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# A Test of Religious Commitment and Spiritual Transcendence as Independent Predictors of Underage Alcohol Use and Alcohol-Related Problems

Jessica L. Burris, Shannon E. Sauer, and Charles R. Carlson
University of Kentucky

Religiousness exerts a protective effect against underage alcohol use, but it is largely unknown whether its protective quality extends equally to alcohol-related problems. It is also unclear to what extent spirituality, which is related to religiousness, exerts a similar protective effect. The current study examined whether facets of religiousness and spirituality—religious commitment and spiritual transcendence—were differentially related to alcohol use and alcohol-related problems among an underage sample of young adults. Despite being underage, most participants ($n$ = 344; 61% female) reported having an alcoholic drink at least once a month and having at least two to three drinks per occasion. Results of hierarchical linear regression analyses that controlled for demographics, positive alcohol expectancies, and impulsivity found unique associations between religious commitment and spiritual transcendence and alcohol use. Specifically, religious commitment operated as a protective factor, while spiritual transcendence operated as a risk factor for alcohol use. Neither religious commitment nor spiritual transcendence predicted alcohol-related problems. Results of this study inform future research by highlighting the importance of studying religiousness and spirituality as unique constructs with the potential for differential predictive utility.

*Keywords:* religiousness, spirituality, alcohol use, problem drinking, underage drinking

Religion and spirituality are salient aspects of the human experience (Astin et al., 2005; Gallup & Bezilla, 1992; U.S. Census Bureau, 2009). When making decisions about what to do and not to do, many people take into consideration religious and spiritual factors (McCullough & Willoughby, 2009). Among adolescents and young adults, in particular, religiousness and spirituality may guide decisions related to lifestyle habits, including alcohol use. In youth, greater religiousness and spirituality is generally associated with less alcohol use (e.g., Mason & Windle, 2002; Stewart, 2001), which lends support to the idea of religiousness and spirituality promoting healthy development (see King & Benson, 2006, for a review). The available literature, however, has some limitations, and little is known about the extent to which religiousness and spirituality influence alcohol use and alcohol-related problems independently of other important factors.

## A Closer Look at Underage Alcohol Use, Religiousness, and Spirituality

Some people choose to begin alcohol use prior to the time period in which their drinking is legal. Drinking alcohol before age 21, hereafter referred to as "underage alcohol use," is associated with risks that are often not shared with alcohol use after one reaches the legal drinking age. Perhaps most significant, heavy alcohol use early in development can cause deleterious brain effects, including impairment in neuropsychological functioning and brain development (Brown et al., 2008; Squeglia, Spadoni, Infante, Myers, & Tapert, 2009; Tapert, Caldwell, & Burke, 2004/2005). The legal repercussions of underage alcohol use (e.g., misdemeanor charges) should not be easily dismissed, either. Furthermore, heavy alcohol use

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Jessica L. Burris, Department of Psychology and Department of Behavioral Science, University of Kentucky; Shannon E. Sauer and Charles R. Carlson, Department of Psychology, University of Kentucky.

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Correspondence concerning this article should be addressed to Jessica L. Burris, Department of Behavioral Science, University of Kentucky, 108 Medical Behavioral Science Building, Lexington, KY 40536. E-mail: burris.jessica@gmail.com

in adolescence and early adulthood predicts alcohol misuse and alcohol use disorders later in life (Brown et al., 2008; Hawkins et al., 1997; Hingson, Heeren, Jamanka, & Howland, 2000; O'Neill, Parra, & Sher, 2001). In sum, underage alcohol use places individuals at risk for a number of problems, some of which may persist long into adulthood.

