Core Institute. 2008).

Several variables have previously been found in the literature to predict substance abuse, including gender (Wechsler, Davenport, Dowdall, Grossman, & Zanakos, 1997), race (Wechsler, Dowdall, Davenport, & Castillo, 1995), Greek-life status (Barry, 2007), athletic status (Theall et al., 2009), and age of first drink (Johnson et al., 2010). In light of the pervasiveness of collegiate substance abuse and the need for prevention and intervention efforts that more consistently produce desired outcomes (Licciardone, 2003), a more comprehensive profile of students at risk for substance abuse is needed. Such a profile may be constructed through examining additional variables that address multiple facets of the individual. We propose that assessing both internal and external characteristics may provide a more holistic perspective of college students to aid in intervention efforts. The constructs of social interest and social bonding may indeed serve this purpose. Social interest is described as an innate and universal potential to be interested in the welfare of others (Adler, 1956). It refers to a personality trait or psychological process in which

one desires to be socially useful and feels at home in the human community (Ansbacher, 1968). Thus, social interest can be considered an inward process or internal characteristic. Alternatively, one may assert that social bonding is an outward process or external characteristic, given that it refers to an individual's bond with conventional society through the elements of attachment, commitment, involvement, and belief (Hirschi, 1969). The construct considers one's bond with family, teachers, peers, and time spent in conventional activities, and various behavioral manifestations reflecting a connection to society. Therefore, as social interest addresses an internal process or desire, social bonding captures external ties to conventional activities and individuals. Although both social interest and social bonding have been independently linked to collegiate substance abuse, the constructs have not been joined until now. Therefore, this study integrated the two empirically supported constructs within the same investigation to better understand collegiate substance abuse.

Social Interest

Denoted as the most salient aspect of Adler's writings (Ansbacher, 1968), social interest has been summarized to mean an interest in the welfare of others and sense of belonging in the human community (Ansbacher, 1992). Adler (1956) asserted that all individuals are born with the potential to develop social interest, which involves cooperation, empathy, identification with others, and harmony with the universe. Individuals with deficiencies in social interest engage in what Adler identified as socially nonuseful behavior, such as criminal acts, suicide, sexual deviance, and, most important for the current study, substance abuse.

Throughout years of empirical study, researchers have found positive correlations between social interest and desirable constructs such as goal attainment (LaFountain, 1996), happiness and empathetic concern (Watkins & Blazina, 1994), and life satisfaction (Gilman, 2001). Social interest has also been found to negatively correlate with undesirable constructs, including self-denigrating behavior (Mozdzierz, Greenblatt, & Murphy, 2007), hostility and depression (Crandall, 1975), and anxiety and pathology (Fish & Mozdzierz, 1991). Furthermore, a possible negative outcome of low social interest is alcohol and drug abuse. Adler (1956) described those with serious drug and alcohol problems as individuals who fail in the area of social interest.

With this theoretical foundation, researchers have sought to empirically investigate the association between social interest and substance abuse. Men abusing alcohol (Chaplin & Orlofsky, 1991) and male and female drug abusers (Colker & Slaymaker, 1984) have been found to have lower social interest levels when compared with control participants. Furthermore, researchers have identified one's level of social interest as a significant predictor of college student binge drinking and the quantity of alcohol consumption (Lewis & Watts, 2004). These findings have not always been consistent, however, as Keene and Wheeler (1994) found social interest to be unrelated to college substance use. Thus, social interest in isolation may only provide a partial explanation of collegiate substance abuse. Given that social interest refers to an internal characteristic, to combine it with a construct that addresses external or outward processes (i.e., social bonding) may provide a more holistic picture of hazardous drinking and marijuana use among college students.

Social Bonding

The construct of social bonding emerged from Hirschi's (1969) control theory, which posits that individuals engage in delinquent behavior as a result of weak or broken bonds to society. The social bond is comprised of four elements: (a) attachment, which refers to the sensitivity to the opinions of others and affectional ties to significant individuals such as parents and peers; (b) commitment, which is defined as an investment in conventionality and the fear of losing that investment if one engages in delinquent behavior; (c) involvement, which is described as the amount of time and energy consumed by conventional activities such as school and work; and (d) belief, which is the existence of a common values system and endorsement of conventional norms (Hirschi, 1969).

