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How Purpose in Life and Locus of Control Relate to Alcohol Behaviors
Among College Students

A Project Presented to
the Faculty of the Undergraduate
College of Health and Behavioral Studies
James Madison University

in Partial Fulfillment of the Requirements
for the Degree of Bachelor of Psychology

by Chelsea Marie Woods

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Accepted by the faculty of the Department of Psychology, James Madison University, in partial fulfillment of the requirements for the Degree of Bachelor of Psychology.

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Abstract

Alcohol is a significant problem on university campuses, and rates of alcohol use and abuse are higher on college campuses than those found in the population at large (Rivenus, 1988). This study examines two constructs that may be related to alcohol behavior: purpose and locus of control. Moran (2009) defines purpose as: "an internal compass that integrates engagement in activities that affect others, self-awareness of one's reasons, and the intention to continue these activities" (p. 143). Locus of control refers to the degree to which a person takes responsibility over events in their life. There are two types of locus of control: internal and external (Rotter, 1975). An individual with an internal locus of control perceives that their actions influence events in their life, whereas an individual with an external locus of control believes that their actions have little to no influence over events in the life; instead, events in their life occur as a result of external factors, such as fate, chance, or luck. In this study, 138 undergraduate students were surveyed about their perceived purpose in life, locus of control orientation, and alcohol behaviors, including their drinking habits and experience with alcohol-related problems.

Keywords: purpose in life, locus of control, alcohol, college

How Purpose in Life and Locus of Control Relate to Alcohol Behaviors
Among College Students

Introduction

Alcohol is a major problem on college campuses. University administrators have attempted to reduce drinking behaviors among college students for decades; however, there have been no significant declines in drinking rates on college campuses (Wechsler et al., 2002; Hingson et al., 2009; SAMHSA, 2010). One possible way to understand drinking behavior among college students, as well as the resulting alcohol-related consequences, is to foster purpose in life, as well as more internal loci of control, among individuals. Purpose in life is defined as one's meaningful direction in life (Moran, 2009), and locus of control relates to the extent to which an individual believes he/she can influence events in his/her life (Koski-Jannes, 1994).

The current study examines the association between purpose in life and alcohol behavior. In addition, locus of control will also be examined as having a potential relation with drinking behavior. Previous research with alcoholic populations indicates that locus of control influences reasons why a person chooses to drink, as well as how much they consume (Apao & Damon, 1982; Huebner et al., 1976). A potential relation between locus of control and purpose in life will also be examined. The following literature review discusses studies related to purpose in life, locus of control, and alcohol behaviors.

Literature Review

Purpose in Life

Moran (2009) defines purpose as: "an internal compass that integrates engagement in activities that affect others, self-awareness of one's reasons, and the intention to continue these activities" (p. 143). Further, Moran's study hypothesized that having a purpose indicated giftedness in intrapersonal intelligence, or self-understanding. Giftedness is a special ability, or two standard deviations above the norm (Lubinski & Benbow, 2000; Winner, 1996), so a student who has a purpose in life would have a better understanding of themselves and future goals than their average counterpart.

Participants were surveyed about on six different sections (sense of meaning, sense of identified purpose, life goals, activity involvement, social support, and well-being/thriving). Using a seven-point Likert scale from strongly disagree to strongly agree, their perceived meaning in life (e.g., "I enjoy making plans for the future and working to make them a reality."), their identified purpose (e.g., "I have discovered a satisfying life purpose."), as well as their satisfaction in life (e.g., "The conditions of my life are excellent.") were recorded. In addition, participants underwent a 45-minute clinical interview in which they were asked what they found most important and life and why, where they find support and what are obstacles that they face, and how they perceive their life to be affected by what they deem important. Results from this study showed that students with a purpose had a better understanding of who they are. In addition, these students also showed better coping skills and more reflection than those without a purpose.

Having a purpose also contributes to a sense of subjective psychological well-being (Harlow & Newcomb, 1990; Ryff, 1989), as well as effective coping with past stressful life

events (Debats et al., 1995). Purpose entails finding meaning in one's life, having clear aims, achieving long-term goals, believing that daily activities are worthwhile, and being excited about life (Moran, 2009). It gives an individual a sense that they matter and that their actions have significant implications for the world, driving them forward towards their goals (Bundick et al., 2009). Parsons (1999) asserts that having a clear career goal that incorporates a student's intellectual strengths increases the likelihood of excelling in school, graduating, and transitioning into a career. Thus, it is assumed that students who are engaged in their academic activities are more likely to pursue long-term goals of graduating and finding a career that they enjoy. In contrast, empirical studies show that having poor meaning in life is associated with mental health problems (Kinnier et al., 1994; Kish & Moody, 1989).

Purpose in Life and Alcohol Behavior

Past research has linked purpose in life with alcohol behaviors; specifically, studies have demonstrated associations between excessive alcohol consumption, as well as dependence, and poor purpose in life (Harlowe, Newcomb & Bentler, 1986; Hutzell & Peterson, 1986; Jacobson et al., 1977; Orcutt, 1984; Waisberg & Porter, 1994). Students who have difficulty finding a meaningful purpose may experience frustration and stress, which may lead to maladaptive coping methods like alcohol abuse (Frankl, 1959, 1985; Schuleberg et al., 2008). Reasons for drinking may include escaping from or avoiding the negative feelings associated with a lack of purpose (Wood et al., 1992; Camatta & Nagoshi, 1995; Lecci et al., 2002). These students also drink more frequently and face more alcohol-related problems. Similarly, people in treatment for alcohol dependence also report lower purpose in life scores than those in the general population (Crumbaugh & Carr, 1979; Jacobson et al., 1977; Waisberg & Porter, 1994). However, research

indicates that purpose in life scores increase with treatment (Crumbaugh & Carr, 1979; Jacobsen et al., 1977; Waisberg & Porter, 1994).