Given the significant and negative consequences associated with underage alcohol use, it is imperative that risk and protective factors be identified, after which targeted interventions may be designed and disseminated. Research has identified environmental factors, cognitive processes, personality traits, and demographic variables positively linked to underage alcohol use (see Beman, 1995; Ham & Hope, 2003, for reviews). At the environmental level, college campuses are risky for underage young adults because there is easy access to alcohol (Weschler, Lee, Nelson, & Kuo, 2002). At the individual level, more positive alcohol expectancies (Ham & Hope, 2003; Lewis & O'Neill, 2000; Thompson et al., 2009) and greater impulsivity (Hittner & Swickert, 2006; Soloff, Lynch, & Moss, 2000) predict greater alcohol use. Finally, male sex (Chen et al., 2004/2005; Courtney & Polich, 2009) and White/Caucasian race (Chen et al., 2004/2005; Courtney & Polich, 2009; Ham & Hope, 2003) predict heavier alcohol use. Thus, a comprehensive model of underage alcohol use must account for a number of risk factors, only some of which are modifiable.

In the same way that risk factors for underage alcohol use have been identified, some protective factors are also known. Religiousness and spirituality appear to be among the most robust protective factors for underage alcohol use. Research shows that several indicators of religiousness—including frequency of attending religious services/activities, belief in God, frequency of prayer, and the importance of religion in one's life—are negatively associated with a positive lifetime prevalence of alcohol use, frequency and quantity of alcohol use, and the occurrence of binge drinking episodes in underage samples (Mason & Windle, 2002; Nonnemaker, McNeely, & Blum, 2003; Rostosky, Danner, & Riggle, 2007; Wills, Yaeger, & Sandy, 2003). Similarly, indicators of spirituality, such as the self-rated importance of spiritual beliefs, and perceived strength or support from one's spiritual beliefs and/or practices, are also negatively correlated with frequency and quantity of alcohol use and binge drinking episodes in underage samples (Leigh, Bowen, & Marlatt, 2005; Stewart, 2001; Sussman, Skara, Rodriguez, & Pokhrel, 2006). In sum, religiousness and spirituality may have a constraining influence on the alcohol use of underage persons.

Although interest in the effects of religiousness and spirituality on underage alcohol use is growing, this area of research is still in its infancy. Unfortunately, weak measurement and poor operational definition of the constructs of interest have hampered research in this area (Rew & Wong, 2006). One major problem is that religiousness and spirituality are often measured in unreliable ways, such as the use of only one to three indicators or items (e.g., Mason & Windle, 2002; Rostosky et al., 2007). Also, religiousness and spirituality are often treated as though they are interchangeable, despite evidence that they have unique qualities that distinguish them from one another (Burris, Smith, & Carlson, 2009; Hodge, Andereck, & Montoya, 2007; Saucier & Skrypinska, 2006; Zinnbauer et al., 1997). A third problem is that researchers are sometimes unclear about precisely which aspects of religiousness and spirituality they choose to measure, instead making broad statements about religiousness and spirituality as a whole, while completely ignoring the multifaceted nature of these constructs (Hill & Pargament, 2003; Zinnbauer et al., 1997). Finally, religiousness and spirituality are rarely studied in such a way that one can determine to what extent these factors contribute variance above and beyond other, more established predictors of health behaviors (Rew & Wong, 2006), despite research that suggests a comprehensive model of behavioral determinants is best. Due to these problems, it is hard to aggregate data across studies and determine the true strength of the relationship between religiousness and spirituality and underage alcohol use.

To move the field forward, it is necessary to measure religiousness and spirituality in a way that is both reliable and consistent with conceptual understanding. Most researchers would agree that religiousness and spirituality are complex and multidimensional constructs (Hill et al., 2000; Zinnbauer, Pargament, & Scott, 1999), and most researchers would further agree that religiousness and spirituality are distinct

but overlapping constructs (Hill et al., 2000; Miller & Thoresen, 2003; Zinnbauer et al., 1999). Although operational definitions vary greatly (Zinnbauer et al., 1997, 1999), religiousness and spirituality both involve a search for the sacred (Hill & Pargament, 2003; Pargament, 1997), and as a result, both involve goal-oriented pursuits. Where they depart is that religiousness entails a normative set of beliefs and practices that guide an individual's search for the sacred, whereas spirituality allows for a more personal determination of the pathways toward the sacred (Piedmont, 1999; Saucier & Skrypinska, 2006). Regardless, religiousness and spirituality are clearly not at odds with one another; in fact, religiousness and spirituality often go hand in hand.

