Religion-supported programs and teens' alcohol use: Investigating the influence of involvement in religion-supported extracurricular activities on the alcohol use of religious and secular teens.

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Abstract

With the advent of Charitable Choice funding and the expansion of many programs oriented towards young people, there are an increasing number of opportunities for American teens to participate in extracurricular activities supported by religious groups. This study investigates the influence of involvement in religion-supported extracurricular activities on drinking alcohol and getting drunk. Special attention is given to the role of peers for understanding why involvement in religion-supported extracurricular activities might discourage alcohol use among both secular *and* religious teens. Using two waves of data from the National Longitudinal Study of Adolescent Health this study finds that involvement in religion-supported programs reduces alcohol use among both secular and religious teen. The effect is greater for boys than for girls. Friends' alcohol and drug use do not appear to be the mechanism that explains why teens involved in religion-supported extracurricular programs are less likely to drink and get drunk. Rather, it appears that teens who participate in religion-supported programs are less likely to drink alcohol and get drunk because of processes associated with the program's structure, pro-social values, and the large number of dedicated and concerned adult volunteers that these programs seem to attract.

A major social problem in the United States is the high prevalence of alcohol use among adolescents. In a recent survey, of US high school seniors, 45% reported that they drank alcohol and 30% reported having gotten drunk at least one time in the past month (Johnston, O, Malley, Bachman, and Schulenberg 2007). Heavy drinking is associated with many negative outcomes, including physical health problems, car accidents, suicide, drowning, and risky sex.

Religion has increasingly received attention as a factor that can limit alcohol use. More religious and religiously active young people are less likely to use a variety of substances, including alcohol, drugs, and cigarettes (Chu 2007; Jang and Johnson 2001; Bahr, Hawks, and Wang 1993; Cochran 1993; Bahr et al. 1998; Bock, Cochran, and Beeghley 1987; Hadaway, Elifson, Petersen 1984; Brown et al., 2001; Ford and Kadushin 2002). With the advent of Charitable Choice funding and the expansion of many programs oriented towards young people, there are increasing opportunities for American teens to participate in extracurricular activities that are not explicitly religious but are supported by a religious group or organization.

In general researchers have found that involvement in extracurricular programs tends to be associated with positive youth outcomes, such as better grades and a lower risk of dropping out (for a review see Feldman and Matjasko 2005). However, alcohol use seems to be an exception (Eccles and Barber 1999; Borden et al., 2001). Teens who are actively involved in some types of activities, such as athletics, are more likely to use alcohol, in part, because their friends are more likely to drink, and alcohol has a relatively high status among American youth (Eccles and Barber 1999; Borden et al., 2001). There is, however, reason to think that involvement in religion-supported programs, regardless of the type of activity, may reduce alcohol use.

This study investigates the influence of involvement in religion-supported extracurricular activities on drinking alcohol and getting drunk. Special attention is given to the role of peers'

alcohol and drug use for understanding why involvement in religion-supported extracurricular activities might discourage alcohol use among secular *and* religious teens. This study finds that participation in religion-supported programs reduces the frequency of alcohol use and getting drunk. The effects of religion-supported programs operate irrespective of teens' personal religious beliefs, and are greater among boys than among girls. Friends' alcohol and drug use does not appear to be the mechanism that explains why teens involved in religion-supported programs are less likely to drink and get drunk. Rather, processes associated with the program's structure, pro-social values, and the large numbers of dedicated and concerned adult volunteers that these programs tend to attract appear to explain why teens involved in religion-supported activities are less likely to use alcohol.

Religion and Substance Use

It is well established that religiosity and spirituality are associated with reduced risk of substance use (Chitwood, Weiss and Leukefeld 2008). Researchers typically find that more religious individuals are less likely to drink alcohol, smoke cigarettes, and use drugs (Chu 2007; Jang and Johnson 2001; Bahr, Hawks, and Wang 1993; Cochran 1993; Bahr et al. 1998; Bock, Cochran, and Beeghley 1987; Hadaway, Elifson, Petersen 1984; Brown et al., 2001; Ford and Kadushin 2002). Most religions encourage moderation and discourage participation in behaviors that are illegal. Because alcohol use is a status offense, more religious teens are less likely to drink, in part, because they are more likely to abide by religious precepts that discourage illegal behaviors and encourage moderation. Additionally, regular interaction with other religious people is likely to increase exposure to norms against underage drinking, social sanctions associated with getting drunk, and limit opportunities to get alcohol and attend parties where teens are drinking.

While all major religions generally discourage participation in illegal behaviors, conservative Protestants and some "strict religions," such as the Latter Day Saints, have placed a particularly heavy emphasis on discouraging substance use. In contrast, some religious groups, like Catholics, discourage participation in illegal behaviors, like underage drinking, but do not proscribe adults' alcohol use, as long as it is in moderation. Research (Adamczyk and Palmer 2008; Brown et al. 2001; Bock et al. 1987) has found that teens who identify with these stricter religious groups are less likely to use substances like drugs and alcohol than teens who identify with more liberal religious faiths. Because religions differ in the extent to which they discourage moderate alcohol use and excessive drinking, this study examines both drinking and getting drunk.

Most of the research that has been done on the relationship between religion and substance use has focused on the influence of personal religious beliefs and behaviors, and religious identity for shaping substance use. However, in part because of the Charitable Choice amendment and several other initiatives put forth by the Bush and Clinton administrations, religious groups are increasingly offering extracurricular activities to local youth. Like personal religiosity beliefs and religious behaviors, involvement in religion-supported extracurricular activities may shape participants' alcohol use.

Extracurricular Involvement and Substance Use

Because so many researchers and organizations are interested in limiting teens' substance use, a number of studies have examined the influence of extracurricular program involvement on shaping teen outcomes (for a review see Feldman and Matjasko 2005). In general this research tends to find that teens who are more involved in organized extracurricular activities have higher educational trajectories (Eccles and Barber 1999), better academic outcomes (Crosnoe 2002; Feldman and Matjasko 2005), and a decreased risk of dropping out of school (Mahoney 2000;

Mahoney and Cairns 1997). Research on substance use, however, has not consistently found the same positive influence of participation in extracurricular programs. Some studies have found that teens who are more involved in extracurricular activities are less likely to participate in antisocial behaviors (Mahoney and Stattin 2000; Abbey et al. 2006; Elder et al., 2000), which are typically measured as some combination of drinking, smoking, drug use and/or delinquency. However, research that has focused on specific substances and participation in specific types of activities has found that teens who are involved in team sports, are more likely to use alcohol (Eccles and Barber 1999; Crosnoe 2002).

