RELIGION, RACE, AND ABSTINENCE FROM DRUG USE AMONG AMERICAN ADOLESCENTS

Monitoring the Future Occasional Paper 58

John M. Wallace, Jr.
Tony N. Brown*
Jerald G. Bachman
Thomas A. LaVeist**

Institute for Social Research
University of Michigan
Ann Arbor

2003

 * Department of Sociology, Vanderbilt University, Nashville, Tennessee
** Bloomberg School of Public Health, Center for Health Disparities Solutions, Johns Hopkins University, Baltimore, Maryland

CONTENTS

TABLES

FIGURES

ABSTRACT

Objective

Despite an extensive literature on risk and protective factors for adolescent substance use, surprisingly little research has sought to examine why some adolescents <u>abstain</u> from substance use. The present study examines the relationship between religiosity and abstinence and the extent to which race differences in religiosity may help to explain the consistent finding of race differences in adolescent substance use.

Method

The study uses large nationally representative samples of 8th, 10th, and 12th graders from the Monitoring the Future project to examine the relationship between religion, race, and abstinence from alcohol, tobacco, marijuana, and illicit drugs other than marijuana.

Results

Relative to their White counterparts, African American adolescents generally are more likely to abstain from substance use and to be highly religious. Nevertheless, religiosity is a stronger predictor of abstinence among White adolescents than among African American adolescents. In fact, among the most highly religious young people, race differences in abstinence are very small and in some instances reversed.

Conclusions

Religion is an important protective factor against substance use for both White and African American adolescents. Future research should seek to better understand the mechanisms through which religion promotes adolescents' abstinence from the use of drugs and seek to explain why the magnitude of its effect varies for African American and White adolescents.

ACKNOWLEDGMENTS

INTRODUCTION

"Abuse of substances, licit and illicit, is so wide-spread in our present societal context that we might well ask why some adolescents abstain, rather than why most do not" (Baumrind and Moselle, 1985, p. 44). Although little empirical research has examined why some adolescents abstain from substance use, Baumrind's conclusions regarding the widespread nature of alcohol, tobacco, and other drug use among American young people remains accurate. In fact, by their senior year of high school, 80% of American adolescents have used alcohol (with 64% reporting that they have been drunk), 61% have used tobacco, 54% have used marijuana and 29% have used an illegal drug other than marijuana (Johnston, O'Malley, & Bachman, 2002).

Although substance use is prevalent among all groups of American youth, African American youth are significantly more likely than White youth to abstain (Botvin, Schinke, & Orlandi, 1995; Wallace et al., 1999). More specifically, past research finds that African American youths' substance use prevalence rates are lower than those of White youth, despite the fact that African American youth are more likely to be economically disadvantaged (Botvin et al., 1995). In fact, over the past decade, the finding of race differences in substance use has been one of the most reliable but, for some researchers, most paradoxical findings in the substance use literature (Kandel, 1995; Wallace, Bachman, O'Malley, & Johnston, 1995). As Brown, Parks, Zimmerman, & Phillips (2001) correctly note, "Despite the robustness of these racial difference findings over time and across all socioeconomic levels, relatively few compelling explanations have been offered to explain these differences" (pp. 696-697).

One under-examined yet plausible explanation for the finding of race differences in substance use concerns race differences in religiosity. Past research has presented two findings germane to this issue. First, young people who are highly religious consistently report lower levels of drug use than young people who are less religious (Gorsuch, 1988, 1995; Johnson, Tomkins, & Webb, 2002). Second, relative to White adolescents, African American adolescents have been found to be significantly more religious (Chatters, Taylor, & Lincoln, 1999). Given these two sets of findings, some researchers have posited that taking into account race differences in religiosity might help to explain race differences in adolescent substance use patterns (Amey, Albrecht, & Miller, 1996; Brown et al., 2001; Heath et al., 1999; Wallace and Bachman, 1991).

Researchers have noted that, "despite an extensive scientific literature documenting ethnic differences in adolescent alcohol and tobacco involvement, the extent to which these differences are accounted for by religious behavior and values has received almost no attention" (Heath et al., 1999, p. 153). In an effort to address this important gap in the extant literature, the present study uses large, nationally representative samples of African American and White young people to examine the hypothesis that race differences in abstinence from substance use are due, at least in part, to race differences in religion.