Within this framework, social bonds serve to restrain individuals from engaging in delinquency, which Hirschi (1969) defined as any act believed to be punishable if discovered. Because of the inclusive scope of Hirschi's definition of delinquency, social bonding has been studied in relation to a variety of behaviors, including substance use (Ford, 2005), partner violence (Lackey & Williams, 1995), viewing pornography (Mesch, 2009), and victimization (Chen, 2009). Generally, researchers have found support for the notion that weak social bonds are associated with an increase in problematic behaviors.

In addition to studying social bonding with a variety of behaviors, researchers also have considered social bonding among different populations. Hirschi (1969) developed the construct of social bonding by studying the delinquent behavior of juveniles, yet social bonding has been applied to other populations, including college students (Durkin, Wolfe, & May 2007). Specifically, researchers have assessed the relationship between social bonding and binge drinking (Durkin, Wolfe, & Clark, 1999), drunk driving (Durkin et al., 2007), alcohol-related negative behaviors (Sun & Longazel, 2008), and illegal drug use (Seredycz & Meyer, 2005) with college student samples. Therefore, in light of the theoretical foundation and empirical support for the relationship between social bonding and collegiate substance abuse, the construct warrants further examination, particularly in conjunction with an internal characteristic. Just as social interest is limited because of its internal focus, social bonding addresses only external/outward elements such as attachment to parents, school, or friends; involvement in conventional behaviors; commitment to conventional activities; and the adoption of a conventional social belief system. The lack of assessing internal characteristics may contribute to the fact that many researchers have found only moderate support for the predictive strength of social bonding when applied to collegiate substance abuse (Durkin et al., 1999; Seredycz & Meyer, 2005; Sun & Longazel, 2008). Furthermore, evidence for the utility of coupling social bonding with another construct addressing an internal element already exists in the literature. Although social bonding has not been examined simultaneously with social interest to date, researchers have integrated social bonding with constructs addressing internal characteristics such as self-control (De Li, 2004) and deviant identity and negative self-feelings (Kaplan & Cheng-Hsien, 2005) to strengthen predictive models.

Therefore, although the constructs of social interest and social bonding offer viable independent contributions to the study of hazardous drinking and marijuana use among college students, the integration of the two variables may provide a more thorough understanding of students at risk for substance abuse. Accordingly, we tested the following hypotheses:

Hypothesis 1: A statistically significant portion of variance in college students' self-reported hazardous drinking behavior will be explained by social interest and the six social bonding variables above and beyond the amount of variance explained by demographic predictor variables.

Hypothesis 2: Significant mean differences in social interest and the six social bonding variables will exist between groups of marijuana users (i.e., nonusers, past users, occasional users, frequent users, and daily users). Specifically, lower marijuana-using groups will have higher mean scores on social interest and social bonding when compared with higher marijuana-using groups.

Hypothesis 3: Significant mean differences in social interest and the six social bonding variables will exist between groups of college students who (a) do not use marijuana and are not hazardous drinkers, (b) do not use marijuana and are hazardous drinkers, (c) use marijuana and are not hazardous drinkers, and (d) use marijuana and are hazardous drinkers. Specifically, those who do not engage in hazardous drinking or marijuana use will have higher mean scores of social interest and stronger social bonding scores than those who engage in hazardous drinking, use marijuana, or both.

Hypothesis 4: Social interest and the six social bonding variables will significantly predict group membership in the following four groups of college students: (a) those who do not use marijuana and are not hazardous drinkers, (b) those who do not use marijuana and are hazardous drinkers, (c) those who use marijuana and are not hazardous drinkers, and (d) those who use marijuana and are hazardous drinkers.

Method

Participants and Procedures

Purposeful sampling was used to collect data from 300 undergraduate students within two departments of a midsized public university located in the southeastern United States. Inclusion criteria for participation consisted of being of traditional college-going age (18–25 years) and enrolled full time. Each student electing to participate received a survey packet that required approximately 20 minutes to complete.