The relationship between athletic involvement and alcohol use appears to be driven in part by peers who are more likely to drink (Eccles and Barber 1999; Borden et al., 2001). Teens who are involved in athletics may, as a result, be more popular, leading to an increase in informal opportunities to meet friends. Since alcohol use is generally seen as a high status activity (especially compared to smoking and drug use) during adolescence and is likely to be found at many informal unsupervised gatherings, teens who participate in more activities or the most popular activities (i.e., athletics) are more likely to drink, in part because they are more likely to have friends who drink (Crosnoe 2002). Just as friends may explain why teens who are more involved in athletic activities are more likely to use alcohol, there is reason to think that prosocial friends, in addition to other positive influences, might shape the relationship between involvement in religion-supported programs and teen alcohol use.

Religion-Supported Programs and Substance Use

As mentioned above, many religious organizations offer activities and programs that extend beyond typical religion-focused youth groups and are oriented towards all interested teens. Afterschool, weekend, and evening programs that are supported by religious organizations may be

able to capitalize on the positive influence that religion and extracurricular activities generally have on youth outcomes. Below I explain why, as a result of social learning processes, social control, and fewer opportunities to drink, teens who are involved in religion-supported extracurricular programs may be less likely to use alcohol.

The activities and services that religious groups offer typically attract a lot of volunteers, who tend to share the same religious beliefs and values of the organization (Ebaugh et al. 2003; Pipes and Egaugh 2002). Additionally, while the activity may be open to all teens, religiously active youth are more likely to hear about religion-supported activities. As a result, the people who teens will encounter in religion-supported activities are likely to support religion-inspired pro-social norms against underage drinking. From a social learning perspective (Sutherland, 1930; Akers 1985), the acceptability of alcohol use, in part, depends on the nature and strength of the norms and values regarding alcohol use by the people with whom a teen interacts. Through regular interactions with adults and teens who are involved in religion-supported extracurricular programs, participants should be more likely to adopt attitudes that are consistent with religious precepts regarding underage drinking.

Along with religious norms that discourage substance use, teens who are involved in these programs may be less likely to drink alcohol because of their bonds to other teens and adults involved in the program (Hirschi 1969). Religious teachings tend to emphasize responsibility to others, and an obligation to assist people in need. As a result, religion-supported activities are more likely than activities sponsored by other organizations to attract volunteers who see themselves as providing an important service to youth, and as a result, may be more committed to the youth involved in the program (Cnaan, 1999). Participants who develop relationships with adult

volunteers and other participants may be less likely to drink because they care about what these people would think of their alcohol use if they heard.

Finally, teens that develop relationships with other participants at religion-supported extracurricular programs may have fewer opportunities to find places and friends with whom to drink (Osgood et al. 1996). If teens who attend religion-supported activities are likely to support pro-social norms, then relationships that develop as a result of program involvement should lead to fewer friends who would want to attend and/or throw parties where opportunities to drink and get drunk would be available. These ideas lead to the first hypothesis:

H1: *As participation in religion-supported activities increases, teens will be less likely to drink and get drunk.*

As mentioned above, research has found that athletes drink more because they befriend other adolescents who drink. Consistent with this idea, there is reason to think that the relationship between involvement in religion-supported extracurricular activities and alcohol use may, in part, be driven by the likelihood that teens involved in religion-supported programs would be more likely to have friends who are less likely to drink. However, friends are unlikely to be the only reason for the relationship. Rather, regular interactions with concerned and committed adults who support religious precepts regarding underage drinking are also likely to help explain the relationship. These ideas lead to the next hypothesis, which focuses on the partial contribution of friends:

H2: *Participation in religion-supported activities will, in part, be explained by having fewer friends who use alcohol.*

The Role of Personal Religiosity

Some research on religious contexts suggests that regular interaction with religious people can strengthen the relationship between personal religiosity and behaviors. However, there is reason to think that participation in religion-supported programs will shape the behavior of both secular *and* religious teens. Research on religious contextual influences (Stark, 1996) has drawn on the moral communities' hypothesis to argue that personal religious beliefs shape individuals' behaviors when the beliefs are supported by a community of religious people who regularly discuss behaviors in the context of religious-inspired morality. According to the moral communities' hypothesis, the surrounding religion context influences the behaviors of more religious people, but not more secular people. While much attention has been paid to the moral communities' hypothesis, empirical research on this relationship has been mixed. While some studies (Finke and Adamczyk 2008; Moore and Vanneman 2003) have found support for the hypothesis, other studies have found that religious contexts tend to shape the behaviors of secular and religious youth (Adamczyk and Felson 2006; Adamczyk and Palmer 2008).

Because many religion-supported programs are directed towards religious and secular people alike, involvement in religion-supported programs may limit the alcohol use of teens, regardless of their religious beliefs. To receive government funding faith-based programs cannot use religious beliefs as the basis for service provision (Faith-Based and Community Initiative 2006). But, even activities that are solely supported with religious donations are likely to include local teens who do not belong to the congregation or religious organization that is sponsoring the activity. Teens outside the religious congregation may participate because the activity itself interests them or their friends, who are a part of the religious congregation, invite them to participate. The inclusion of teens from a variety of religions/denominations or no religious faith in religion-supported extracurricular programs is likely to create a pro-social context but not one that is necessarily

religious. As a result, we would expect that the environments created by these organizations will influence the substance use behaviors of secular *and* religious teens alike. These ideas lead to the third hypothesis:

H3: *Involvement in religion-supported programs will similarly influence the alcohol use among both secular and religious teens.*

Gender differences

Finally, there is reason to think that involvement in religion-supported programs may have a greater influence on alcohol use among males than females. While both teenage boys and girls are actively involved in team sports, male adolescents tend to have higher levels of involvement (Eccles and Barber 1999). Male youth are also more likely to engage in most forms of substance use than females. Some research (Crosnoe et al. 2002) has suggested that girls are less likely to drink and use drugs because they are less susceptible to the anti-social influence of friends. Research on gender identity has also suggested that because men may have a greater interest in striving for higher-status behaviors in general, young males may be more interested in athletics *and* drinking (Crosnoe 2002).