Religion and Drug Use

Given the strong empirical link between substance use and a variety of problems that adversely impact adolescent health (e.g., motor vehicle accidents, school problems, delinquency, violence), researchers have invested considerable effort in the identification of risk and protective factors for the use and abuse of alcohol, tobacco, and other drugs. Despite the fact that past research has found religion to be one of the most consistently replicated correlates of non-abuse, it is seldom acknowledged in the risk/protective factor research literature (Gorsuch, 1988). For example, an extensive review of key risk and protective factors, published by the federal Office of Substance Abuse Prevention (OSAP), listed over 100 specific risk and protective factors but omitted any reference to religion (Gopelrud, 1992).

Research that includes religion (e.g., attendance, salience, denomination) often treats it as a non-focal or "control" variable, as evidenced by the failure to discuss its relationship with substance use in either the abstract or the text of published articles—even when it has been found to be the most significant variable in the study (Gorsuch, 1988). Although there has been an increase in the amount of research on the relationship between religion and substance use in recent years (see Johnson et al., 2002, for a review), much of the literature that recognizes religion as an important correlate of substance use focuses on the "lack" of religion as a *risk factor* for increased use (e.g., Bry, McKeon, & Pandina, 1982; Newcomb, Maddahian, Skager, & Bentler, 1987; Maddahian, Newcomb, & Bentler, 1988; Hawkins, Catalano, & Miller, 1992). Although researchers have used a variety of samples, research methods and measures of substance use and religiosity, the data generally suggest that young people who are more religiously engaged (e.g., attend religious services, say religion is important) are less likely to use drugs than are their less religiously engaged counterparts (see Gorsuch, 1995, and Johnson et al., 2002, for reviews). Accordingly, rather than focusing on the lack of religion as a risk factor, the present study conceptualizes the presence of religion as a protective factor. Specifically, we hypothesize that religion will 1) predict abstinence from substance abuse among American youth, irrespective of their race, and 2) help to account for the consistent finding of race differences in substance use.

Religion and Race Differences in Substance Use

Past research suggests that African American ethnicity includes a strong, culturally based emphasis on religion (Lincoln and Mamiya, 1990; Ellison and Sherkat, 1995). Because of discrimination that limited and still limits African Americans' participation in many facets of larger society, the African American church has played many additional roles beyond being a place for worship, biblical instruction, and spiritual development. Additional functions of the African American church relevant to African American youths' socialization, and perhaps their abstinence from substance use, include the following: psychological affirmation, identity, social support, protest, economic activity, education (biblical and secular), creativity (plays, music) and social interaction (Brown and Gary, 1991). Aspects of African American churches and religion that might further influence adolescents' substance use include the presence of positive role models who stress abstinence, opportunities to participate in pro-social activities, and strong, often activist, stances against drugs taken by religious leaders and congregations (e.g., sermons, anti-drug marches, and even whitewashing of billboards that advertise alcohol and cigarettes).

2

In light of the consistent finding of race differences in adolescent substance use, the important role of religion in the lives of many African American young people, and the negative relationship between religion and substance use, we conducted an extensive search to identify empirical investigations of the hypothesis that race differences in adolescent substance use were the result of race differences in religion. Our search yielded three recent studies. The earliest study we identified was Amey et al.'s (1996) article entitled "Race Differences in Adolescent Drug Use: The Impact of Religion." In this article Amey et al. used data from nationally representative samples of African American and White high school seniors (White N = 11,728, African American N =1,855). The purpose of the study was to examine the extent to which African American seniors' lower lifetime frequency of cigarette, alcohol, marijuana, and other illicit drug use was explainable by their higher levels of religious commitment. The religion measures examined included church attendance, the importance that young people ascribed to religion, and their religious affiliation (i.e., Protestant, Catholic/Orthodox, other, no affiliation).