### Current Study

Since many religions promote alcohol abstinence, persons with strong religious commitment (i.e., high levels of religious beliefs and adherence to religious practices) should be protected against alcohol-related problems by virtue of their abstaining from alcohol entirely or consuming alcohol only on rare occasions and in limited quantities. Remarkably, though, little research directly compares whether the protective qualities of religiousness, including religious commitment, extend equally to alcohol use and alcohol-related problems (for an exception, see Mason & Windle, 2002). It is also not understood how spirituality relates to underage alcohol use once its overlap with religiousness is taken into account. Specifically, no research has examined whether spiritual transcendence, which emphasizes a "personal search for connection with a larger sacredness" (Piedmont, 1999, p. 988), is an independent predictor of underage alcohol use. To help fill these gaps in the literature, the primary aim of this study was to assess the impact of religious commitment and spiritual transcendence—controlling for their overlap with each other—on underage alcohol use and alcohol-related problems. Due the importance of testing a comprehensive model, a secondary study aim was to assess the incremental predictive utility of religious commitment and spiritual transcendence over and above established predictors of underage alcohol use and alcohol-related problems, namely, age, gender, race, ethnicity, positive alcohol expectancies, and impulsivity. In an underage sample of young adults, the authors hypothesized that the unique aspects of both religious commitment and spiritual transcendence would negatively predict alcohol use and alcohol-related problems, and that the addition of these variables would provide a significant increment in prediction above all other predictors included in the model.

## Method

### Participants

All 344 participants were between 18 and 20 years old ($M_{age}$ = 18.8, $SD$ = 0.68), and attended a large, public university in the southeastern United States. Most participants were female (60.5%, $n$ = 208). The racial and ethnic background of participants was as follows: White/Caucasian, non-Hispanic (88.9%, $n$ = 306), Black/African American (5.5%, $n$ = 19), Asian (2.0%, $n$ = 7), multiracial (1.7%, $n$ = 6), Hispanic/Latino (1.5%, $n$ = 5), and American Indian/Alaskan Native (0.4%, $n$ = 1). Participants' religious preference included Christianity (80.5%, $n$ = 277), Buddhism (0.3%, $n$ = 1), Hinduism (0.3%, $n$ = 1), Islam (0.3%, $n$ = 1), other (7.8%, $n$ = 27), and none (10.2%, $n$ = 35); less than 1% ($n$ = 2) of participants did not report a religious preference. Participants' employment status included unemployed (62.2%, $n$ = 227), employed part time (33.2%, $n$ = 121), employed full time (0.5%, $n$ = 2), and "other" (4.1%, $n$ = 15).

### Procedures

Due to the focus on underage alcohol use among young adults, eligibility for this study required being a college student between 18 and 20 years old. Participants for this online questionnaire study were recruited through entry-level psychology courses that were open for enrollment to all university students. Course instructors announced the study in class, and participants received extra credit toward their coursework for completion. To guard against coercion, students could complete an alternative extra credit assignment if they declined study participation. All participants provided informed consent and responses were kept anonymous. The University of Kentucky Institutional Review Board approved

the research procedures. Data collection occurred during the spring of 2009.

## Measures

**Alcohol use and alcohol-related problems.** The 14-item Drinking Styles Questionnaire (DSQ) is a comprehensive measure of alcohol use and misuse (Smith, McCarthy, & Goldman, 1995). The Drinking/Drunkenness subscale assesses typical frequency and quantity of alcohol use, most alcohol consumed on one occasion, lifetime experience of hangover/nausea/vomiting, frequency of drunkenness, and proportion of time that drinking leads to drunkenness. The Alcohol-Related Problems subscale assesses the occurrence of negative outcomes related to alcohol use, including fights, difficulty with friends and family, and legal/criminal involvement. Participants responded to DSQ items by choosing from available response options. The Drinking/Drunkenness subscale and Alcohol-Related Problems subscale correlate highly with collateral reports of drinking in male and female samples, giving support to the convergent validity of the DSQ (Smith et al., 1995). In this sample, internal consistency for the Drinking/Drunkenness and Alcohol-Related Problems subscales were .75 and .71, respectively.

