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The Role of Religious Beliefs and Behaviors in Predicting Underage Alcohol Use

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Religious beliefs have consistently emerged as significantly and inversely related to alcohol use. This article seeks further understanding of this relationship by exploring the role of religious behaviors in this relationship in three ways. First, we aim to determine whether the relationship between religious beliefs and alcohol use differs with regard to frequency of participation in religious behaviors. Next, we seek to explore the role of religious behavior as a moderator of the relationship between religious beliefs and alcohol use. We find support for the hypothesis that individuals who possess strong religious beliefs but do not frequently take part in religious practices (e.g., attend services, engage in prayer) would report more frequent alcohol use than those who profess similar beliefs but more frequently participate in religious practices.

KEYWORDS *alcohol, behaviors, beliefs, religion*

INTRODUCTION

Religious beliefs have consistently emerged as significantly and inversely related to alcohol use. In an extensive review, Koenig (2001) identified approximately 100 studies that investigated this association between religious beliefs and alcohol use and found that 80% of the studies showed that

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possessing greater religious beliefs was significantly associated with less alcohol use and fewer alcohol-related problems. Furthermore, this pattern remains even after accounting for demographic variables (e.g., age, ethnic background, socioeconomic status) and frequently cited predictors of alcohol use (e.g., peer group, parental attachment, parental monitoring) (Corwyn & Benda, 2000). Studies assessing the relationship between religious beliefs and alcohol use often use frequency of engagement in religious behaviors, such as service attendance and praying (e.g., Merrill, Folsom, & Christopherson, 2005; Michalak, Trocki, & Bond, 2007; Sinha, Cnaan, & Gelles, 2007), as a proxy for religious beliefs. This is problematic because individuals may possess religious beliefs without engaging in religious behaviors. Therefore, it is important to differentiate between possessing religious beliefs and practicing religious behaviors when predicting alcohol consumption and consequences. The present study will explore the differential ability of religious beliefs and religious behaviors in predicting alcohol use.

The relationship between religious beliefs and alcohol consumption has been explained in several ways. One explanation is that religion offers specific proscriptions against defiling the sanctity of one's physical, mental, and spiritual well-being (Worthington, 1993). In addition, religion places strong value on self-restraint, which may be inconsistent with heavy alcohol use (Regnerus, 2003). Another reason for the negative association between alcohol consumption and religious beliefs is that many Judeo-Christian religions discourage breaking societal laws, such as underage alcohol use (Benda, Pope, & Kelleher, 2006). Finally, possessing God-control beliefs, cognitions that God participates in decision making, may help individuals make adaptive choices. For instance, some individuals may feel that they personally lack the self-control to resist peer pressure, but believing God is with them may empower them to refuse alcohol or avoid settings where alcohol may be present and more easily used (Goggin, Murray, Malcarne, Brown, & Wallston, 2007).

The above explanations for the relationship between religious beliefs and alcohol consumption do not assume that individuals holding such beliefs must engage in religious behaviors. Therefore, it would be inappropriate to use religious behaviors as a proxy for possessing such religious beliefs. Measures that assess religious beliefs as subscribing to an internal set of beliefs that may have direct implications for alcohol-related decisions are needed to evaluate the utility of the above explanations in accounting for the inverse relationship between religious beliefs and alcohol consumption.

It is, however, also important to investigate the relationship between religious behaviors and alcohol use. Several recent studies have investigated the association between religious behaviors and alcohol consumption using a Likert scale assessing frequency of service attendance and praying (Merrill et al., 2005; Michalak, Trocki, & Bond, 2007; Sinha et al., 2007). These studies provide evidence for the inverse relationship between religious behaviors and alcohol consumption. It is possible that engaging in a higher frequency

of religious behaviors denotes greater religious beliefs; however, it is important to consider that individuals may engage in religious behaviors without religious beliefs due to parental or societal pressures.