Adolescent males who are involved in religion-supported activities should get more exposure to religion-supported values and norms, which could temper their interest in higher status teenage behaviors, like underage drinking. Additionally, if adolescent males are more prone to the anti-social influence of friends, then participation in religion-supported activities should increase the likelihood of prosocial friends and activities, and limit interest in and opportunities for parties where drinking would take place. These ideas lead to the final hypothesis:

H4: *Religion-supported programs will have a greater deterring influence on the alcohol use of male adolescents than female adolescents.*

Data and Methods

To examine the influence of participation in religion-supported programs on the alcohol use of American teens, this study relies on two waves of the National Study of Youth and Religion (NSYR), which is a national telephone survey of American youth. The first survey occurred in 2001 when 4,161 English and Spanish-speaking youth were contacted, and 81% completed the survey. Eight Jewish households were oversampled, bringing the overall Wave 1 (W1) sample size to 3,370. One parent or guardian (usually the mother) of each respondent was also surveyed. The second survey occurred in 2005 when the original English-speaking respondents were contacted a second time. The Wave 2 (W2) survey yielded a 78% response rate (n=2,604). The average NSYR respondent was 15 during Wave 1 interviews, and 18 during W2 interviews. About two and a half years passed between survey waves. Diagnostic tests comparing the NSYR with census data and other comparable adolescent surveys, including the National Longitudinal Study of Adolescent Health and Monitoring the Future, show that the NSYR provides a nationally representative sample of children between the ages of 13 and 17 and their parents (NSYR Telephone Methods Survey, 2006)

The current analysis focuses on the 2,530 respondents who completed both W1 and W2 surveys and were not outside the sampling frame (i.e. the Jewish oversample). Below is a description of the measures used in the analysis. Descriptive statistics are presented in Table 1.

[Insert Table 1 about here]

Dependent variable[1]

[1] This study also considered examining respondents' frequency of smoking cigarettes and using pot. However, NSYR survey researchers changed the question wording and response categories for W1 and W2 questions that asked about using pot and smoking cigarettes, creating complications for interpreting the results. Since some research has found that involvement in athletics is associated with alcohol use, but not other types of substance use, there was also a stronger rationale for why involvement in religion-supported programs would influence alcohol use as opposed to other types of substance use.

This study examines two outcomes W2 frequency of drinking and W2 frequency of getting drunk. W2 frequency of drinking is taken from a question that asks, "How often, if at all, do you drink alcohol, such as beer, wine or mixed drinks, not including at religious services?" which ranges from 1=almost every day to 7= never. During W1 interviews, respondents were asked the exact same question about their frequency of drinking. W1 frequency of drinking is included in the analysis as a lagged dependent variable. By controlling for W1 alcohol use when the relationship between religion-supported programs and W2 alcohol use is examined, this study will account for the possibility that teens who are interested in drinking may be less interested in religion-supported programs *and* may be more likely to report W2 alcohol use. Both W1 and W2 frequency of drinking variables are reverse coded so that higher numbers indicate more drinking.

The second outcome, W2 frequency of getting drunk, is taken from a question that asks (of teens who indicated that they drank in the last year), "How often, if ever, have you gotten drunk in the last year?" which ranged from 1=never to 6=more than once a week. Respondents who indicated that they never drink alcohol were assigned the lowest category, which is "never." During W1 interviews respondents were ask the exact same question about their frequency of getting drunk. W1 frequency of getting drunk is included in the analysis as a lagged dependent variable.

Independent variable

The key independent variable is the number of athletic, performance, academic, nonacademic, voluntary, and other types of activities in which respondents participate that are supported by a religious group or organization. Respondents were asked to name up to six (1) "regular organized activities" that they did afterschool and in the evenings; (2) up to six "regular organized activities" they did on the weekends (excluding religious service attendance); and (3)

"any other activities, hobby clubs, classes, or other organizations" (up to six) in which they are involved and do not include work for pay or just hanging out. The interviewers were instructed to write down the name of the activity verbatim from the respondent. After respondents provided all of the names of the activities in which they participated, they were asked to indicate "which, if any, of these activities are organized or sponsored by a religious organization?" The overall number of religion-supported activities was then added together.

In their verbatim list of activities some respondents included religion-focused activities, like bible study, youth group, catechism, and religious service attendance. This study is primarily interested in how religion-supported activities that secular or religious teens might participate in shape alcohol use. Hence, to create an accurate count of the number of activities that are *not* religion-focused, but are supported by a religious group, the number of religion-focused activities indicated in the respondents' verbatim responses was subtracted from the total number of religion-supported activities. The number of religion-supported programs or activities provides an estimate of activities that are supported by a religious group or organization, but are not explicitly focused on religion. As explained below, participation in explicitly religious activities is measured with two direct questions that ask about current youth group involvement and level of religious service attendance.

Mediator

The key mediating variable is the number of friends who drink or use drugs. This variable is created from a question that asks respondents to provide the names of up to 5 friends, "people you like and spend the most time with" (excluding parents). Respondents were then asked to indicate which of these people they think "do drugs or drink a lot of alcohol." The total number of friends who drink or use drugs is the mediator.

Control variables

Because more religious respondents and respondents who are more involved in explicitly religious activities are more likely to hear about religion-supported programs and activities that are not explicitly religious, this study includes measures of public and private religiosity. Public religiosity is a sum of two standardized measures of youth group participation and religious service attendance. Instead of taking measures of youth group participation and religious service attendance from the respondents' verbatim responses to assess religious involvement this study relies on direct questions that ask specifically about religious attendance and youth group participation, which should provide a fuller account of participation in youth group and religious services.

For youth group participation respondents were asked, "Are you currently involved in any religious youth group?" where 0=no and 1=yes. Religious service attendance was created by NSYR investigators using three questions: (1) "Do you attend religious services more than once or twice a year, not counting weddings, baptisms, and funerals?" (2) "What religion or denomination is the place where you go to religious services?" and (3) "About how often do you usually attend religious services there?" Religious attendance indicates how often respondents attend services at the religion or denomination they named. The scale ranges from 1=never to 6=more than once a week. Respondents, who indicated in the first question that they never attend, were assigned the lowest category, which is "never." Because they are on different scales, before being added together to create a measure of public religiosity religious service and youth group participation were divided by their standard deviation. The two variables have a correlation of .515.

Private religiosity is a sum of two standardized measures of prayer frequency and closeness to god. For prayer respondents were asked "How often, if ever, do you pray by yourself alone?"

which ranged from 1=never to 7=many times a day. For closeness to god teens who indicated that they believe in god were asked, "How distant or close do you feel to God most of the time?" which ranged from 1=extremely distant to 6=extremely close. Respondents who indicated that they did not believe in god were assigned the lowest category. Because they are on different scales, prayer and closeness to god were divided by their standard deviation before they were added together. The two variables have a correlation of 0.573.