The degree to which an individual assesses their purpose in life not only influences their reasons to drink alcohol, but it also influences their reasons to limit their alcohol consumption (Cox & Klinger, 2004). Other studies support this notion, finding that students who find more meaning in their life goals (i.e., finding greater value in and having greater commitment to one's goals) consume less alcohol (Lecci et al., 2002). These individuals also face fewer alcohol-related problems (i.e., poor grades, hangovers, social problems, psychological issues) (Greenfield et al., 1989; Huang et al., 2010; Stritzke & Butt, 2001). It is clear that purpose influences students' behaviors regarding alcohol, whether that means increasing or limiting their alcohol consumption. The latter involves having the ability to self-regulate, which may be easier for students who perceive to have more control over their lives. This relates to a construct called locus of control, which is described in the following research.

Locus of Control

Locus of control refers to the extent to which an individual person takes responsibility for events in their life. In other words, it is how much a person believes that their behavior influences a given situation or, instead, how much the situation is controlled by an external force (e.g., luck, chance, or a powerful other; Koski-Jannes, 1994). There are two types of locus of control: internal and external. A person with an *internal* locus of control feels that their behavior can influence a situation, consequently making them feel more in control of events in their life. On the other hand, a person with an *external* locus of control feels that their behavior has no influence over a situation, consequently making them feel like they have little to no control over these events (Rotter, 1966). Stated simply, a person with an internal locus of control perceives

that they can make things happen, whereas a person with an external locus of control perceives that things simply happen to them. Internal versus external is the difference between being proactive and permissive.

Those with an internal locus of control seem to fare better psychologically than those with an external locus of control; thus, research asserts that having an internal locus of control is favorable (Lefcourt, 1991; Twenge et al., 2004). For example, internal locus of control has been associated with well-being (Shapiro et al., 1996). Joe (1971) demonstrated that a person who simply perceives to have more control than they actually do is better equipped to handle psychological distress and is more optimistic about their situation. In contrast, people with an external locus of control show more depression (Benassi et al., 1988; Hahn, 2000; Ross et al., 1990), anxiety (Morelli, Krotinger, & Moore, 1979), and psychopathology (Joe, 1971). A lack of control is characteristic of depression and anxiety, which could explain why people with an external locus of control are more susceptible to these disorders.

Research has consistently found that internal locus of control is associated with competent, adaptable behavior (Donovan & O'Leary, 1978). Joe (1971) proposed that this is because people with an internal locus of control have greater control over their impulses than those with an external locus of control. Thus, it is assumed that if a person believes that he/she can influence a situation (internal locus of control), then he/she would engage in the most adaptive behavior, in order to yield the best outcome. This notion may explain why internal locus of control is also associated with precautionary and proactive behaviors such as not smoking and engaging in regular physical exercise (Calnan, 1989; Duffy, 1997; Norman, Bennett, Smith, & Murphy, 1997; Strickland, 1978). Alternatively, external locus of control has been associated with weakened self-control, an inability to delay gratification, and maladaptive behaviors—

namely, alcohol abuse (Donovan & O'Leary, 1978; Karabenick & Srull, 1978; Mischel, Zeiss, & Zeiss, 1974).

Locus of Control and Alcohol Behavior

Previous research has linked locus of control to alcohol behavior, particularly in alcoholic populations. Along with depression and anxiety, alcohol dependence is another disorder that entails a perceived lack of control. Research shows that heavy drinking is associated with a lack of control and decreased individual responsibility (Apao & Damon, 1982; Huebner et al., 1978). Donovan and O'Leary (1978) concluded that alcoholics showed more external locus of control in comparison with social drinkers. Another study supported this, finding that a population of alcoholics showed more external locus of control ($p < .001$, Donovan & O'Leary, 1978). In addition, Surgenor et al. (2006) found that participants who experienced more alcohol-related problems reported a lower overall sense of control, a greater loss of control over areas of life that they felt were previously under their control, and a lessened sense of control over multiple domains, particularly regarding the self. External locus of control is not only relevant to alcoholic populations, as Apao and Damon (1982) demonstrated that heavy drinking, in general, is related to external locus of control.

Twenge et al. (2004) argued that externality has been increasing over time, particularly among the college population. In their time-lag study, the researchers compared loci of control among college students from 1960 to 2002. Results showed that the average college student in 2002 had a more external locus of control compared to 80% of college students from the early 1960s. In essence, these findings suggest that there are more college students today who do not see a strong connection between their own personal actions and events in their life. Rather, over four decades, there has been a shift away from believing that individuals have some degree of

control over their own lives. Due to the association between external locus of control and heavy drinking, it is likely that college students who frequently engage in heavy drinking demonstrate an external locus of control.

Alcohol: A Problem on College Campuses

Alcohol is a significant problem on university campuses, and rates of alcohol use and abuse are higher on college campuses than those found in the population at large (Rivenus, 1988). The most recent statistics from the National Institute of Alcohol Abuse and Alcoholism (2013) reveal that more than 80% of college students drink alcohol, and nearly half report binge drinking in the past 2 weeks. Likely due to its social approval, young adults do not seem to consider heavy drinking a significant problem (Broadbent, 1994; Crundall, 1995). Instead, in one study, the majority of students who researchers classified as binge drinkers self-identified as simply "party drinkers" or "occasional drinkers" (White et al., 1997). Differences in labeling (ex. "binge drinker" versus "party drinker") are likely due to the cultural acceptance of alcohol on university campuses.