Benda, Pope, and Kelleher (2006) recently examined relationships between religious behaviors, religious beliefs (which they define as importance of religion in an individual's life), and alcohol consumption in seventh- to ninth-grade students. They found that rating religion as important was a stronger predictor of lower alcohol consumption than was adherence to religious behaviors. This study provides support for the notion that religious beliefs and religious behaviors cannot be used interchangeably. This pattern of results may be accounted for by the age group of the study's participants. It seems likely that religious behaviors predict alcohol consumption to a lesser degree among early adolescents because their parents may require them to attend services or pray. Therefore, engaging in religious behaviors may not denote subscribing to the religious beliefs that discourage alcohol consumption.

During later adolescence and young adulthood, many individuals reassess the tenets of their upbringing, including their religious beliefs and practices (Erikson, 1980; Fowler, 2000). College attendance may provide the first opportunity to experience substantial personal freedom, allowing the individual to diverge from the expectations and norms of family and friends. Separated from these moral and behavioral influences by physical and psychological distance, many young adults reappraise religious beliefs and often investigate the impact these beliefs will have on their behavior. Given this freedom to choose to participate in religious behaviors, it seems likely that individuals who continue to engage in religious practices subscribe more strongly to their religious beliefs than individuals who endorse beliefs but do not follow through with practices. Therefore, in a college student sample, religious behaviors may be a stronger negative predictor of alcohol consumption than religious beliefs.

The present study sought to explore relationships between religious beliefs, religious behaviors, and alcohol consumption. As previously stated, we expected that religious behaviors would be a stronger predictor of alcohol consumption than religious beliefs. In addition, we sought to explore whether engaging in religious behaviors moderated the relationship between possessing religious beliefs and consuming less alcohol. Religious behaviors as a moderator would suggest that possessing religious beliefs predicts lesser alcohol consumption only for individuals who engage in religious behaviors.

METHOD

Participants

The present study included 159 participants who were recruited through their enrollment in undergraduate classes at a southeastern university.

Participants ranged in age from 18 to 20 years, with a mean age of 19.25 years ($SD = 0.8$). The sample was 91% Caucasian, 7% African American, and 2% of participants reported other ethnic backgrounds. The sample included 38 males and 120 females (one person did not respond to this item). With regard to religious affiliation, 36% of participants reported Protestantism, 31% reported Catholicism, 22% reported other religious affiliations, 10% reported no religious affiliation, and one individual (1%) did not respond to this item.

Procedures

Participants were recruited through undergraduate psychology courses. Course instructors announced the study in class and participants were given extra credit toward their coursework for completing the study. In order to guard against coercion, students were provided an alternative extra credit assignment if they declined participation in the study. The Institutional Review Board of the University of Kentucky approved the study protocol and the treatment of participants was in accordance with the ethical standards of the American Psychological Association. All participants signed informed consent forms. All questionnaires were kept anonymous by assigning four-digit identification numbers to each questionnaire packet.

Measures

DEMOGRAPHICS

Participants were asked to indicate their age, gender, ethnic background, current religious preference, and highest level of education attained.

RELIGIOUS BELIEFS

To assess religious beliefs, we administered the 12-item short form of the Faith Maturity Scale (Piedmont, 2001) developed by Benson, Donahue, and Erickson (1993). It emphasizes values and behavioral manifestations or indicators of faith rather than focusing on strict assent to or belief in particular doctrines. Participants responded to each item using a 7-point scale where 1 represented "never true" and 7 represented "always true." Sample items include "My life is committed to the God of my understanding" and "I try to apply my faith to political and social issues." A global faith-maturity score was created by averaging all responses. Cronbach's alpha was .93 in this study, indicating good internal consistency.

RELIGIOUS BEHAVIOR

Religious behavior was assessed using two single-item measures, one for frequency of service attendance and the other for frequency of prayer.

To assess frequency of service attendance, participants were asked, "How often do you attend religious services?" Response options included "never," "rarely," "once or twice a month," and "about once a week or more." This item was scored using a scale where 0 represented "never" and 3 represented "about once a week or more." To assess frequency of prayer, participants were asked, "How often do you pray?" Response options included "never," "less than once a week," "once a week," "several times a week," "once a day," and "several times a day." This item was scored on a scale where 0 represented "never" and 5 represented "several times a day." In our sample, a strong significant correlation existed between frequency of religious service attendance and frequency of prayer ($r = .64, p < .01$); in order to simplify subsequent analyses, a religious behavior composite score was computed by summing z scores of these measures.