Since opportunities available for religion-supported and religious activities may depend on the religion or denomination with which respondents identify, a set of six dummy variables indicating respondents' denominational affiliation (mainline Protestant, Catholic, Jewish, Latter Day Saints, not religious or unsure, and other religion, where conservative Protestant is the reference group) are included in all models. Based loosely on the scheme developed by Steensland et al. (2000), NSYR investigators placed respondents' answer to a question about their religion/denomination into one of nine categories: conservative Protestant, mainline Protestant, Black Protestant, Catholic, Jewish, Latter Day Saints, not religious, other religion, and indeterminate. In the current study teens who indicated that they are not religious or were indeterminate were coded as "not religious or unsure". Because of the high correlation (0.770) between identifying as Black and affiliating with a Black Protestant denomination, Black Protestants were placed into the conservative Protestant category.

All models include a set of variables that assess the number of different types of activities in which respondents participate, which will help assess whether involvement in religion-supported programs has an influence on alcohol use, regardless of the type, variety, or frequency of the activities in which teens participate. Additionally, teens who are drawn to certain types of

activities (i.e. volunteer) may be more likely to find these opportunities offered by religious-organizations.

As mentioned above, respondents were asked to name up to six regular organized activities that they did afterschool, in the evenings, on the weekends, and at any other times. Interviewers were asked to write down the respondents' verbatim responses and exclude activities that include work for pay or just hanging out. The verbatim names of the activities were coded into one of six activity categories. The first category, "athletic," includes all athletic and sports activities such as hockey, golf, cheerleading, baseball, and volleyball. "Performance" includes activities like dance, acting, and choir. "Academic" includes all academic-related activities/clubs, such as student government, student council, honor society, and yearbook staff. "Volunteer" includes activities where the respondent has to give their time and energy to helping others, and includes tutoring and coaching. "Nonacademic" includes all nonacademic clubs and structured activities (excluding athletic, performance and volunteer activities) such as 4H, Future Famers of America, Girl Scouts, and Students Against Drunk Driving. Finally, activities coded as "other"[2] include activities that could not be placed into one of the other categories based on the recorded verbatim responses.

The number of activities in each category was then added together to indicate the number of athletic, performance, academic, nonacademic, voluntary, and other types of activities in which respondents participated. Activities that were explicitly religious, such as youth group participation and religious service attendance, which respondents were instructed to exclude, were not coded into any of the categories. Rather, as mentioned above, the analysis includes a measure of religious

[2] Less than 5% of respondents had an "other" activity. Excluding activities placed in the "other" category was considered. However, NSYR interviewers were instructed to probe for more information about the activity, if the activity was no obvious. Theoretically, all verbatim responses should have been activities in which respondents could have participated. Additionally, since respondents were asked to indicate which activities were sponsored by a religious group and they could have indicated activities in the "other" category, it seemed important to include them in the analysis. The results differed minimally on the basis of whether or not this category was included.

involvement that comes from two direct questions that ask about youth group involvement and religious service attendance.

Several additional variables are included as controls because previous research has found that they are related to either the key independent or dependent variables and could confound the relationship between participation in religion-supported programs and substance use. These include race (Brown et al. 2001; Donahue and Benson 1995; Wallace and Bachman 1991), gender (Stark, 2002) age (Crosnoe 2002), academic grades (Muller and Ellison, 2001), closeness to parents (Smith 2003), parents' religious attendance (Regnerus 2003), parents' household income (Rebellon and Van Gundy 2006) whether the respondent is a social isolate (Jenkins 1996), hours worked at a job, and school type, which could shape opportunities and time available for participation. A dichotomous variable indicates gender where 0=women and 1=men. Race is measured with four racial/ethnic dummy variables, which are Black, Hispanic, Asian, and other or mixed race, where white is the reference category. Age is measured in years. Parents' income is taken from a question that asks parents to indicate their household income. Academic grades is taken from a question that asks respondents to indicate "what kinds of grades do you usually get" where 1=all A's and 10=mostly F's. The variable was reverse coded so that higher numbers indicate better grades. Hours worked at a job indicate the number of hours per week that the respondent works at a job. A set of dummy variables indicates whether the respondents' school is private or a different type, where public school is the reference category. To assess whether respondents are social isolates (i.e. did not report any friends), a dichotomous variable where 1=no friends and 0=at least one friend is included.

Closeness to parents is taken from two questions that ask how close respondents feel to each of their parents, where 1=extremely close and 6=not close at all. These variables were reverse

coded, so that higher numbers indicate increasing closeness. The scores for mother and father were then added together and divided in half. Respondents who were not asked the question, (because they were not in contact with their nonresident parent(s)) were given the score of the mother, father, or guardian with whom they reported living.

Parents' religious attendance is taken from the parent portion of the survey where one of the parents was asked, "In the last 12 months, how often have you been attending religious services, not including weddings, baptisms, and funerals?" where 1=more than once a week and 7=never. The variable was reverse coded so that higher numbers indicate more religious service attendance.

Finally, to account for the possibility that more religious teens may be more inclined to respond in socially desirable ways to questions about alcohol use, two additional variables are included. The measure "never lies to parents" is taken from a question that asks respondents to indicate in the past year "how often, if ever do, you lie to your parent/guardian?" where 1=very often and 6=never. The measure "never keeps secrets from parents" is taken from a question that asks respondents to indicate in the past year "did you do things that you hoped your parent/guardian would never find out about?" where 1=very often and 6=never. For both variables respondents who indicated that they never kept secrets or lied to their parents were coded 1 and all others were coded 0. The variables were only moderately correlated (.268) and, therefore, they were not combined into a single measure.

Analysis

The analysis begins by first examining bivariate statistics of key variables in the model by gender. The OLS regression analysis then begins by examining the influence of the control variables on W2 drinking frequency before the lagged dependent variable (i.e. W1 drinking frequency) is included. The lagged dependent variable is then included. Next, the number of

religion-supported programs or activities is included to see if increased involvement in religion-supported activities is associated with a decreased frequency of drinking alcohol. The number of friends who drink or use drugs is added to see if it mediates the relationship between participation in religion-supported programs and drinking. The final model includes an interaction between number of religion-supported programs and private religiosity to see if religion-supported programs have a greater influence on more religious respondents. The final model also includes an interaction between gender and religion-supported programs to see if involvement in religion-supported activities has a greater deterring influence on male's drinking. These same steps are repeated to examine the frequency of getting drunk.

To maintain the largest sample size possible, the analysis relies on multiple imputation techniques, which take full advantage of the available data and avoid some of the bias in standard errors and test statistics that can accompany listwise deletion (Allison 2001).[3] Missing values are imputed for ten datasets and the parameter estimates are averages of regression coefficients produced through the "micombine" command in the statistical computing program, Stata. Standard errors from the multiple imputation process are calculated to reflect the uncertainty that is generated through simulated data. The final individual-level sample size consists of 2,530 respondents. The analysis uses the recommended weights, which account for the unequal probability of selection.