The college environment has been acknowledged as a major contributor to drinking behavior. This could be the result of the increased availability of alcohol, as well as its social approval (Brennan et al., 1986). Alcohol warrants social approval particularly in Western societies, where binge drinking is often seen as a rite of passage into adulthood (Schulenberg et al., 1996). However, research shows that college students generally drink more than their same-aged peers not attending college. For example, the Substance Abuse and Mental Health Services Association (SAMHSA, 2010) conducted a national survey comparing drinking behaviors between young adults (ages 18-22) enrolled in college and those who were not. Results indicated that 63.9% of college students reported consuming at least one drink in the last month (versus

53.5% of non-college peers), 43.5% reported consuming five or more drinks on one occasion at least once in the last month (versus 37.8% of non-college peers), and 16.0% reported consuming five or more drinks on one occasion five or more times in the last month (versus 11.7% of non-college peers). These differences in drinking behavior support the notion that the college environment may encourage more drinking behavior among young adults. Thus, it is important to study drinking behavior in the college student population, in particular.

Alcohol: Negative Consequences for College Students and Others

Alcohol abuse is one of the major causes of preventable injury and death, especially in Western culture (Wechsler et al., 1994). Among college students alone, the numbers are excessive. For example, it is estimated that each year 599,000 college students between the ages of 18 and 24 are unintentionally injured due to alcohol behavior. Further, an additional 1,825 college students die from alcohol-related unintentional injuries (Hingson & Weitzman, 2009). Despite these preventable injuries and avoidable fatalities of young people, alcohol continues to play a significant role in society, and especially in the college culture (Broadbent, 1994).

Beyond physical injury and death, heavy drinking has been shown to have various negative consequences. It is associated with assault and aggressive behavior, where each year an estimated 696,000 students (ages 18-24) are assaulted by another intoxicated student (Hingson & Weitzman, 2009; Wechsler et al., 1995). This does not include sexual assault. Rather, it is estimated that each year 97,000 students (ages 18-24) are victims of alcohol-related sexual assault or date rape (Hingson & Weitzman, 2009). Further, heavy drinking is associated with unplanned and unsafe sex (Wechsler et al., 1994), where Read et al. (2003) found that, out of 388 students in their first year of college, 22% regretted engaging in sexual activity under the influence of alcohol.

Drinking behavior causes many problems specific to the college environment. For example, one-quarter of college students have reported that their drinking has affected their academic success. Reasons for these academic problems include: missing class, falling behind, receiving poor grades on exams or papers, and having a lower GPA (Engs et al., 1996; Presley et al., 1996a; Presley et al., 1996b; Wechsler et al., 2002). Students who binge drink are also at higher risk for social and psychological issues (Wechsler et al., 1994). In addition, they are also more likely to damage property and get in trouble with authorities (Bennett et al., 1999). All of these issues not only affect the individual engaging in the behavior, but they can also cause stress and issues for others.

Others in the future can be burdened by students' drinking in the present, since those who engage in heavy drinking at an earlier age are at risk for early onset of alcohol dependence and alcoholism later in life. In fact, almost 20% of college students between ages 18 and 24 meet criteria for alcohol dependence; however, only 5% pursued treatment for their drinking problem. Another study surveying college freshman found that students already displayed signs of physical dependence, where 45% reported blackouts, 56% reported increased tolerance, and 5% reported withdrawal symptoms (NIAAA, 2002). White, male students are especially at the risk for alcohol dependence, where binge drinking during college has been linked to alcohol abuse later in life (Dowdall et al., 1998). Universities are aware of these statistics and have attempted to implement intervention programs to curb these numbers. However, there has been little success.

Alcohol: Interventions for Drinking Behavior

Excessive alcohol consumption on college campuses has been nationally recognized, and administrators and researchers have teamed up to implement interventions targeting this behavior. However, there have been no significant declines in excessive drinking among students (Wechsler et al., 2002; Hingson et al., 2009; SAMHSA, 2010). Numerous interventions have targeted interpersonal factors such as surveying students about how much they believe their peers drink, or how much they believe their peers believe it is acceptable to drink (Bosari & Carey, 2001; Lewis & Neighbors, 2006; McNally & Palfai, 2003; Neighbors et al., 2004, 2006; Walters et al., 2007). While it is important to correct misperceptions, interventions that have focused on intrapersonal factors have shown greater efficacy (e.g., BASICS [Brief Alcohol Screening and Intervention for College Students]) (Carey et al., 2006; Dimeff et al., 1999).

Intrapersonal factors include the amount of alcohol a student thinks he/she can consume before becoming intoxicated, or students' attitudes toward drinking (Bosari et al., 2007). Motivational interviewing is another intervention that has received empirical support (Bosari & Carey, 2000; Roberts et al., 2000). This intervention provides students with personalized feedback that show individual students a report of their drinking patterns, expectancies, and alcohol-related problems (Bosari & Carey, 2000). Intrapersonal feedback has been shown to reduce drinking rates, in addition to alcohol-related problems (Lewis and Neighbors, 2006; McNally & Palfai, 2003; Neighbors et al., 2004; Walters et al., 2007). Mallett et al. (2009) propose that adding intrapersonal variables to these interventions may further affect drinking behavior. Thus, if intrapersonal factors, like purpose in life and locus of control, are related to lower drinking rates, then developing purpose in life, as well as more internal loci of control, among college students may be important in reducing the alcohol problem on college campuses.