A total of 366 survey packets were distributed to students in 17 undergraduate classes. Of the 366 potential participants, 300 (81.97%) met the inclusion criteria and were included in the analysis. The average age of sample participants was 21.05 years ($SD = 1.45$) and 79.3% were women. With regard to race, 55.33% of the sample identified as Caucasian, 32.34% as African American, 3.33% as Asian, 3.33% as Latino, 0.33% as Native American, and 5.34% as other. The majority of participants were seniors (55%) followed by juniors (27.33%), sophomores (11.33%), and freshmen (6.33%). (Percentages do not total 100 because of rounding.) A small percentage of participants were student athletes (3%) or involved in Greek life (12%). The majority of the sample identified as Christian (69%) and reported living in off-campus apartments (60.54%).

Instruments

Sulliman Scale of Social Interest (SSSI). The SSSI (Sulliman, 1973) consists of 50 true/false statements providing an overall social interest score. The instrument has two subscales, which measure (a) the amount of concern for and trust in others, and (b) confidence in oneself and one's view of the world. Sulliman (1973) found a reliability of .91 for the total scale using the Kuder-Richardson 20 (KR-20) formula and .93 using a test-retest method. He concluded that the subscale measuring the amount of concern for and trust in others correlated at .87 with the entire scale and the other subscale correlated at .90 (Sulliman, 1973). For our study, only the full-scale score was used. Sample items of the SSSI include "I like to make new friends," "People can't be trusted," and "A person should be willing to help others at all times." The items are summed and high scores represent higher levels of social interest compared with lower scores. Although other measures of social interest exist, the SSSI was used because of strong validity and reliability evidence. Bass, Curlette, Kern, and McWilliams (2002) conducted a meta-analysis of 124 studies using five prominent social interest measures and found evidence to support the validity of the SSSI in that the measure had the strongest correlation to the constructs of empathy, cooperation, and social support. In addition, the reliability of the SSSI also has been supported through test-retest procedures with a college student sample (Watkins & Blazina, 1994), and strong internal consistency has been found in a sample of adult male alcoholic veterans ($r = .90$, KR-20; Mozdzierz, Greenblatt, & Murphy, 1986). Furthermore, researchers testing the psychometric characteristics of the measure on young adults have found that the information provided by the SSSI reflects the essence of social interest, rather than random effects (Stone & Newbauer, 2010).

Social Bonding Questionnaire. This measure was based on Durkin et al.'s (1999) adaptation of Hirschi's (1969) original questionnaire. The measure consisted of five social bonding subscales that represented the four elements of the bond. These social bonding subscales were Parental Attachment, Commitment to Higher Education, Involvement, Respect for Authority, and Acceptance of Conventional Beliefs, with Cronbach's alphas ranging from .80 to .87 for the subscales. Each item was measured using 6-point Likert-type scales ranging from 1 (*strongly agree*) to 6 (*strongly disagree*). Sample items include "My parents want to help me when I have a problem," "I try hard in school," and "I have a lot of respect for the local police." In a later investigation, Durkin et al. (2007) incorporated a four-item Religious Commitment scale with a Cronbach alpha level of .94, which included items pertaining to prayer, religious service, and religious teachings. Thus, for our study, the Social Bonding Questionnaire contained six social bonding variables representing the four elements of the social bond. Attachment was measured by one variable (Parental Attachment: six items), commitment was measured by two variables (Commitment to Higher Education: four items; and Religious Commitment: four items). Involvement was measured by one variable (Involvement; i.e., hours spent studying, engaging in extracurricular activities, and working: three items), and belief was measured by two variables (Respect for Authority: three items; and Acceptance of Conventional Beliefs: three items). Each subscale is summed to provide a subscale score. Higher scores indicate stronger social bonding.