In order to answer their research questions, Amey and colleagues ran a series of multivariate hierarchical logistic regressions. The first set of multivariate analyses regressed cigarette, alcohol, marijuana, and illicit drug use measures on race and a large number of variables that past research suggests are important correlates of drug use, including urbanicity, family structure, whether a grandparent is present or not in the home, the student's age, mother's and father's education, post-high school plans, self-rated intelligence, grade point average, hours of employment, weekly non-employment income, and whether or not the student drives. The second set of regressions added the religion measures to the other predictors, and the final set added race by religion interactions.

Amey and her colleagues found that, net of their more than a dozen risk factors, African Americans' substance odds ratios were between 25% and 40% of those of White seniors. Adding the religion measures to the regressions reduced the magnitude of the race differences but did not eliminate them. In the final regression models, the magnitude of the race odds ratios increased (rather than decreasing as expected), a number of the race by religion interactions were statistically significant, and the overall fit of the model was significantly improved. These results led Amey et al. (1996) to conclude that religion differentially impacted the drug use of African American and White seniors. More specifically, the authors concluded that "while Blacks experience higher levels of religiosity than do Whites, religiosity as measured here is not the overall deterrent to drug use for Blacks that it is for Whites" (p. 1325).

A second study designed to examine the relationship between religion and race differences in adolescent substance use used a telephone survey of 1,331 adolescent female twin pairs (ages 13.5 to 19.5) who were born in Missouri between 1975 and 1987 (African American N = 156 pairs) (see Heath et al., 1999). The purpose of this study was to investigate the relationship between lifetime alcohol and tobacco use, race, and religion. The religion measures examined included religious affiliation (i.e., 20 categories, including "no" religion, frequency of attendance at religious services, and four religious values measures—how important it was to rely on religious teachings when they had a problem, believe in God, rely on religious beliefs as a guide for day-to-day life, and be able to pray whenever they faced a personal problem).

Consistent with past research, the results of the study indicated that African American adolescent girls were less likely than White girls to drink or smoke and that African American girls were more highly religious than White girls. The authors used hierarchical proportional hazards regression models to examine the extent to which the race differences in substance use were the result of race differences in religion. The regression models showed that controlling for race differences in religion completely accounted for the race differences in alcohol use but not the race differences in smoking.

The third and most recent study that examined the race, religion, and drugs nexus used a sample of 899 9th and 10th graders (African Americans N = 382, White N = 517) from 17 high schools (10 in Kentucky and 7 in Ohio) (Brown et al., 2001). The stated purpose of the study was "to directly examine the relationship between religiosity and racial differences in adolescent alcohol use" (p. 697). The outcome variables included how many days the students had used alcohol in the past month, the number of drinks they consumed the last time they drank, how often when drinking they drank to get drunk, and a problem-drinking index. The religion measures were how often the students attended church, how often they prayed, how important religion was in their life, and a proxy measure of the fundamentalism of their religious beliefs (i.e., extent to which they believe the Bible, Koran, or other holy book is the actual word of God and to be taken literally).

The results indicated that compared to White students, African American students used alcohol less frequently, consumed fewer drinks, were less likely to drink to get drunk, and had fewer drinking problems. On the religion measures, African American students were significantly more likely than White students to report that religion was very important to them, that they prayed at least daily, that they attended religious services weekly, and that they had fundamentalist religious beliefs.

The analyses further revealed that all four of the religion measures were, as expected, significantly and negatively related to current alcohol use, for the total sample. With regard to race differences, however, none of the religion measures were significant correlates of alcohol use for African American students. Among White students, frequency of attendance at religious services was the only statistically significant correlate of alcohol use for both males and females. Fundamentalism also correlated negatively with alcohol use, but only for White males.

Similarly, frequency of attendance, fundamentalism, and importance of religion all significantly and negatively related to problem drinking for the sample taken as a whole. Among African Americans, however, none of the variables were significant correlates for African American boys. For African American girls, importance was inversely and significantly correlated with problem drinking. Among White students, frequency of attendance related inversely to problem drinking for both boys and girls.

In sum, past epidemiological research suggests that African American youth have lower substance use prevalence rates and lower mean levels of alcohol, tobacco, and other drug use than their White counterparts. Past risk factor research suggests that a statistically significant, albeit modest, negative relationship between religion and substance use exists for both African American and White adolescents. Past research on the relationship between religion, substance

use, and race suggests that the strength of the relationship between religion and substance use may vary for African American and White youth. Key limitations of past research include, among others, a general failure to examine race differences in *abstinence*, the use of samples with potentially limited generalizability to the larger population, and little theoretical explanation for the replicated finding of race differences in the strength of the relationship between religion and substance use.