Current Study

The current study hypothesized that promoting purpose in life, as well as internal locus of control, in the university setting may be one way to intervene in college students' excessive drinking behaviors. College culture often approves and encourages heavy drinking; however, Burke and Stephens (1999) suggested that individual differences may be significant in understanding college students' alcohol-related behavior. Perceived purpose in life and locus of control may be two important sources of individual differences that are worth further investigation. In the current study, I surveyed undergraduate college students about their perceived purpose (meaningful direction in life). I also surveyed students regarding the degree to which they take responsibility for events or attribute them to external factors (locus of control), in addition to their drinking behaviors and alcohol-related problems.

First, I predicted that purpose in life would be negatively correlated with locus of control, such that individuals who reported low purpose in life would also report a more external locus of control. Secondly, I expected that purpose in life would be negatively associated with alcohol use and alcohol-related problems, such that individuals reporting a higher purpose in life would report lower rates of alcohol use and experience fewer alcohol-related problems. Finally, I anticipated that locus of control would be positively associated with alcohol use and alcohol-related problems, such that individuals reporting a higher external locus of control would also report higher rates of alcohol consumption and experience more alcohol-related problems.

Method

Participants

Participants were undergraduate students, recruited from the university's participant pool. Students received compensation in the form of class participation credit for their general education psychology courses. There were 104 females and 32 males, in addition to 2 unknowns that did not complete the demographic page; thus, there were 138 participants total. Among these, 109 identified as White, 13 identified as Black or African American, 7 identified as Hispanic or Latino, 6 identified as Asian, and 1 identified as American Indian or Alaskan Native. Ages ranged from 18 to 24 years old ($M=19.37$, $SD=1.30$). Seventy-five freshmen, 24 sophomores, 25 juniors, and 12 seniors participated in the study. The GPA ranges were from 3.5–4.0 to 2.0–2.4 ($M=4.82$, $SD=.91$, where 2.5–2.9 was coded as '4' and 3.0–3.4 was coded as '5').

Materials

Purpose. Purpose in life was assessed using the Purpose in Life (PIL) Scale, which was developed by Crumbaugh and Maholick (1964). The measure has shown good reliability (split-half and test-retest), and there has been support for the scale's convergent and discriminant validity (Seeman, 1991; Zika & Chamberlain, 1992). In this study, Cronbach's alpha was .85. This is a 20-item test that uses a 5-point Likert scale, where responses closer to 5 indicate a greater sense of purpose. Items are listed as statements, but are not asked in an agree/disagree type format. Rather, responses on the Likert scale are specific to each statement. For example, statements include: "I am usually..." (1=bored, 5=enthusiastic); "Life to me seems..." (1=completely routine, 5=always exciting); "If I should die today, I'd feel that my life has been..." (1=completely worthless, 5=completely worthwhile).

Locus of Control. Two different scales assessed locus of control. These two scales were Rotter's (1966) Locus of Control (LOC) Scale and Craig et al.'s (1984) Locus of Control Behavior Scale (LCBS). The LOC Scale shows good test-retest reliability and concurrent validity (Chandler, 1976; Nowicki & Duke, 1974). In addition, the LCBS has demonstrated reliability (12-month test-retest reliability of 0.76) and convergent validity (a 0.66 correlation with Rotter's LOC scale, Bright et al., 2012).

Rotter's (1966) LOC Scale is a dichotomous measure, consisting of 13 pairs of statements. Participants are instructed to choose the one statement (from each pair) that best describes how they feel. Each pair contains one statement that is more internal and one that is more external. The following are the first three pairs in the measure: 1) "Many of the unhappy things in people's lives are partly due to back luck," versus, "People's misfortunes result from the mistakes they make." 2) "One of the major reasons why we have wars is because people don't take enough interest in politics," versus, "There will always be wars, no matter how hard people try to prevent them." 3) "In the long run, people get the respect they deserve in this world," versus, "Unfortunately, an individual's worth often passes unrecognized no matter how hard he/she tries." Each chosen external response is one point, so a higher score on this test indicates greater external locus of control beliefs.

The LCBS (Craig et al., 1984) contains 17 items that, for the purpose of this study, will require True/False responses. Similar to the LOC, the LCBS includes some statements that are internal and others that are external (e.g., I can anticipate difficulties and take action to avoid them. (T/F); A great deal of what happens to me is probably just a matter of chance. (T/F); Everyone knows that luck or chance determines one's future. (T/F)). For each statement,

participants will circle 'true' if the statement applies to them, or 'false' if the statement does not apply to them.

Drinking Habits. Drinking habits were assessed using selected questions from Labrie and Sessoms (2012). These questions assessed risk of drinking habits based on students' reported frequency and amount of alcohol consumption. A 9-point Likert scale was used, where higher scores indicate riskier drinking habits. The following questions were included: "How many days do you drink per month?" (1=never, 9=every day); "How many drinks on average do you consume each time you drink?" (1=none, 9=13 or more); "How many drinks do you consume each week? (1=none, 9=22 or more); "What is the maximum number of drinks you consumed at one time in the past month?" (1=none, 9=22 or more); and, "How many times have you consumed at least four (if you're a female) or five (if you're a male) drinks within a two-hour period over the past two weeks?" (1=none, 9=10 or more times).