ALCOHOL USE

Three indicators of alcohol use were used: average alcohol consumption, frequency of alcohol use, and problems associated with alcohol use. Recent research suggests single-item reports of alcohol consumption are reliable and valid (Dollinger & Malmquist, 2009). Participants indicated the average number of alcoholic beverages consumed per occasion in the past year (e.g., three drinks in one evening). Responses ranged from 0, indicating no alcohol use, to a maximum of 25. Participants also reported the frequency of alcohol consumption during the past year (e.g., once per week). Responses ranged from 0, indicating no alcohol use, to 14, indicating daily alcohol use. Finally, participants indicated the frequency with which they have experienced objections to their drinking or other problems related to their drinking. Responses ranged from 0, indicating no problems, to 4, indicating frequent problems and objections. In our sample, significant relationships existed between average number of alcoholic beverages consumed per occasion (1), frequency of alcohol consumption (2), and drinking-related problems (3) (1 and 2, $r = .82, p < .01$; 1 and 3, $r = .55, p < .01$; 2 and 3, $r = .61, p < .01$); therefore similar composite score was used as our measure of alcohol consumption.

SOCIAL DESIRABILITY

To assess and control for social desirability, we administered the Marlowe-Crowne Form C (Reynolds, 1982), a 13-item measure that assesses a person's tendency to engage in impression management. Participants responded to each item by indicating either "true" or "false." Sample items include "I sometimes feel resentful when I don't get my way," and "No matter who I'm talking to, I'm always a good listener." Higher scores on the

MC-C are indicative of greater impression management. Cronbach's alpha in this study was $\alpha = .70$, indicating good internal consistency.

RESULTS

First, we investigated whether significant relationships existed between demographic characteristics and our variables of interest. As can be seen in Table 1, ethnicity was significantly associated with alcohol consumption, such that Caucasian participants had higher alcohol composite scores than participants from other ethnic backgrounds. In addition, gender and ethnicity were significantly related to religious behavior, such that female participants and ethnic minorities were more likely to engage in religious behaviors than males and Caucasians. Given the significant relationships between gender and ethnicity and the variables of interest (alcohol consumption and religious behaviors), they were controlled for in subsequent analyses. Social desirability was not related to religious beliefs, religious behaviors, or alcohol consumption in our sample and were dropped from further analyses.

Religious Beliefs versus Religious Behavior in Predicting Alcohol Consumption

Our first hypothesis was that religious behavior would be a stronger predictor of alcohol consumption in college students than statements of religious beliefs. Data confirmed this prediction; the coefficients for this analysis can be seen in step 2 of Table 2. After controlling for gender and ethnicity, when religious beliefs and religious behaviors were entered into the model simultaneously, only religious behaviors significantly predicted alcohol consumption. Results suggest that the more individuals engage in religious behaviors, the less likely they are to consume alcohol. This was consistent with our prediction that continuing to engage in religious behaviors away from the presence of caregivers may indicate a stronger commitment to one's religious beliefs.

TABLE 1 Relationships between Demographic Characteristics and Religious Beliefs, Religious Behaviors, and Alcohol Consumption

Demographic	Religious beliefs	Religious behaviors	Alcohol consumption
Gender	.01	.168*	-.05
Ethnicity	-.08	-.19*	.19*
Social desirability	.14	.003	.06

* $p < .05$.