Results

Table 2 presents the results of the bivariate analysis. Young men appear significantly more likely than young women to drink and get drunk, and they have lower levels of private and public religiosity. Although respondents could list a total of 18 activities, on average they reported about

[3] Missing data was imputed using the procedure written by Royston (2004) based on a technique outlined in van Buuren, Boshuizen and Knook (1999).

two activities, which is consistent with the number of activities reported in other studies (Eccles and Barber 1999). Women participate in significantly more activities (N=2.16) than men (N= 1.9). Whereas men are significantly more likely to participate in athletic activities, women are significantly more likely to participate in performance, academic and volunteer activities. About twenty percent of the activities in which respondents engaged were designated as supported by a religious group or organization. There are no significant differences between men and women in the number of religion-supported activities that they reported.

Drinking Alcohol

Table 3 presents the OLS regression analysis of the influence of involvement in religion-supported activities for drinking frequency. Model 1 presents the control variables before the lagged-dependent variable is included. Consistent with previous research on religion and drinking, as private religiosity increases, respondents' frequency of drinking decreases. However, public religiosity is not significantly associated with drinking frequency. Since previous research has found an influence of public measures of religiosity, like youth group participation on drinking, in a separate analysis the public religiosity measure was disaggregated. In this analysis youth group participation, but not religious service attendance, was significantly related to frequency of drinking.[4] Not surprisingly, Model 1 also shows that conservative Protestants are less likely to drink than mainline Protestants and Catholics. Respondents who affiliate as Latter Day Saints, which is typically considered a "strict" religion that really discourages drinking, report a lower frequency of drinking than conservative Protestants. Males, whites (compared to Blacks and

[4] Consideration was given to running the models with the disaggregated public and private religiosity measures (i.e. prayer, closeness to god, religious service attendance, and youth group participation). However, disaggregating the measures would substantially add to the overall number of religion-related measures already included or about to be included in the model (i.e. parents' religious attendance, religious affiliation, number of religion-supported programs). Nevertheless, regardless of what other religion-related variables are included, the number of religion-supported programs remains significant throughout the analyses.

Hispanics), older teens, teens who spend more hours working, public school students (compared to students in other types of schools), and teens whose parents have higher household incomes report higher levels of drinking. Conversely, teens with better grades and teens who report never keeping secrets from or lying to their parents report lower levels of drinking. Finally, the level of involvement in athletic activities and nonacademic activities is associated with increases in drinking. The association between involvement in athletic activities and drinking remains significant throughout the analysis.

The second model includes the lagged dependent variable. When W1 drinking frequency is included, private religiosity, the number of hours worked at a job, and the number of nonacademic activities are no longer significant. All of the other variables that were significant in Model 1 remain significant in Model 2.

Model 3 includes the number of religion-supported programs or activities in which teens participate. Consistent with the first hypothesis, a one-unit increase in the number of religion-supported programs or activities is associated with a 17% decrease in the frequency of drinking.[5] Much of the research on religion and substance use has focused on prayer, religious importance, and religious involvement to examine the relationship between religion and alcohol use. The findings in Table 3 illustrate the importance of considering involvement in religion-supported programs and activities.

Model 4 tests the second hypothesis, which is that the relationship between participation in religion-supported programs and drinking alcohol will, in part, be mediated by the number of friends who drink. For every additional friend who is reported as using alcohol or drugs, respondents' drinking frequency increases by 18%. When the number of friends who drink or use

[5] The difference in the log-likelihood between Models 2 and 3 when the religion-supported programs variable is included is 9.28. A chi-square test shows that this difference is significant ($p<.01$), confirming that the inclusion of the religion-supported programs variable improves the overall model fit.

drugs is included the coefficient for involvement in religion-supported activities decreases slightly (from -.167 to -.169). However, the Sobel-Goodman mediation test shows that the difference in the religion-supported activities coefficient is not significant, offering minimal support for the second hypothesis. When the friend measure is included the coefficient for number of athletic activities does not appear to decrease. The Sobel-Goodman test of mediation confirms that the friend variable does not significantly mediate the relationship between the number of athletic activities and drinking.

Model 5[6] includes the interaction between private religiosity and the number of religion-supported programs. The coefficient (0.017) for the interaction is not significant. As hypothesized, involvement in religion-supported programs appears to limit the frequency of drinking of religious and secular teens.

Model 5 also includes the interaction between gender and involvement in religion-supported programs. Consistent with the fourth hypothesis, involvement in religion-supported programs has a greater influence on males' alcohol use than on females' alcohol use. Chart 1 presents the predicted values of drinking frequency for men and women by level of participation in religion-supported programs. Adolescent males who do not participate in any religion-supported activities report drinking alcohol about once a month (predicted value=2.9). However, adolescent males who participate in two religion-supported activities, report drinking alcohol a few times a year (predicted value=2.3). In contrast the predicted values for adolescent females do not vary to the same extent by involvement in religion-supported programs. While women who do not participate in any religion-supported programs have a predicted value of 2.7 for the alcohol frequency variable, women who participate in two activities have a predicted value of 2.56.

[6] In a separate model the interaction between involvement in religion-supported programs and athletic activities was examined to see if involvement in religion-supported programs has a greater deterring influence on the alcohol use of teens who are more involved in athletic activities. The interaction was not significant.

Getting Drunk

Table 4 examines the influence of involvement in religion-supported programs for explaining the frequency of getting drunk. Model 1 includes all of the control variables. With a few exceptions, the significance levels and direction of almost all of the control variables that were found in Model 1 of Table 3 have remained the same. Like Blacks and Hispanics, Asians now appear less likely than whites to get drunk. The number of hours worked at a job and attending a public school, in contrast to a different school type, are no longer significant for explaining frequency of getting drunk. Model 2 includes the lagged dependent variable. In this model private religiosity remains significant, suggesting that it likely has a greater influence on getting drunk, than frequency of drinking alcohol. Model 2 also shows that a one-unit increase in athletic activities is associated with a 10% increase in the frequency of getting drunk.