Alcohol-Related Problems. Students were asked about potential alcohol-related problems that they have experienced using two measures: the Brief Young Adult Alcohol Consequences Questionnaire (B-YAACQ; Kahler, Strong, & Read, 2005) and the Rutgers Alcohol Problems Index (RAPI; White & Labouvie, 1989). The B-YAACQ has shown internal reliability, strong unidimensionality and additive properties, reliability over 6 weeks, and sensitivity to change in drinking post-alcohol intervention (Kahler et al., 2008). It is a 24-item measurement that requires yes/no responses regarding each statement. Statements pertain to alcohol-related consequences that the participant has experienced in the last year (e.g., While drinking, I have said or done embarrassing things; I have often found it difficult to limit how much I drink; I have passed out from drinking; I've not been able to remember large stretches of time while drinking heavily).

The RAPI has shown reliability of 0.92 and a stability coefficient of 0.40 over a 3-year period (Miller et al., 2002). It consists of 23 items and asks participants to report how many times a given statement has applied to them in the past year. Participants respond using a scale from 0 to 3, where 0 = none, 1 = 1 to 2 times, 2 = 3 to 5 times, and 3 = more than 5 times. Each item states a problem that could have occurred while an individual was drinking, or as a result of an individual's drinking (e.g., not able to do your homework or study for a test; got into fights with other people (friends, relatives, strangers); went to work or school high or drunk).

While the B-YAACQ gives an indication of the variety of alcohol-related consequences students have experienced, the RAPI provides information about how frequently specific alcohol-related consequences have occurred in the last year. In addition, the B-YAACQ was created for college-age populations, so it should measure problems that are more specific to the college environment. The RAPI measures alcohol-related problems that are more severe.

Demographic Information. Information regarding students' gender, age, year in school, major, cumulative GPA, and ethnicity were recorded.

Procedure

Using the university participant pool website, participants registered for a specific day and time to participate in the study. Participants reported to a classroom location on campus, where they had 30 minutes to complete the paper-based questionnaire packet. At the beginning of the session, participants were given a cover letter stating that the study was anonymous, along with other general information about the study; debriefing forms were distributed to each participant once they completed the given materials. The debriefing forms included contact information for on-campus resources, in the event that students felt they were not in control of any of the items they were asked about in the survey.

Analyses

Multiple correlational analyses determined significant associations among the variables. Specifically, the first hypothesis concerned a potential relation between purpose in life and locus of control; the second with purpose in life and alcohol behavior, including drinking habits/alcohol-related problems; and the third with locus of control and alcohol behavior, including drinking habits and alcohol-related problems. Students' GPA also correlated with purpose in life, locus of control, drinking rates, and alcohol-related problems.

Results

Hypothesis 1: Purpose in Life and Locus of Control

The first hypothesis stated that results would show a significant negative correlation between purpose in life and locus of control, such that individuals who reported low purpose in life would also report a more external locus of control. A Pearson's correlation coefficient was used to test the relationship between purpose in life and locus of control, where locus of control was tested using two different scales. Rotter's Locus of Control (LOC) Scale was positively associated with the Locus of Control of Behavior Scale (LCBS), ($r = .62, p < .001$), such that individuals who reported a more external locus of control on the LOC also reported a more external locus of control on the LCBS. (See Table 1 in Appendix A for means and standard deviations.) There was a significant negative correlation between purpose in life and locus of control, such that individuals who reported a lower purpose in life also reported a more external locus of control ($r = -.34, p < .001$ for LOC; $r = -.35, p < .001$ for LCBS). Thus, the first hypothesis was supported.

Hypothesis 2: Purpose in Life and Alcohol Behavior

The second hypothesis stated that results would show a significant negative correlation between purpose in life and alcohol use, as well as alcohol-related problems, such that individuals reporting a higher purpose in life would also report lower rates of alcohol use and experience fewer alcohol-related problems. Findings show that purpose in life was not significantly related to drinking rates, $r = .05, p = .58$. (See Table 2 in Appendix B for drinking rates.) Results also indicated that purpose in life had a negative relation to both alcohol-related problem scales: the Rutgers' Alcohol Problems Index (RAPI), as well as the Brief-Young Adult Alcohol Consequences Questionnaire (B-YAACQ), such that individuals reporting a lower

purpose in life also reported experiencing more alcohol-related problems. (See Tables 3 and 4 in Appendices C and D, respectively, for percentages of alcohol-related problems.) However, this was not a significant correlation, ($r = -.07$, $p = .44$ for RAPI; $r = -.08$, $p = .37$ for B-YAACQ). Both alcohol-related problem scales showed a significant positive correlation with one another, such that individuals who reported experiencing many alcohol-related problems on the RAPI also reported experiencing more alcohol-related problems on the B-YAACQ, $r = .76$, $p < .001$. Given the results, Hypothesis 2 was not supported by the data.

Hypothesis 3: Locus of Control and Alcohol Behavior

The third hypothesis stated that results would show a significant positive correlation between locus of control and alcohol use, as well as alcohol-related problems, such that individuals reporting a higher external locus of control would also report higher rates of alcohol consumption and experience more alcohol-related problems. A correlation analysis revealed that no significant relation existed between locus of control and drinking rates, ($r = .04$, $p = .65$ for LOC; $r = .02$, $p = .85$ for LCBS). Findings also showed a significant correlation between one of the two locus of control scales and only one of the two alcohol-related problem scales. The Locus of Control Behavior Scale (LCBS) significantly positively related to the Brief-Young Adult Alcohol Consequences Questionnaire (B-YAACQ), such that individuals who reported a more external locus of control on the LCBS also reported experiencing more alcohol-related problems on the B-YAACQ, $r = .20$, $p < .05$. However, no significant correlation existed between the LCBS and the Rutgers Alcohol Problem Index (RAPI), $r = .14$, $p = .16$. The Locus of Control (LOC) Scale did not correlate with either of the B-YAACQ ($r = .03$, $p = .70$), nor the RAPI ($r = .01$, $p = .92$). Since a significant relation existed between the LCBS and the B-YAACQ, this hypothesis was partially supported.