**Religious commitment.** The Religious Commitment Inventory-10 (RCI-10) measures "the degree to which a person adheres to his or her religious values, beliefs, and practices, and uses them in daily living" (Worthington et al., 2003, p. 85). Sample items from the RCI-10 include "My religious beliefs lie behind my whole approach to life," "I enjoy working in the activities of my religious organization," and "Religion is especially important to me because it answers many questions about the meaning of life." Responses to all 10 items are rated on a 5-point scale (1 = *not at all true* and 5 = *totally true*). A total score and two subscale scores (Interpersonal and Intrapersonal Religious Commitment) are calculated. Previous research found that the RCI-10 has strong test-retest reliability and high convergent and discriminant validity (Worthington et al., 2003). In this sample, the RCI-10 subscale scores correlated highly ($r = .87$, $p < .001$), and internal consistency for the total scale was $\alpha = .95$. Consequently, the current measure of religious commitment was the RCI-10 total score.

**Spiritual transcendence.** Spiritual transcendence is a multifaceted construct that encompasses a belief in the unity and purpose of life, a sense of connection to others, and the extent of emotional support one experiences as a result of spiritual pursuits, such as prayer and meditation (Piedmont, 1999). The short form of the Spiritual Transcendence Scale (STS) assessed participants' level of spiritual transcendence. Participants responded to STS items such as "In the quiet of my prayers and/or meditations, I find a sense of wholeness" and "I feel that on a higher level all of us share a common bond," using a Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). A total score was calculated by summing all nine items, and higher scores indicate greater spiritual transcendence. Strong support for the psychometric properties of the STS exists (French & Piedmont, 2004, 2005), and the parent version of the STS correlates with other measures of religiousness and spirituality in hypothesized ways (Piedmont, 1999; Piedmont, Ciarrocchi, Dy-Liacco, & Williams, 2009). Further, incremental predictive validity for the STS in personality and psychosocial research exists (Burris, Brechting, Salsman, & Carlson, 2009; Piedmont, 1999; Piedmont et al., 2009). Internal consistency was $\alpha = .76$ in this sample.

**Alcohol expectancies.** The Alcohol Expectancy Questionnaire (AEQ) measures expected positive consequences of alcohol consumption, including social and personal enhancement (Brown, Christiansen, & Goldman, 1987; Brown, Goldman, Inn, & Anderson, 1980). Sample items include "When I'm drinking, it's easier to open up and express my feelings" and "Drinking makes me feel good." Participants indicated disagreement ("0") or agreement ("1") with each of the 68 items on the AEQ. Scoring involved aggregating item scores to produce subscale scores, which were then aggregated to produce total positive alcohol expectancy scores. With AEQ scores consistently related to alcohol use and abuse (e.g., Brown et al., 1987; Lewis & O'Neill, 2000), there is strong support for the validity of the AEQ. Internal consistency for the AEQ total scale was high ($\alpha = .95$).

**Impulsivity.** The 59-item revised version of the UPPS Impulsive Behavior Scale (Whiteside & Lynam, 2001) measured impulsivity. In addition to subscales measuring sensation seeking, lack of premeditation, lack of perseverance,

and negative urgency, the UPPS + P also measures positive urgency (Cyders et al., 2007). Participants responded to each item using a Likert scale (1 = *strongly agree* to 4 = *strongly disagree*), and items were scored such that higher scores indicate greater impulsivity. Strong psychometric support for the UPPS and the additional measure of positive urgency exists (Cyders et al., 2007; Whiteside & Lynam, 2001; Whiteside, Lynam, Miller, & Reynolds, 2005). Since the five UPPS + P subscales correlated highly, only the total scale was considered ($\alpha = .93$).