Model 3 includes the number of religion-supported activities. Consistent with the first hypothesis every increase in participation in religion-supported programs is associated with a 15% decrease in the frequency of getting drunk.[7] Model 4 includes the number of friends who drink or use drugs. Every additional friend who drinks or uses drugs is associated with an 18% increase in getting drunk. When the number of friends who drink or use drugs is included the coefficient for the number of religion-supported programs decreases from -.147 to -1.39, suggesting that friends may help explain the relationship. However, the Sobel-Goodman test of mediation shows that the decrease is not significant, offering minimal support for the second hypothesis that fewer friends who drink will help explain why teens who are involved in religion-supported activities have a lower frequency of getting drunk. A separate analysis also shows that the friend variable did not significantly mediate the relationship between the number of athletic activities and getting drunk.

[7] The difference in the log-likelihood between when the religion-supported programs variable is included in Model 3 is 11.14. A chi-square test shows that this difference is significant ($p<.01$), confirming that the inclusion of the religion-supported programs variable improves the overall model fit.

Model 5 includes the interaction between private religiosity and level of involvement in religion-supported programs. The coefficient (-0.029) is not significant, offering support for the third hypothesis that involvement in religion-supported programs decreases the likelihood of getting drunk for religious *and* secular teens alike. Model 5 also includes the interaction between gender and involvement in religion-supported activities, which is significant. Consistent with the fourth hypothesis, involvement in religion-supported programs has a greater effect on decreasing men's frequency of getting drunk.

Conclusion

This study was interested in the influence of religion-supported programs on young people's alcohol use. Consistent with the first hypothesis, this study found that participation in religion-supported behaviors was associated with less drinking and getting drunk, even after accounting for W1 drinking, several religion variables, and a wide range of control variables. This study then examined whether the relationship was driven by friends. Contrary to the second hypothesis, teens who participate in religion-supported programs are *not* less likely to drink because they have fewer friends who drink and use drugs. Rather, other processes seem to be driving the relationship. Offering support for the third hypothesis, this study found that religion-supported activities shape the drinking behaviors of all participants, regardless of their personal religious beliefs and behaviors. Finally, support was found for the fourth hypothesis that religion-supported programs have a greater deterring influence on the alcohol use of males than females.

Advocates of charitable-choice funding have argued that because of their location and religious character local congregations and religious groups may be more effective service providers than other organizations (Hoover 2000; Mitchell 2000). The findings in this study offer support for this idea. Regardless of the type of activity (i.e. sports, volunteer, clubs, etc.) or the

respondent's personal religious beliefs and behaviors, youth who are involved in religion-supported programs are less likely than other youth to drink alcohol and get drunk. Religion-supported activities appear to combine elements of successful extracurricular programs (i.e. bonding to prosocial adults, fewer opportunities to participate in anti-social activities) with a religion-inspired prosocial orientation that discourages teen alcohol use.

Much of the research that has been done on the activities that religious groups offer tend to focus on youth group activities (Snell 2009; O'Connor et al. 2002). A measure of participation in youth group activities was included in the current study as part of the public religiosity measure, but the public religiosity measure was not significant in any of the models. By contrast, involvement in religion-supported programs was significant throughout the analysis. This finding suggests that researchers who are interested in religion's influence on alcohol should consider the influence of involvement in religion-supported programs.

Research (Abbey et al. 2006; Craig et al. 2000; Gottfredson et al. 2004) on extracurricular programs has suggested that involvement in these activities is generally associated with positive youth outcomes because teens who are involved in these programs have less unsupervised free time, and/or are more likely to bond to prosocial adults and peers. However, the exception seems to be alcohol use. Consistent with other work in this area (Eccles and Barber 1999; Abbey et al., 2006; Crosnoe 2002), this study found that teens who were more involved in athletic activities and team sports have a higher frequency of drinking and getting drunk. However, unlike previous research (Eccles and Barber 1999; Borden et al., 2001), this study did not find that an increase in friends who drink and use drugs explained the relationship. Likewise, friends did not mediate the relationship between involvement in religion-supported activities and decreased alcohol use.

This study relied on a measure of friends' drinking and drug use that was reported by respondents. Some social scientists (i.e. Crosnoe 2002) have suggested that drinking, but not drug use, is a higher status activity among American youth. If the friend measure had focused exclusively on drinking, perhaps this study would have found a mediating influence of friends. Additionally, some researchers have criticized reports from respondents because respondents are prone to overestimate the behavioral similarity between themselves and their friends (Iannotti and Bush, 1992; Kandel, 1996; Haynie and Osgood, 2005). Jussim and Osgood (1989), for example, found little evidence of interpersonal influence from friends, in part, because respondents did not perceive their friends' attitudes accurately. Nevertheless, several studies (Eccles and Barber 1999; Gottfredson 2004; Mahoney and Stattin 2000), which have relied on respondent reports of friends' behaviors, have found that peer behaviors significantly mediate the relationship between involvement in extracurricular programs and youth outcomes. The National Study of Youth and Religion is one of the first datasets to provide measures of involvement in religion-supported programs. Hopefully, future studies that include friend measures (i.e. the National Longitudinal Study of Adolescent Health) will consider asking teens about whether the programs and activities in which they participate are supported by a religious organization. Measures of friends' behaviors, as reported by friends, would help clarify whether or not friends' drinking behaviors play any role in explaining the relationship between involvement in religion-supported activities and alcohol use.

One of the limitations of this study is that we know very little about how the religion-supported activity was structured or the type of religious organization that offered the activity. There may be some important differences between religious organizations that provide extracurricular activities and the structure of the activities or programs themselves, which could shape their effectiveness. Researchers (Mahoney and Stattin 2000) have, for example, found that

pro-social youth outcomes are more likely to result from highly structured and smaller programs, which some types of religious organizations may be more likely to provide. Research (Smith 2003) has also found that because religious congregations tend to include both parents and teens in activities, they are successful at fostering network closure between involved youth and their parents, increasing the likelihood that parents know their children's' friends and their parents. Involvement in congregational-based activities may be more likely than involvement in activities sponsored by other types of religious groups, like religious coalitions, to foster network closure, which, in turn, could discourage alcohol use. Now that we know that involvement in religion-supported programs limits alcohol use and may shape other prosocial behaviors, more research is needed to understand the type and structure of activities that religious organizations offer and which ones are most effective at promoting positive youth outcomes.

Researchers, policy makers, congregations and participants are likely aware that some religious elements will penetrate the social services and programs that religious organizations provide. While examining the influence of involvement in religion-supported programs, this study accounted for a range of personal and parental religious influences that could shape teens' alcohol use. Even after accounting for these religion factors, involvement in religion-supported activities appears to influence teens' alcohol use. These findings support the idea that religion-supported activities may offer something unique from secular community and school-based programs that is working to reduce teen alcohol use and may promote other positive youth outcomes.