Additional Findings: Student GPA in Relation to Variables of Interest

A correlational analysis also determined associations between students' GPA and with any of the variables: purpose in life, locus of control, drinking rates, and alcohol-related problems. Results did not show any correlation between GPA and purpose in life, $r = .09$, $p = .30$. However, significant negative correlations existed with both locus of control scales ($r = -.23$, $p < .01$ for LOC; $r = -.30$, $p < .01$ for LCBS), as well as with the Brief-Young Adult Alcohol Consequences Questionnaires (B-YAACQ; $r = -.17$, $p < .05$). Students with lower GPA's scored higher on externality of locus of control, and they also reported experiencing more problems on the B-YAACQ.

Discussion

Summary of Findings

Hypothesis 1. The first hypothesis stated that purpose in life would be negatively related to locus of control, such that individuals with a lower purpose in life would report a more external locus of control. The findings supported this hypothesis, as students who perceived themselves as having less of a purpose in life also exhibited a more external locus of control. This means that students who feel they do not have clear direction in life may also feel that they do not have control over their lives. External locus of control tendencies, like believing that one's life is determined by forces outside of personal control, may prevent individuals from pursuing a meaningful purpose in life. If a person believes that their actions do not influence life outcomes, then it is likely that they will be reluctant to take any action at all.

In contrast, students who perceived themselves as having a higher purpose in life showed a more internal locus of control. Students with more purpose may be more self-confident in their abilities to affect different life outcomes. Thus, they are more likely to set long-term goals for themselves, as well as take proactive measures to follow through with these aspirations.

Hypothesis 2. Purpose in life did not affect how much a person drank, nor did it affect the number of alcohol-related problems they experienced. Purpose in life was also unrelated to students' GPA. Contrary to previous findings that suggest purpose in life is correlated with drinking habits and alcohol-related problems, individuals, even with a high purpose in life, reported high rates of drinking, as well as experiencing alcohol-related problems (Greenfield et al., 1989; Huang et al., 2010; Lecci et al., 2002; Stritze & Butt, 2001). This could be because many purpose-in-life and alcohol studies have specifically targeted alcoholic populations, as opposed to university students (Harlowe et al., 1986; Hutzell & Peterson, 1986; Jacobson et al.,

1977; Orcutt, 1984; Waisberg & Porter, 1994). Therefore, the second hypothesis that purpose in life would be related to alcohol behavior was not supported by the data. While purpose in life was not significantly related to alcohol behavior and academic success, locus of control did show some correlation with these two variables.

Hypothesis 3. The third hypothesis in this study stated that locus of control would be positively related to alcohol behavior, including drinking rates and alcohol-related problems, such that individuals with a more external locus of control would report higher rates of drinking, as well as experience more alcohol-related problems. There were no significant correlations between locus of control and drinking rates. Interestingly, however, one of the locus of control scales was correlated with one of the alcohol-related problem scales. Specifically, the Locus of Control of Behavior Scale (LCBS) was positively related to the Brief-Young Adult Alcohol Consequences Questionnaire (B-YAACQ), but not the Rutgers Alcohol Problem Index (RAPI). This could be because the RAPI is typically used to assess alcoholism in more clinical settings, where the problems surveyed are of a greater severity (e.g., Had withdrawal symptoms, that is, felt sick because you stopped or cut down on drinking; Felt that you had a problem with alcohol; Wanted to stop drinking but couldn't; Was told by a friend, neighbor, or relative to stop or cut down drinking; White & Labouvie, 1989). The B-YAACQ was created to target problems that are more specific to college-age students (e.g., While drinking, I have said or done embarrassing things; I have had a hangover [headache, sick stomach] the morning after I had been drinking; I have taken foolish risks when I have been drinking; Kahler et al., 2005).

Individuals with a more external locus of control reported that they experienced more alcohol-related problems. However, externality of locus of control was unrelated to how much alcohol an individual consumes on a monthly basis. This is an interesting finding because it

shows that the problems that students face are not necessarily the result of how much they drink; rather, the alcohol-related problems may be more related to how much control a student believes he/she has. In other words, two students could consume the same amount of alcohol, but the student with a more internal locus of control would experience fewer alcohol-related problems than the student with a more external locus of control. Thus, having a more external locus of control may make someone more vulnerable to letting their drinking habits negatively affect multiple areas of their life (e.g., academia, interpersonal relationships, self-image).

Additional Findings. Students who reported having a higher GPA also reported having a more internal locus of control. This finding is consistent with previous research that indicates students who perceive to have more control over life outcomes are more likely to engage in adaptable behavior (Donovan & O'Leary, 1978). A student who believes their grade in a class is determined by how hard they work is more likely to put time and effort into studying, as opposed to a student who believes that, no matter how hard they try, their grade is predetermined by whatever grade the professor is going to give them. Students with a higher GPA also experienced fewer alcohol-related problems, which also supports previous research (Engs et al., 1996; Presley et al., 1996a; Presley et al., 1996b; Wechsler et al., 2002).