Alcohol Use Disorders Identification Test (AUDIT). The AUDIT (Saunders, Aasland, Babor, De La Fuente, & Grant, 1993) is a brief alcohol screening questionnaire constructed as a result of a

World Health Organization collaborative study (Saunders et al., 1993). The AUDIT is comprised of 10 items with a response range of 0 to 4. The 10 items represent three underlying constructs: alcohol intake, problems due to alcohol consumption, and drinking behaviors (Saunders et al., 1993). The developers of the AUDIT found the instrument to have an overall sensitivity of 92% and overall specificity of 94% (Saunders et al., 1993). Researchers determined that a cutoff score of 8 on the AUDIT provided the most sensitivity and most accurately identified problem drinkers, although some researchers have found that a lower cutoff score increases the sensitivity of the instrument among female participants (Cherpitel, 1997). A meta-analytic review of 24 studies using the AUDIT found scores to be generally reliable with a mean Cronbach's alpha level of .79 (Shields & Caruso, 2003). For our study, only the full-scale score was used with a cutoff score of 8. Therefore, those participants who scored an 8 or higher on the AUDIT were classified as hazardous drinkers.

Marijuana Use Index. Measures of marijuana use with college samples often produce categories of users ranging from nonusers to heavy/daily users (Stoner, 1988). To measure marijuana use, we used the Marijuana Use Index in which participants report how frequently they currently ingest marijuana (over past year), as well as if they have used marijuana in their lifetime. Participants were then classified into five groups adapted from the categorization pattern of Stoner (1988): nonusers (i.e., never tried marijuana), past users (i.e., tried but have not used in the last year), occasional users (i.e., less than one time per week), frequent users (i.e., one to five times per week), and daily users (i.e., at least one time per day). In our study, 114 of the total sample of 300 students (38%) were categorized as nonusers, 66 (22%) as past users, 72 (24%) as occasional users, 24 (8%) as frequent users, and 24 (8%) as daily users.

Results

As part of a preliminary analysis, we examined bivariate correlations between the social interest and social bonding variables (see Table 1). The purpose of this matrix was to assess the relationship between social interest and social bonding variables as well as to consider the possibility of multicollinearity for subsequent regression analyses. Results indicated that social interest and the majority of social bonding variables were significantly correlated; however, these correlations were modest so multicollinearity was not a concern. Cronbach's alpha levels for the total AUDIT and four of the social bonding variables were above the recommended .70 level for internal consistency for social science research (Heppner & Heppner, 2004). The two social bonding variables that failed to meet the .70 alpha level were Acceptance of Conventional Beliefs ($\alpha = .60$) and Involvement ($\alpha = .14$). It is likely that the small number of items ($n = 3$) in the Acceptance of Conventional Beliefs subscale contributed to the low alpha level. Given that the Involvement measure assessed for frequency reports of time spent in various activities that compete for time (i.e., work, studying, and extracurricular activities), it was expected that there would be low internal consistency. However, in light of this low alpha coefficient, the Involvement variable was omitted from further analyses. The KR-20 coefficient was used for the total SSSI scores, given that the data were dichotomous, with a KR-20 coefficient of .86.

Table 1. Correlation Matrix for Social Interest, Social Bonding Variables, and the Alcohol Use Disorders Identification Test (AUDIT)

Variable	1	2	3	4	5	6	7	8
1. Total SSSI	.86	.34	.26	.37	.23	.57	.36	-.23
2. Attachment	.29**	.87	.16	.15	.06	.08	.23	-.04
3. Religious	.24**	.15**	.96	.16	.14	.25	.28	-.32
4. Education	.29**	.12*	.13*	.73	.44	.51	.30	-.22
5. Involvement	.08	.02	.05	.14*	.14	.07	.03	.24
6. Beliefs	.41**	.06	.19**	.34**	.02	.60	.48	-.44
7. Authority	.31**	.20**	.26**	.24**	.01	.35**	.87	-.38
8. AUDIT	-.19**	-.03	-.28**	-.17**	.08	-.31**	-.32**	.82

Note. All reliability coefficients in boldface on the diagonal were calculated using Cronbach's alpha with the exception of the reliability coefficient for the total Sulliman Scale of Social Interest (SSSI), which was calculated using the Kuder-Richardson 20 formula. The correlations above the diagonal are the corrected correlations, whereas those below the diagonal are the actual correlations.

Attachment = Parental Attachment; Religious = Religious Commitment; Education = Commitment to Higher Education; Beliefs = Acceptance of Conventional Beliefs; Authority = Respect for Authority.

* $p < .05$. ** $p < .01$.