## Results

Participants' mean scores on study measures are found in Table 1. Regarding participants' lifetime prevalence of alcohol use, 89.2% ($n = 304$) of this underage sample reported having had at least one alcoholic drink. Most participants (73.3%, $n = 252$) reported having an alcoholic drink at least once a month, many of whom drink at least one to two times each week (50.0%, $n = 172$). The typical quantity of alcohol consumed for most participants (75.6%, $n = 260$) was at least "moderate," which corresponds to having two to three drinks per occasion. Finally, the frequency of drunkenness was such that most participants (59.3%, $n = 204$) reported getting drunk at least once a month, with 37.2% ($n = 128$) of these participants getting drunk about once a week.

Bivariate correlation analyses comprised the first step in assessing the relationships among religious commitment, spiritual transcendence, alcohol use, and alcohol-related problems. As seen in Table 1, religious commitment was negatively associated with both alcohol use ($r = -.33$, $p < .001$) and alcohol-related problems ($r = -.18$, $p < .001$), while spiritual transcendence was not significantly associated with these variables (both $p$s $> .25$). As indicated by a correlation of $r = .54$ ($p < .001$), religious commitment and spiritual transcendence are positively related to one another.

To determine the unique influence of religious commitment and spiritual transcendence on alcohol use and alcohol-related problems, over and above established predictors, the authors conducted two hierarchical linear regression analyses. As seen in Table 2, nearly half of the total amount of variance in alcohol use was explained by the model: $R^2 = .47$; $F(8, 230) = 25.01$, $p < .001$. Entered first were demographic variables, then impulsivity and alcohol expectancies. The first two steps in the model provided a significant increment in prediction ($R^2$ $\Delta$s = .05 and .35, both $p$s $< .05$), as did the final step in the model, which involved the addition of religious commitment and spiritual transcendence ($R^2$ $\Delta = .07$, $p < .001$). Religious commitment demonstrated a unique, negative association with alcohol use ($\beta = -.32$, $p < .001$), while spiritual transcendence correlated positively with alcohol use ($\beta = .17$, $p < .01$).

Results of hierarchical linear regression analyses for alcohol-related problems may also be found in Table 2. Eighteen percent of the vari-

Table 1
*Bivariate Correlations Among Study Variables and Descriptive Statistics*

| Variable | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. DSQ Drinking/drunkenness | — | | | | | |
| 2. DSQ Alcohol-related problems | .507** | — | | | | |
| 3. RCI-10 | −.335** | −.175** | — | | | |
| 4. STS | −.061 | −.046 | .544** | — | | |
| 5. AEQ | .617** | .331** | −.227** | −.062 | — | |
| 6. UPPS + P | .383** | .331** | −.154** | −.115 | .379** | — |
| Mean (*SD*) | 18.84 (6.98) | 0.76 (0.98) | 25.37 (11.01) | 31.67 (6.28) | 34.68 (17.09) | 130.92 (20.30) |
| Range | 5–30 | 0–4 | 10–50 | 13–45 | 0–68 | 70–188 |

*Note.* The DSQ Drinking/Drunkenness and DSQ Alcohol-Related Problems measures are from Smith et al. (1995); the Religious Commitment Inventory-10 (RCI-10) is from Worthington et al. (2003); the Spiritual Transcendence Scale (STS) is from French & Piedmont (2004); the Alcohol Expectancies Questionnaire is from Brown et al. (1980); the UPPS + P is from Cyders et al. (2007) and Whiteside & Lynam (2001); *SD* = standard deviation; all correlations are Pearson's *r*.
* $p < .05$ (two-tailed). ** $p < .01$ (two-tailed).

Table 2
*Hierarchical Linear Regression Models Predicting Alcohol Use and Alcohol-Related Problems Among Underage Young Adults*