Limitations

There were several limitations in this study. Random sampling was an issue in this study, since all of the participants were volunteers from the university's participant pool. The university itself has a higher female to male ratio, and this was clearly reflected in the sample (104 females: 32 males). Thus, the data did not provide as much information about drinking habits of, or alcohol-related problems experienced by male undergraduate students. In addition, the ratio of year in school was not representative of the entire population, particularly upperclassmen. All of

the participants earned credit for class through the university participant pool. Typically, the classes that use the participant pool are lower level psychology classes, mainly consisting of freshman students. Since these are lower level classes, there were not as many sophomores and juniors, as well as very few seniors in the sample.

Another limitation has to do with the scales used. In this study, two scales determined whether students had a more internal, or a more external locus of control. Rotter's Locus of Control (LOC) Scale was developed in 1966, making it much older. Thus, Craig et al. (1984) created a modified version, known as the Locus of Control of Behavior Scale (LCBS), which, among clinical populations, has been shown to better predict relapse than the original locus of control scale. The LCBS showed higher, significant correlations among the variables in this study, as opposed to the LOC. This is important to note if any future studies are to focus on locus of control; perhaps the LCBS would be a more representative scale of locus of control.

Applications to College Life

In the current study, locus of control beliefs affected whether or not students experienced alcohol-related problems, as well as their academic success, in terms of their GPA. This means that students who believe that their personal actions influence life outcomes—those with a more internal locus of control—are less likely to experience negative alcohol-related consequences and are more likely to be successful in college. Further, research shows that having a more internal locus of control is associated with better psychological well-being (Shapiro et al., 1996). Universities may benefit their students by creating environments that foster more internal loci of control among the student body. This could involve empowering students through promoting autonomy and motivating students to take responsibility for the decisions they make—or neglect to make—in college.

An interesting finding in this study was that locus of control influenced the number of alcohol-related problems students experienced, as opposed to actual drinking rates affecting the extent to which they faced negative consequences. Some students with a more internal locus of control drank as much as those with a more external locus of control, but they did not experience as many alcohol-related problems. In other words, these students may continue to drink heavily because they do not experience alcohol-related problems. Even though excessive alcohol consumption negatively affects an individual's health, a student may not be influenced to cut back on their drinking if they do not experience many, or any, negative consequences. While university interventions have primarily focused on reducing drinking rates among their students (Wechsler et al., 2002; Hingson et al., 2009; SAMHSA, 2010), perhaps it would also be beneficial to target control beliefs among students, in hopes of decreasing alcohol-related problems.

In order to decrease alcohol-related problems, it is important that universities identify and recognize which alcohol-related problems are most prevalent among the college population—especially given the negative correlation with GPA. Some of the alcohol-related problems surveyed on the B-YAACQ were directly, or somewhat, related to academic life. For example, in this study, 24.6% of students reported not being able to do homework or study for a test 1-2 times, 10.1% reported going to work or school high or drunk 1-2 times, 31.9% reported neglecting responsibilities 1-2 times, and 16.7% reported missing a day (or part of a day) of school work 1-2 times. All of these alcohol-related problems can greatly hinder students' academic success, especially in their first year of college when they are still transitioning into the college environment.

Reducing alcohol-related problems in college may also benefit students later in life. Given that the college culture promotes drinking as a social activity (Brennan et al., 1986), and that drinking rates are higher among the college population than the population at large (Rivenus, 1988), this population is particularly vulnerable to developing alcohol dependence. As stated before, research has shown that 20% of college students meet criteria for alcohol dependence, while many more already show signs of physical dependence (NIAAA, 2002). In the current study, this was also true, as 33.3% reported increased tolerance, and another 33.3% reported experiencing blackouts. While excessive alcohol consumption and severe alcohol-related problems are often seen as “the norm” in the university setting, these habits can develop into serious physical and psychological addictions later in life, and even during one’s time in college.

Future Studies

Future studies should focus on targeting alcohol-related problems among university students. This could be done by administering surveys, like the B-YAACQ and the RAPI, to college students in all years of school. It would be important to look at the types of problems, the severity of the problems, and the frequency of the problems among each specific grade. In other words, freshman students may experience more alcohol-related problems that affect their academic life, whereas senior students may experience more alcohol-related problems that affect their interpersonal relationships. Having more information about the kinds, severities, and frequencies of alcohol-related problems may help universities better understand the alcohol behaviors among their students.

In addition, more attention should be given to locus of control, as well as how to influence students’ locus of control. Perhaps an experimental design could test an intervention aimed at developing a more internal locus of control among individuals. Koski-Jannes (1994)

indicates that locus of control can be developed, particularly in situations involving alcohol. For example, alcoholics in treatment were shown to develop a more internal locus of control throughout their time in treatment, as opposed to those who were not treated for their alcoholism. Given these findings, it seems possible that a locus of control intervention could be created that directly targets college-aged students.

Despite the fact that some alcohol interventions have shown to be effective in reducing drinking rates among college students, a reduction in drinking rates may not necessarily mean that students will not still experience alcohol-related problems. Locus of control may be a variable of interest in future university efforts to curb alcohol behavior. The current study has shown that, whether or not a student believes that he/she has control over their life does not only influence the frequency and severity of alcohol-related consequences that they experience, but it also influences their academic success.

Further, the results of this study also indicate that having a more internal locus of control is associated with having a greater purpose in life. If universities spent more time empowering their students through promoting more internal loci of control, then students would not only fare better academically, but it is likely that they would also feel a greater, more meaningful direction in life. Since college is a time of self-discovery and important decision-making, it is a vital window of time in which individuals can learn that they have the ability to determine the direction of their lives—before and after they walk across the stage.