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Table 1
Descriptive Statistics for Variables Included in Analysis
(Unless indicated all variables are taken from W1)

Variable	Mean/ Proportion	Std. Dev.	Min	Max
Drinking frequency (W2)	2.770	1.771	1	7
Getting drunk frequency (W2)	2.158	1.425	1	6
Drinking frequency (W1)	1.741	1.220	1	7
Getting drunk frequency (W1)	1.444	0.953	1	6
Number of religion-supported programs or activities (any type)	0.211	0.594	0	8
Number of friends who drink /use drugs	0.702	1.323	0	5
Activity type				
Number of athletic activities	0.938	1.119	0	6
Number of performance activities	0.340	0.694	0	6
Number of academic activities	0.336	0.710	0	4
Number of nonacademic activities	0.271	0.580	0	4
Number of voluntary activities	0.101	0.350	0	4
Number of other activities	0.045	0.219	0	2
Religion				
Private Religiosity	-0.006	1.787	-4.103	2.837
Public Religiosity	-0.006	1.742	-2.274	2.516
Conservative Protestant (reference)	0.397	0.489	0	1
Mainline Protestant	0.099	0.299	0	1
Catholic	0.206	0.405	0	1
Jewish	0.013	0.112	0	1
Latter Day Saint	0.021	0.145	0	1
Not religious or unsure	0.245	0.430	0	1
Other religion	0.018	0.134	0	1
Additional controls				
Male	0.496	0.500	0	1
White (reference)	0.690	0.463	0	1
Black	0.160	0.367	0	1
Hispanic	0.096	0.295	0	1
Asian	0.013	0.113	0	1
Other or Mixed race	0.040	0.197	0	1
Social isolate (no friends)	0.017	0.128	0	1
Age (years)	14.987	1.387	13	17
Academic grades	7.429	1.578	1	10
Parents' income	6.099	2.882	1	11
Closeness to parents	4.852	0.935	1	6
Parent's religious attendance	3.617	2.199	1	7
Hours (per week) worked at job	3.281	7.947	0	70
Public school (reference)	0.867	0.339	0	1
Private school	0.092	0.289	0	1
Other school type	0.040	0.197	0	1
Never lies to parents	0.157	0.364	0	1
Never keeps secrets from parents	0.168	0.374	0	1

Table 2
Bivariate Statistics of Key Variables by Gender

	Men	Women
Drinking Frequency W2	2.97	2.57*
Getting Drunk Frequency W2	2.35	1.98*
Private religiosity (prayer & closeness to God)	-0.3	0.28*
Public religiosity (religious attendance & religious youth group)	-0.15	0.14*
Religion-supported activities[8] (any type)	0.21	0.21
Types of Activities		
Athletic activities	1.07	0.81*
Performance activities	0.23	0.44*
Academic activities	0.26	0.41*
Nonacademic activities	0.25	0.29
Volunteer activities	0.05	0.15*
Other activities	0.04	0.06*
Total number of activities	1.90	2.16*

*=significant difference ($p<.05$) between men and women

[8] Religion-supported activities exclude religion-focused activities, like bible study, catechism, religious service attendance, religious youth group, etc.)

Table 3
Involvement in Religion-supported Programs for Explaining Drinking Frequency (W2)
(OLS Regression Analysis)

	Model 1	Model 2	Model 3	Model 4	Model 5
Drinking frequency W1		0.465**	0.462**	0.376**	0.376**
Getting Drunk Frequency W1					
Number of religion-supported programs or activities (any type)			-0.169**	-0.167**	-0.077
Number of friends who drink /use drugs				0.177**	0.179**
Private religiosity[9] X Number of religion-supported programs					0.017
Men X Religion-supported programs or activities					-0.211*
Religion					
Private Religiosity	-0.058*	-0.048+	-0.044+	-0.040	-0.043
Public Religiosity	-0.045	-0.028	-0.020	-0.016	-0.014
Mainline Protestant	0.450**	0.383**	0.377**	0.384**	0.392**
Catholic	0.373**	0.337**	0.329**	0.320**	0.322**
Jewish	0.127	0.092	0.045	-0.015	-0.017
Latter Day Saint	-0.721**	-0.612*	-0.615**	-0.625**	-0.611**
Not religious or unsure	0.251+	0.216+	0.219+	0.199	0.200
Other religion	0.256	0.218	0.201	0.180	0.188
Activity type					
Number of athletic activities	0.114**	0.097**	0.110**	0.110**	0.110**
Number of performance activities	-0.079	-0.065	-0.041	-0.043	-0.053
Number of academic activities	0.088	0.093	0.101+	0.110+	0.108+
Number of nonacademic activities	0.129*	0.088	0.106+	0.108+	0.106+
Number of voluntary activities	0.101	0.106	0.114	0.105	0.099
Number of other activities	-0.079	-0.033	-0.013	-0.015	-0.002
Additional controls					
Male	0.183*	0.137+	0.145+	0.147*	0.191*
Black[10]	-0.541**	-0.462**	-0.445**	-0.420**	-0.413**
Hispanic	-0.425**	-0.420**	-0.420**	-0.410**	-0.411**
Asian	-0.174	-0.111	-0.131	-0.102	-0.111
Other or Mixed race	-0.238	-0.251	-0.226	-0.254	-0.238
Social isolate (no friends)	-0.075	-0.091	-0.099	-0.074	-0.062
Age (years)	0.251**	0.168**	0.164**	0.141**	0.141**
Academic grades	-0.158**	-0.117**	-0.120**	-0.110**	-0.108**
Parents' income	0.035*	0.034*	0.035**	0.033*	0.033*
Closeness to parents	-0.080	-0.018	-0.019	-0.005	-0.004
Parent's religious attendance	0.029	0.019	0.020	0.024	0.025
Hours (per week) worked at job	0.011*	0.004	0.004	0.002	0.002
Private school	0.101	0.048	0.113	0.112	0.119

[9] In a separate analysis public religiosity was used instead of private religiosity in this interaction, but it was not significant.

[10] In a separate analysis this study also examined interactions between Black and religion-supported programs and Hispanic and religion-supported programs. Much research (Brown et al. 2001; Donahue and Benson 1995; Wallace and Bachman 1991) has found that African American youth, in particular, have lower levels of drinking than white youth, and Hispanics and African Americans tend to have higher levels of religious involvement. None of the interactions between religion and race were significant for explaining frequency of drinking.