Social Interest, Social Bonding, and Hazardous Drinking

To assess the first hypothesis exploring the explanatory power of social interest and social bonding on hazardous drinking above and beyond demographic predictor variables, we used a hierarchical multiple regression analysis. The regression involved three steps to explore whether or not social interest explained a significant portion of the variance above and beyond the demographic variables, as well as the explanatory power of social bonding above and beyond both social interest and the demographics. In the first step of the regression, we entered five demographic variables previously shown to predict hazardous drinking (i.e., age of first drink, gender, race, Greek-life status, and athletic status). These demographic predictor variables accounted for a significant portion of the variance in collegiate hazardous drinking ($R^2 = .1$, $R^2_{adj} = .08$), $F(5, 289) = 6.05$, $p < .01$. In the second step of the regression, the Total Social Interest score was entered and accounted for a significant but modest portion of the variance in collegiate hazardous drinking beyond the demographic predictors ($R^2 = .13$, $R^2_{adj} = .12$), $F(6, 288) = 6.99$, $p < .01$. Finally, in the third step of the regression, the five social bonding variables were entered and accounted for a significant portion of the variance in collegiate hazardous drinking beyond that which was predicted by the demographic variables and social interest ($R^2 = .25$, $R^2_{adj} = .22$), $F(11, 283) = 8.42$, $p < .01$. When standardized beta coefficients were examined at the third step of the regression, significant predictors included age of first drink, Greek-life status, race, acceptance of conventional beliefs, and respect for authority. Although Total Social Interest was significant in the second step of the regression when controlling for demographic variables ($\beta = -.18$, $t = -3.27$, $p < .01$), it was no longer significant when the social bonding variables were added in the third step.

Social Interest, Social Bonding, and Marijuana Use

The second research hypothesis examined differences in social interest and social bonding levels between marijuana use groups. Scores on marijuana use were cross tabulated with the

demographic variables of race, gender, and year in school. Results of this analysis suggested that scores on marijuana use did not covary enough to warrant a multivariate analysis of covariance (MANCOVA), so we calculated a multivariate analysis of variance (MANOVA). The MANOVA was used to examine differences among the five groups of marijuana users (i.e., nonusers, past users, occasional users, frequent users, and daily users). Results of the omnibus MANOVA were significant at the .001 level, $\Lambda = .76$, $F(24, 1012.90) = 3.51$, indicating that there was a significant difference in reported social interest and social bonding based on the marijuana use category. Univariate between-subject effects were found for Total Social Interest ($p < .05$), Religious Commitment ($p < .01$), Acceptance of Conventional Beliefs ($p < .001$), and Respect for Authority ($p < .001$). We then performed post hoc Tukey tests on these four variables. Nonusers were found to have significantly higher scores than daily users on Religious Commitment, Acceptance of Conventional Beliefs, and Respect for Authority at the .01 level. Although the ANOVA for Total Social Interest revealed statistically significant differences among the groups of marijuana users, post hoc Tukey tests did not indicate significant pairwise contrasts. This lack of significance in the Tukey test may be the result of overcorrection given that unbalanced groups were used in the analysis.

Social Interest, Social Bonding, and Substance Abuse Configurations

The third hypothesis explored differences in social interest and social bonding between the substance abuse configuration groups: (a) students who do not use marijuana and are not hazardous drinkers ($n = 157, 52\%$), (b) students who do not use marijuana and are hazardous drinkers ($n = 23, 7.7\%$), (c) students who use marijuana and are not hazardous drinkers ($n = 64, 21.3\%$), and (d) students who use marijuana and are hazardous drinkers ($n = 56, 18.7\%$). As with the previous analysis, cross tabulations between hazardous drinking and marijuana use scores and demographic variables did not covary enough to warrant a MANCOVA, thus we conducted a MANOVA. The results of the omnibus MANOVA test were significant at the .001 level, $\Lambda = .76$, $F(18, 823.56) = 4.75$, indicating that there was a significant difference between groups on social interest and social bonding variables. Univariate between-subject effects examined differences on each of the social interest and social bonding variables based on the four configurations of drinking and marijuana use. Specifically, between-subject effects were found for Total Social Interest ($p < .01$), Religious Commitment ($p < .001$), Acceptance of Conventional Beliefs ($p < .001$), and Respect for Authority ($p < .001$). Post hoc Tukey tests indicated that students who were not hazardous drinkers and did not use marijuana were found to have significantly higher scores ($p < .01$) on each of these four variables than those who were both hazardous drinkers and marijuana users.