| Variable | β | *p* | Total $R^2$ | $R^2$ Δ | *p* |
|---|---|---|---|---|---|
| DSQ Drinking/drunkenness | | | | | |
| Step 1 | | | .051 | .051 | .018 |
| Age | .089 | .174 | | | |
| Sex | .151 | .022 | | | |
| Race | .128 | .051 | | | |
| Ethnicity | .092 | .159 | | | |
| Step 2 | | | .405 | .354 | .000 |
| UPPS + P Impulsivity | .167 | .003 | | | |
| AEQ Alcohol expectancies | .538 | .000 | | | |
| Step 3 | | | .474 | .069 | .000 |
| RCI-10 Religiousness | −.324 | .000 | | | |
| STS Spirituality | .165 | .005 | | | |
| DSQ Alcohol-related problems | | | | | |
| Step 1 | | | .043 | .043 | .043 |
| Age | .113 | .086 | | | |
| Sex | .161 | .015 | | | |
| Race | .077 | .244 | | | |
| Ethnicity | −.034 | .602 | | | |
| Step 2 | | | .168 | .125 | .000 |
| UPPS + P Impulsivity | .220 | .001 | | | |
| AEQ Alcohol Expectancies | .226 | .001 | | | |
| Step 3 | | | .182 | .014 | .158 |
| RCI-10 Religiousness | −.144 | .055 | | | |
| STS Spirituality | .068 | .351 | | | |

*Note.* The full model for DSQ Drinking/drunkenness was significant, $F(8, 230) = 25.01$, $p < .001$, as was the full model for DSQ Alcohol-Related Problems, $F(8, 229) = 6.13$, $p < .001$.

ance in alcohol-related problems was explained, $R^2 = .18$; $F(8, 229) = 6.13$, $p < .001$. Only the variables entered in the first (demographic variables) and second (impulsivity and alcohol expectancies) steps of the model provided a significant increment in prediction ($R^2$ Δs = .04 and .13, respectively, both *p*s < .05). In step three, religious commitment contributed marginally significant variance to the model (β = −.14, $p = .06$), but spiritual transcendence's unique association with alcohol-related problems did not approach to the cutoff for statistical significance (β = .07, $p = .35$).

## Discussion

The primary goal of this study was to examine how the unique aspects of religious commitment and spiritual transcendence function as predictors of underage alcohol use and related problems. To achieve this aim, religious commitment and spiritual transcendence were measured separately and then entered into a regression model that statistically controlled for overlap between the constructs. Results of this analysis showed that the unique aspects of religious commitment correlate negatively with underage alcohol use, while the unique aspects of spiritual transcendence correlate positively with underage alcohol use. Although the authors did not hypothesize this differential predictive utility, it is consistent with other research exploring the roles of religious commitment and spiritual transcendence in the lives of young adults. Specifically, research has shown that religious commitment is a protective factor for sexual risk-taking and the experience of psychological distress, while spiritual transcendence is a risk factor for these outcomes (Burris, Brechting, et al., 2009; Burris, Smith, et al., 2009). In addition, Hodge and colleagues (2007) found that adults who are spiritual but not religious report more alcohol use, tobacco smoking, and gambling frequency and expenditures than adults who are both spiritual and religious. Thus, results of the current study and previous work suggest researchers may

need to consider the protective qualities of religiousness as distinct from the potentially risky qualities of spirituality.

There are several hypotheses that may account for the seemingly contradictory relationships that religious commitment and spiritual transcendence have with underage alcohol use and other risky behaviors. Although both religiousness and spirituality emphasize a search for the sacred, there might be important differences in how, and to what extent, religiousness and spirituality direct that search. On the one hand, organized religion provides standards to judge and guide behavior, thereby operating as a mode of social control for individuals with a high level of religious commitment (Koenig, 2001). For example, members of highly proscriptive faiths drink alcohol less frequently than members of less proscriptive faiths (Park, Ashton, Causey, & Moon, 1998). Additionally, individuals with high levels of religious commitment often affiliate with others who are similarly minded; therefore, social context may further minimize exposure to alcohol use. On the other hand, spirituality allows for a more subjective evaluation of values, beliefs, and behaviors than tradition- or social-oriented religiousness (Saucier & Skrypinska, 2006; Piedmont et al., 2009). So in the absence of religious commitment, an individual may actually sanctify alcohol use, tobacco use, hallucinogen use, sexual intercourse, and so forth, and use these behaviors as a means to discover meaning, purpose, and connectedness with the self, others, or the transcendent, which is the essence of spirituality (MacKnee, 1997). Further research is needed to test the above hypotheses about the means by which religious commitment and spiritual transcendence influence the behavior of young adults.