Other school type	-0.373*	-0.456*	-0.431*	-0.437*	-0.440*
Never lies to parents	-0.253*	-0.141	-0.140	-0.146	-0.145
Never keeps secrets from parents	-0.604**	-0.467**	-0.463**	-0.439**	-0.433**
Constant	0.072	0.004	0.068	0.304	0.266
Observations	2530	2530	2530	2530	2530
R-squared	0.21	0.29	0.29	0.30	0.30

+ significant at 10%; * significant at 5%; ** significant at 1%

Table 4
Involvement in Religion-supported Programs for
Explaining Getting Drunk Frequency (W2)
(OLS Regression Analysis)

	Model 1	Model 2	Model 3	Model 4	Model 5
Getting Drunk Frequency W1		0.481**	0.481**	0.356**	0.355**
Number of religion-supported programs (any type)			-0.147**	-0.139**	0.030
Number of friends who drink /use drugs				0.182**	0.185**
Private religiosity X Number of religion-supported programs[11]					-0.029
Men X Religion-supported programs or activities					-0.291**
Religion					
Private Religiosity	-0.056**	-0.046*	-0.042*	-0.038*	-0.035+
Public Religiosity	-0.046+	-0.034	-0.028	-0.024	-0.021
Mainline Protestant	0.339**	0.253*	0.248*	0.265*	0.275**
Catholic	0.238**	0.201*	0.194*	0.188*	0.183*
Jewish	0.038	-0.155	-0.196	-0.213	-0.205
Latter Day Saint	-0.374*	-0.308+	-0.310+	-0.317+	-0.300+
Not religious or unsure	0.080	0.012	0.015	0.005	0.012
Other religion	0.027	0.007	-0.009	-0.031	-0.025
Activity type					
Number of athletic activities	0.119**	0.098**	0.110**	0.111**	0.111**
Number of performance activities	-0.056	-0.040	-0.019	-0.024	-0.035
Number of academic activities	0.029	0.046	0.052	0.058	0.059
Number of nonacademic activities	0.068	0.061	0.077	0.072	0.067
Number of voluntary activities	0.087	0.079	0.085	0.079	0.071
Number of other activities	-0.080	-0.047	-0.029	-0.032	-0.024
Additional controls					
Male	0.201**	0.155*	0.161**	0.167**	0.225**
Black[12]	-0.533**	-0.432**	-0.416**	-0.403**	-0.403**
Hispanic	-0.503**	-0.460**	-0.460**	-0.460**	-0.461**
Asian	-0.503*	-0.337	-0.354	-0.354+	-0.364+
Other or Mixed race	-0.241	-0.281	-0.260	-0.280+	-0.262+
Social isolate (no friends)	-0.137	-0.074	-0.081	-0.074	-0.062
Age (years)	0.186**	0.123**	0.120**	0.097**	0.097**
Academic grades	-0.110**	-0.077**	-0.079**	-0.070**	-0.068**
Parents' income	0.029**	0.028**	0.029**	0.027**	0.027**
Closeness to parents	-0.088*	-0.046	-0.046	-0.031	-0.029
Parent's religious attendance	0.031+	0.028	0.029+	0.032+	0.032+
Hours (per week) worked at job	0.001	-0.006	-0.006	-0.007+	-0.007+
Private school	0.193+	0.203+	0.260*	0.244*	0.253*
Other school type	-0.221	-0.358**	-0.337*	-0.323*	-0.318*
Never lies to parents	-0.233**	-0.189**	-0.188**	-0.184**	-0.184**
Never keeps secrets from parents	-0.452**	-0.369**	-0.365**	-0.336**	-0.329**

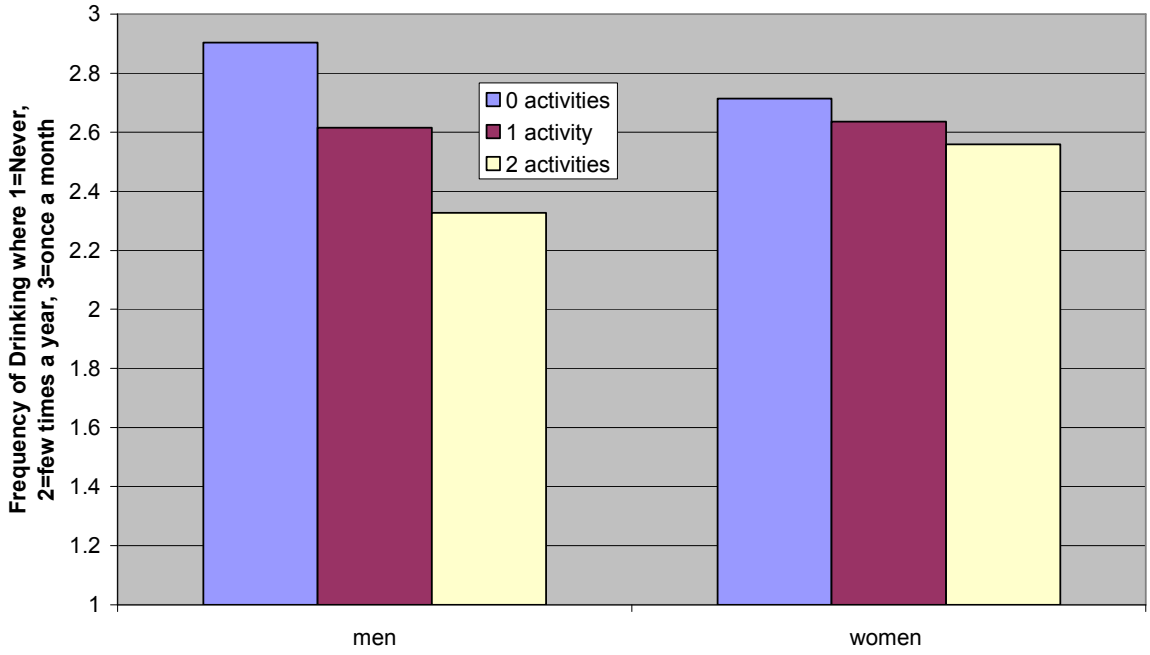
[11] In a separate analysis public religiosity was used instead of private religiosity in this interaction, but it was not significant.

[12] In a separate analysis this study also examined interactions between Black and religion-supported programs and Hispanic and religion-supported programs. None of the interactions between religion and race were significant for explaining frequency of getting drunk.

Constant	0.249	0.125	0.180	0.440	0.379
Observations	2530	2530	2530	2530	2530
R-squared	0.21	0.30	0.30	0.32	0.32

+ significant at 10%; * significant at 5%; ** significant at 1%

Chart 1
Predicted values of Drinking Frequency for Men and Women by Level of Participation in Religion-Supported Actvities



Predicted values are present for men who have been assigned the mean or reference category for all variables included in Table 2, Model 5.