Predicting Substance Abuse Configuration Group Membership

The fourth hypothesis examined the predictability of social interest and social bonding variables on membership in the following groups: (a) those who do not use marijuana and are not hazardous drinkers, (b) those who do not use marijuana and are hazardous drinkers, (c) those who use marijuana and are not hazardous drinkers, and (d) those who use marijuana and are hazardous drinkers. The results of a discriminant function analysis indicated the existence of one significant function at the .001 level that predicted membership into the substance abuse configuration groups. The function accounted for 82.8% of the variance and the standardized

canonical discriminant function coefficients indicated that it was defined most by Religious Commitment, Respect for Authority, and Acceptance of Conventional Beliefs. Thus, this function was labeled Adherence to Authority. Cross tabulation between predicted group membership and actual group membership based on substance use configurations revealed that the function correctly predicted 45.3% of the participants. Specifically, the function correctly classified 48.4% of those who were not hazardous drinkers nor marijuana users, 21.7% of those who were hazardous drinkers only, 37.5% of those who were marijuana users only, and 55.4% of those who were both hazardous drinkers and marijuana users.

Discussion

Our study was designed to explore the relationships among social interest, social bonding, and hazardous drinking and marijuana use among college student in hopes of using both internal and external constructs to better understand students at risk for substance abuse. A total of 79 (26.3%) participants met criteria for hazardous drinking in our study. This percentage is lower than in previous studies (DeMartini & Carey, 2009) and may be related to the proportion of minority students in our sample (Wechsler et al., 1995). Among the participants, 120 (40%) reported using marijuana in the past year, which is comparable to data in previous studies (Johnston et al., 2010).

Several limitations to the study should be considered when interpreting the results. First, the participants were students from one midsized university in the Southeast, and thus results may not be generalizable to students in other geographic regions. Furthermore, only full-time undergraduate students between the ages of 18 and 25 were included in our study. It is unknown to what extent these findings generalize to part-time students or those outside of the age range of emerging adulthood. With regard to the sample, men, underclassmen, athletes, and those involved in Greek life appear to be underrepresented. In addition, purposeful sampling was used, and thus only students enrolled in courses within two departments of the university were invited to participate.

Another limitation relates to the reliability of the instrumentation used in our study. The Acceptance of Conventional Beliefs subscale was found to have low internal reliability, yet was important in a number of the findings. Accordingly, results related to Acceptance of Conventional Beliefs must be interpreted with caution. Finally, the data used in our study were obtained by self-report, which has not been verified for accuracy. Although all survey packets remained anonymous, the sensitive nature of the items relating to illegal drug use (i.e., underage drinking and marijuana use) may have had an impact on the participants' responses. Therefore, these results should be considered in light of the limitations of self-reported data.

Implications for College Counselors

Our study provides empirical support for the relationship between social interest and social bonding as well as the association between the two constructs and collegiate substance abuse. Upon review of the preliminary correlation matrix, social interest and the five social bonding variables were found to be significantly correlated at modest levels. These findings indicate that an association exists between social interest and social bonding, yet the low correlations suggest