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Appendix A

Table 1. Means and Standard Deviations of Main Variables

Variable	M	SD
Purpose in Life (PIL)	3.98	.43
Locus of Control (LOC) Scale	5.66	2.19
Locus of Control of Behavior Scale (LCBS)	3.25	1.83
Rutgers Alcohol Problem Index (RAPI)	28.66	5.53
Brief-Young Adult Alcohol Consequences Questionnaire (B-YAACQ)	6.49	4.48

Appendix B

Table 2. Percentages of Students' Self-Reported Drinking Habits

<i>Item 1. How many days do you drink per month?</i>								
Never	Once	Twice	3-4 times	5-6 times	7 times	8 times	9 or more times	Every day
13.8	2.9	7.2	23.2	15.2	11.6	11.6	14.5	-
<i>Item 2. How many days do you drink per week?</i>								
Never	One	Two	Three	Four	Five	Six	Seven	Every day
17.4	30.4	38.4	11.6	1.4	.7	-	-	-
<i>Item 3. How many drinks, on average, do you consume each time you drink?</i>								
Never	One	Two	Three	Four	Five	Six	Seven	8 or more
13.0	5.8	7.2	9.4	23.2	15.2	13.0	6.5	6.5
<i>Item 4. What is the maximum number of drinks you consumed at one time in the past month?</i>								
None	One	Two	Three	Four	Five	6-10	11-15	16-20
15.9	1.4	3.6	4.3	4.3	18.8	37.7	10.1	3.6
<i>Item 5. How many times have you consumed at least four (if you're a female) or five (if you're a male) drinks over a two-hour period, within the last month?</i>								
Never	One	Two	Three	Four	Five	Six	Seven	8 or more
31.9	13.8	15.2	11.6	8.7	3.6	5.8	2.2	7.2

Appendix C

Table 3. Percentages of Students who Experience Alcohol-Related Problems Based on Rutgers's Alcohol Problem Index (RAPI) Responses

Problem	%		
	1-2 times	3-5 times	More than 5 times
Not able to do your homework or study for a test	24.6	4.3	2.2
Got into fights with other people (friends, relatives, strangers)	23.9	7.2	3.6
Missed out on other things because you spent too much money on alcohol	5.1	2.2	2.2
Went to work or school high or drunk	10.1	2.9	1.4
Caused shame or embarrassment to someone	27.5	2.2	1.4
Neglected your responsibilities	31.9	2.9	2.2
Relatives avoided you	1.4	-	-
Felt that you needed more alcohol than you used to in order to get the same effect	16.7	12.3	5.8
Tried to control your drinking (tried to drink only at certain times of the day or in certain places; that is, you tried to change your pattern of drinking)	19.6	5.8	2.2
Had withdrawal symptoms, that is, felt sick because you stopped or cut down on drinking	2.9	-	-
Noticed a change in your personality	4.3	.7	.7
Felt that you had a problem with alcohol	2.9	-	-
Missed a day (or part of a day) of school work	16.7	1.4	1.4
Wanted to stop drinking but couldn't	2.2	-	-
Suddenly found yourself in a place that you could not remember getting to	21.0	-	-
Passed out or fainted suddenly	13.0	1.4	.7
Had a fight, argument, or bad feeling with a friend	26.8	7.2	1.4
Had a fight, argument, or bad feeling with a family member	4.3	.7	-
Kept drinking when you promised yourself not to	19.6	2.9	.7
Felt you were going crazy	10.1	2.2	.7
Had a bad time	39.1	11.6	2.9
Felt physically or psychologically dependent on alcohol	2.9	.7	-
Was told by a friend, neighbor, or relative to stop or cut down drinking	6.5	-	.7

Appendix D

Table 4. Percentage of Students who Experienced Alcohol-Related Problems Based on Brief-Young Adult Alcohol Consequences Questionnaire (B-YAACQ) Responses

Item	%
While drinking, I have said or done embarrassing things.	73.9
I have had a hangover (headache, sick stomach) the morning after I had been drinking.	70.3
I have felt very sick to my stomach, or I have thrown up after drinking.	63.0
When drinking, I have done impulsive things I have regretted later.	43.5
I have had less energy or felt tired because of my drinking.	42.8
I have taken foolish risks when I have been drinking.	39.1
I often have ended up drinking on nights when I had planned not to drink.	34.1
I have found that I needed larger amounts of alcohol to feel any effect, or that I could no longer get high or drunk on the amount that used to get me high or drunk.	33.3
I've not been able to remember large stretches of time while drinking heavily.	33.3
I have felt badly about myself because of my drinking.	32.6
I have passed out from drinking.	26.1
My drinking has gotten me into a sexual situation that I later regretted.	23.2
I have spent too much time drinking.	22.5
I have become very rude, obnoxious, or insulting after drinking.	18.8
I have not gone to work, or I have missed classes at school because of drinking, a hangover, or an illness caused by drinking.	17.4
My drinking has created problems between myself and my boyfriend/girlfriend/spouse, parents, or other near relatives.	15.9
I have woken up in an unexpected place after heavy drinking.	12.3
I have often found it difficult to limit how much I drink.	10.1
I have driven a car when I knew I had too much to drink to drive safely.	8.0
The quality of my work or school suffered because of my drinking.	7.2
I have neglected my obligations to family, work, or school because of my drinking.	7.2
My physical appearance has been harmed by my drinking.	6.5
I have been overweight because of my drinking.	5.1
I have felt like I needed a drink after I'd gotten up (that is, before breakfast).	2.2