TABLE 2 Religious Beliefs and Religious Behavior Predicting Alcohol Use Outcomes

Step and measure	R ²	ΔR ²	F for Δ in R ²	df	Final beta
<i>Dependent Variable: Alcohol Consumption Composite</i>					
Step 1: Covariates	.036	.036	2.87	2,153	
Step 2:	.220	.184***	10.80	4,151	
Religious beliefs					-.15
Religious behavior					-.32**
Step 3: Behavior × Religious beliefs	.319	.099***	14.26	5,150	-.320***

** $p < .01$; *** $p < .001$.

Religious Behavior as a Moderator

Following the analytic strategy set forth by Aiken and West (1991), analyses were conducted using a three-step hierarchical regression procedure with a selected alpha level of .05. In the first step of the hierarchical multiple regression, gender and ethnicity were entered as covariates to control for their relationships with the alcohol use outcomes. The second step of the regression included the simultaneous entry of religious behavior and religious beliefs variables. The third step involved the entry of the interaction term. A significant interaction term was interpreted by plotting the moderation effect. The slopes of the simple regression lines were then tested to determine whether the slopes were significantly different from zero. Given the directional hypotheses in the present study, one-tailed p -values are presented for simple regression lines.

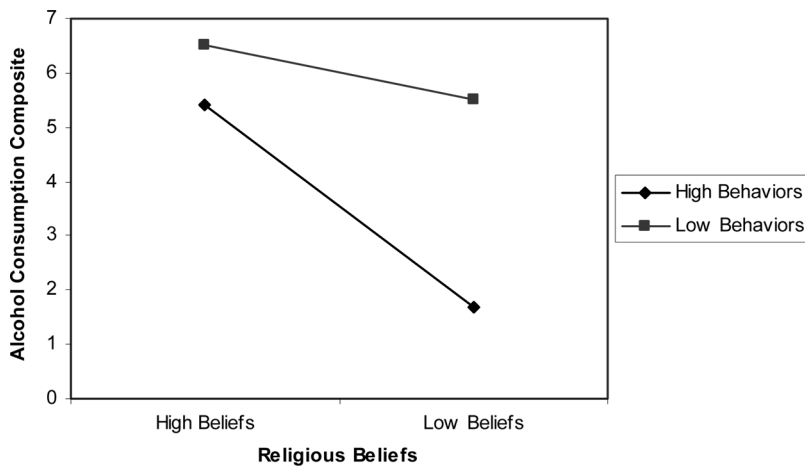


FIGURE 1 Relationship between religious beliefs and alcohol consequences under conditions of low and high frequency of religious behavior.

As can be seen in Table 2, religious behavior moderated the relationship between religious beliefs and our alcohol consumption composite variable. Simple slope analyses, which can be seen in Figure 1, revealed that religious beliefs were a significant inverse predictor of alcohol use only when individuals engage in behaviors that correspond with their beliefs. At high levels of religious behavior (1 SD above the mean), religious beliefs were inversely related to frequency of alcohol use, $B = -1.778$, $p < .001$, but not at low levels of religious behavior (1 SD below the mean), $B = .619$, $p = .184$. Individuals low in religious behavior and high in religious beliefs reported more frequent alcohol use than individuals high in both religious beliefs and religious behavior. Simple slope analyses showed that individuals whose religious beliefs and behaviors were inconsistent (i.e., they were high in religious beliefs but low in religious behavior) did not significantly differ with regard to alcohol consumption from those low in religious beliefs regardless of religious behavior.

DISCUSSION

A consistent finding in the literature has been that people who report strong religious beliefs tend to engage in lower levels of substance use and have fewer problems with substances than those without strong religious beliefs. Since religious behaviors are often used as a proxy for religious beliefs, a major goal of the present study was to investigate whether the predictive utility of this construct differs when it is assessed directly or through religious behaviors. As expected, we found significant inverse bivariate relationships between religious beliefs and behaviors and alcohol use. In addition, consistent with our hypothesis, results suggest that for college students engaging in religious behaviors, such as service attendance and praying frequently, is a stronger inverse predictor of alcohol use than possessing religious beliefs. This finding is inconsistent with Benda, Pope, and Kelleher (2006), who found that religious beliefs were a stronger predictor of alcohol use than were religious behaviors. This discrepancy can likely be accounted for by the ages of the participants sampled in each study. The Benda and colleagues (2006) study examined seventh- to ninth-grade students, still living with their parents. Thus, they may be more likely to endorse a high degree of adherence to religious behaviors due to their parents' wishes, regardless of their personal religious beliefs. The present study assessed college students, who are more likely to experience the freedom to choose to participate in religious behaviors. Continuing to engage in religious behaviors away from parents may suggest stronger commitment to one's religious beliefs that goes beyond a profession of faith and extends to life choices such as alcohol consumption.