the constructs are measuring unique attributes. Thus, the utility of a social interest and social bonding perspective from which to better understand student hazardous drinking and marijuana among college students may enhance the conceptualization of collegiate clients. Social interest was found to differ significantly between groups of students engaged in various configurations of substance abuse. Specifically, students who did not use marijuana and were not hazardous drinkers had higher social interest levels than those who were both marijuana users and hazardous drinkers. Whereas some empirical support exists to demonstrate the relationship between low levels of social interest and substance abuse (Colker & Slaymaker, 1984; Lewis & Watts, 2004), contradictory findings also are present in the literature (Keene & Wheeler, 1994). Our study serves to add to the support of the relationship between social interest and substance abuse. Therefore, counselors working with college populations may benefit from exploring and intervening in the area of social interest. Ansbacher (1968) summarized a three-step conceptual model describing how to increase levels of social interest, which may have particular pertinence to counselors with this aim. The first step of the model involves developing the aptitude for social living through training in the home, school, and community. Training in cooperation, by providing opportunities for clients to become interested in being socially useful, serves as a foundation for the development of social interest. For counselors working in college settings, this may entail assisting students in the identification of service learning projects, community service, or university teams and organizations to practice cooperation and investing in others. The second step entails fostering specific abilities related to social interest, such as empathizing, cooperating, communicating effectively, being responsible, and contributing to society. College counselors may foster greater levels of social interest in their clients by incorporating strategies such as empathy building, social skill enhancement, and exploring clients' sense of responsibility to others. Finally, the third step of the model involves helping clients learn to evaluate decisions and behavioral choices in light of the effect on others, instead of considering decisions from only one perspective (Ansbacher, 1968). Counselors seeking to increase social interest can aid in the exploration of decision making and highlight the relationship between the clients' decisions and the effect of those decisions on significant others.

In addition to addressing social interest levels, counselors working with college populations may best serve their clients by considering specific social bonding variables. Beyond the social norms perspective, which states that students are influenced by the perceived behavior of fellow students (Felt, McBride, & Helm, 2008; LaBrie, Grossbard, & Hummer, 2009; Lewis & Clemens, 2008), the results of our study introduce the importance of one's adherence to authority in his or her decisions around drug and alcohol use. Whether the authority stems from societal or religious positions, our results indicate that one's attitude toward the norms and expectations of those in authority are important factors in alcohol- and marijuana-using behaviors. Understanding clients' respect for authority figures at the university level and society at large, coupled with the strength of clients' endorsement of conventional beliefs, may inform case conceptualization and facilitate the development of a collaborative therapeutic relationship. When working with college students who engage in hazardous drinking or marijuana use, an empirically supported approach such as motivational interviewing (Miller & Rollnick, 2002), which emphasizes client autonomy, rolling with resistance, and collaboration, may be most appropriate.

Additionally, counselors may need to address spiritual and religious issues in counseling with clients who abuse substances. In our study, religious commitment was a significant variable when examining differences between marijuana use groups and substance abuse configuration groups. According to Fowler's (1981) Stages of Faith model, traditional-age college students are typically in the individuating-reflective stage of faith development with the task of creating a personal belief system. This stage is characterized by distancing oneself from previous assumptions pertaining to a faith-based belief system and embracing the responsibility of adopting an individually significant faith (Fowler, 1981). Thus, as religious commitment was found to play an important role in collegiate substance abuse, college student clients may benefit from an exploration of their current stage of faith development as they explore decisions related to drugs and alcohol.

Recommendations for Future Research

Future studies should include larger representations of the groups that were underrepresented in our study, including men, athletes, students involved in Greek life, and underclassmen. Additionally, future studies involving students outside the age range of emerging adulthood (18–25 years), or with part-time enrollment status, may provide additional information related to social interest, social bonding, and collegiate substance abuse.

Other directions for future research include further examination of the significant social bonding variables related to hazardous drinking and marijuana use among college students. For example, researchers might explore what aspects of religious commitment are associated with choices pertaining to collegiate substance abuse. Additionally, the effects of acceptance of conventional beliefs and respect for authority warrant further examination. Researchers would contribute significantly to this field by exploring how such beliefs form and the role these beliefs play in decisions regarding substance use. By obtaining additional information about these variables, researchers may assist in the development of more effective prevention and intervention efforts for college students at risk for substance abuse.

Conclusion

Our study explored the relationship between social interest, social bonding, and hazardous drinking and marijuana use among college students. Although previous theory and research link both social interest and social bonding to substance abuse, the two constructs have never been examined together. The results of our study support the notion that social interest and social bonding are related to hazardous drinking and marijuana use among college students. Specifically, both social interest and social bonding variables differed between groups of marijuana users as well as students with various substance abuse configurations. This information can be used to inform future intervention research and provide insight into effective treatment initiatives for students at risk for substance abuse.

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