The second aim of this study was to determine the incremental predictive utility of religious commitment and spiritual transcendence over and above established predictors of underage alcohol use and related problems. In partial support of our hypothesis, religious commitment and spiritual transcendence were robust predictors of underage alcohol use but not alcohol-related problems. In fact, religious commitment and spiritual transcendence explained variance in alcohol use above and beyond established demographic, cognitive, and personality predictors. Previous research of religiousness and spirituality has failed to address the question of construct validity and incremental predictive power (Rew & Wong, 2006; Sloan & Bagiella, 2002), but by testing a comprehensive model of underage alcohol use and alcohol-related problems, the current study addressed the limitations of previous work. Of note, our model was better able to explain alcohol use ($R^2 = 47\%$) compared to alcohol-related problems ($R^2 = 18\%$). While restriction of range in alcohol-related problems may partly explain our model's limited predictive power, similar differences in prediction for alcohol use versus alcohol-related problems exist in the literature (Werner, Walker, & Greene, 1995). Thus, it appears that the factors contributing to alcohol use are similar to, but different from, the factors leading to alcohol-related problems (Ham & Hope, 2003). If this is indeed the case, then intervention efforts should be tailored to the variable of interest, whether it is alcohol use itself or the associated risk for negative consequences.

There are, of course, limitations of this study that deserve comment. Since study results are based on a cross-sectional design, it is unknown to what extent the association between religious commitment and spiritual transcendence and underage alcohol use changes over time. Consequently, research should explore the development of religiousness and spirituality, and assess the influence that these variables have—independently and in combination—during the period of "emerging adulthood" (Arnett, 2000). A second and major limitation concerns the generalizability of study findings. Due to restriction of range in terms of participants' race and ethnicity, there are some limitations when generalizing the current results to racial and ethnic minority groups. Similarly, there will be limitations when generalizing beyond predominately Christian samples, because for all practical purposes, the current sample is best described as Christian. Since previous research has found the RCI-10 and STS demonstrate adequate reliability and validity across cultures and religious groups (Piedmont & Leach, 2002; Piedmont et al., 2009; Worthington et al., 2003), replication studies could use both the RCI-10 and STS with samples reflecting greater diversity. At the present time, though, the authors cannot make definitive statements about the roles of religious commitment and spiritual transcendence in the lives of young adults with minority status, whether in terms of race, ethnicity, or

religious preference. Finally, participants were recruited from only one university, which further calls into question the extent to which study findings are representative of the larger population of underage young adults. However, it should be appreciated that the typical frequency and quantity of alcohol use reported by participants, as well as the nature of their alcohol-related problems, is consistent with similar population-based and national studies of alcohol use among college students and other young adults (Chen et al., 2004/2005; Weschler et al., 2002).

## Conclusions

This study of religious commitment and spiritual transcendence found that both variables contribute significantly to the prediction of underage alcohol use over and above other important predictors. In regression analyses, religious commitment emerged as a protective factor against underage alcohol use, while spiritual transcendence was a risk factor for underage alcohol use. In contrast, neither religious commitment nor spiritual transcendence was a significant predictor of alcohol-related problems. To elucidate the above relationships, it was necessary to measure religious commitment and spiritual transcendence using reliable and valid instruments. Although the number of psychometrically sound measures that capture the constructs of religiousness and spirituality increased substantially in recent years (Hill, 2005; Hill & Pargament, 2003), too few studies involve simultaneous measurement of both religiousness and spirituality. Without measuring these constructs at the same time, researchers risk making the assumption that these variables operate in the same manner. By making this assumption, the opportunity to discover behavioral correlates of religiousness distinct from spirituality is missed. Given the current finding that religious commitment and spiritual transcendence demonstrate unique, seemingly contradictory relationships with underage alcohol use, it is imperative that future researchers follow recommendations to differentiate clearly between the constructs, both in actual measurement and conceptual discussion (Saucier & Skrypinska, 2006; Seeman, Dubin, & Seeman, 2003).

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