A second goal of the present study was to investigate the role of religious behaviors in the relationship between religious beliefs and alcohol

consequences. First, we explored whether the relationship between religious beliefs and alcohol use differs for individuals whose religious behavior fails to correspond with their religious beliefs. Results were consistent with the hypothesis that when people do not engage in the religious behaviors (attending services, prayer) that are consistent with their professed beliefs, the inverse relationship between religious beliefs and alcohol use is disrupted. The link between religious beliefs and diminished substance use seems to exist only in instances where there is concordance between religious beliefs and practices.

Perhaps religious behaviors acts as a moderator because participation in religious practices may lead individuals to gain access to social settings where opportunities to use alcohol are limited and/or the social norms discourage alcohol use (Oetting & Beauvais, 1987; Wodarski & Fisher, 1986).

A few limitations of the present study must be considered. Several characteristics of the samples may limit the generalizability of the current findings. First, females were over-represented in the study sample. Given that one of the most persistent findings in the scientific study of religion is that females exhibit greater religious beliefs and religious participation than males (Donahue, 1985; Donahue & Benson, 1995; Gallup & Bezilla, 1992), this over-representation likely does not compromise the external validity of the findings for the study reported here. However, it is important that future research include more males in order to determine whether the pattern of findings observed in this study generalize to samples that have a greater proportion of males. Second, the ethnic diversity of the samples was limited. Including larger numbers of ethnic minority participants would permit the investigation of whether these findings replicate across ethnic groups. Third, the educational status of the participants may limit results to this particular cohort of underage drinkers. It is important to determine whether these findings also hold for individuals of this age that are not attending college. Fourth, in this study, participants were all under the legal drinking age; thus, it would be useful to replicate this study with individuals who are legally allowed to consume alcohol in order to determine whether the results reported in this study are robust across diverse age ranges and social restrictions on alcohol use. Finally, the religious traditions represented in our sample were predominantly Christian, likely due to the geographic region in which the study took place; future research should investigate whether these relationships between religious beliefs, behaviors, and alcohol use replicate in more diverse religious samples. Finally, another potential limitation is that the principal dependent measures of this study were self-report in nature. Although research has demonstrated that using self-report questionnaires yields reliable and valid adolescent substance use data (Hindelang, Hirschi, & Weis, 1981), replicating these findings using behavioral observations will provide greater external validity. Another methodological limitation may be that the time frame of alcohol consumption in the past year may not

match up with the measures of religious behaviors which assessed current tendencies.

Overall, the present results serve as an important foundation for identifying those conditions under which religious beliefs are linked to underage alcohol consumption. In summary, we found that religious behaviors were a stronger predictor of alcohol consumption than religious beliefs. Further, we found that religious behaviors acted as a moderator in the relationship between religious beliefs and alcohol use. Findings suggest more efforts should be placed on understanding the conditions under which religious beliefs and behaviors influence decisions underage adults make about alcohol use. The problem of underage alcohol use is pervasive in the United States and has been repeatedly associated with significant mortality and morbidity (Arria, Dohey, Mezzich, Bukstein, & Van Thiel, 1995; Kann et al., 1996; Windle, 1999). If religious beliefs and practices play a major protective role in limiting underage alcohol use, we need to understand more fully the means by which this occurs so that this understanding can be used to develop more effective intervention strategies. For example, if individuals with strong religious beliefs and limited religious behavior adherence are using alcohol to cope with feelings of cognitive dissonance regarding the discrepancy between their beliefs and behaviors, interventions may be targeted at reducing this dissonance. This can be achieved by either changing the individual's beliefs or their behaviors so that the two are more in line.

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