The Present Study

The present study seeks to build upon the findings of past research, address a number of its limitations and extend the scientific understanding of how religion and race relate to substance use. Specifically, we use large, nationally representative samples of 8th, 10th, and 12th grade students to examine the following broad questions: (a) Are African American adolescents more likely than White adolescents to *abstain* from drug use? (b) Are African American adolescents more religious than White adolescents? (c) To what extent, if any, do race differences in religiosity help to explain race differences in abstinence? In addition to empirically addressing these questions, we also seek to provide some theoretical insight into the replicated finding of race differences in the strength of the relationship between religion and substance use.

METHOD

Sample

The data for this investigation were drawn from the University of Michigan's Monitoring the Future project. The study design and methods are summarized briefly here; a detailed description is available elsewhere (see Johnston et al., 2002). Monitoring the Future uses a multi-stage sampling procedure to obtain nationally representative samples of 8th, 10th, and 12th graders from the 48 contiguous states. Stage one is the selection of geographic region; stage two is the selection of specific schools—approximately 420 each year; and stage three is the selection of students within each school. This sampling strategy has been used to collect data, annually, from high school seniors since 1975 and from 8th and 10th graders since 1991. Sample weights were assigned to each student to take into account differential probabilities of selection.

Students completed self-administered, machine-readable questionnaires during a normal class period. Student response rates averaged around 90% for 8th graders, 86% for 10th graders, and 84% for 12th graders. Absence on the day of data collection was the primary reason that students were missed; it is estimated that less than one percent of students refused to complete the questionnaire. In order to increase samples sizes to permit race specific analyses, we combined five years of data (1997 to 2001). This strategy resulted in the following approximate sample sizes: 8th grade, 11,930 African American, 49,400 White; 10th grade, 8,010 African American, 47,280 White; 12th grade, 8,520 African American, 45,940 White.

Measures: Independent Variables

Religion, properly understood, is a multidimensional construct. In the present study we consider its attitudinal, behavioral, and organizational dimensions. These dimensions are operationalized using measures of religious importance, attendance, and denominational

affiliation, respectively. Religious importance was measured with a single item: How important is religion in your life? Possible responses ranged from "not important" (1) to "very important" (4). Religious attendance was also measured with a single item: How often do you attend religious services? Possible responses ranged from "never" (1) to "about once a week or more" (4). Denominational affiliation was measured by the following question: What is your religious preference? Guided by the classification schemes of past research (see Roof and McKinney, 1987; Smith, 1990), respondents' denominational affiliation was coded into a four-category religious conservatism measure ranging from "no affiliation" (1) to "conservative" (4). The classification scheme of the affiliation measure is as follows: 1 = none; 2 = liberal (i.e., Episcopal, Presbyterian, United Church of Christ, Unitarian, Roman Catholic, Jewish); 3 = moderate (i.e., Disciples of Christ, Lutheran, Methodist, Eastern Orthodox); 4 = conservative (i.e., Baptist, Churches of Christ, Other Protestant, Other Religion, Latter Day Saints, Muslim/Moslem, Buddhist). The correlations between the religion measures are moderate to strong ($r = .60$ between attendance and importance, $r = .32$ between attendance and religious conservatism, and $r = .41$ between importance and conservatism).

RESULTS

Descriptive Results

Table 1 presents data on lifetime abstinence from alcohol, tobacco, marijuana, and other illicit drugs, first for the total sample and then separately by race. The data indicate that nationally, fewer than half of 8th graders, one-third of 10th graders, and one-fifth of 12th graders have abstained from alcohol use, between 57% and 36% have abstained from cigarette use, between 79% and 51% have abstained from marijuana use, and roughly 85% to 71% have abstained from the use of any illicit drug other than marijuana.

Comparing abstinence rates by race, the data yield several interesting findings. First, consistent with past research and our expectations, the data indicate that African American students are generally more likely than White students to abstain from substance use, across all grade levels, except that African American 8th graders are slightly (3%) less likely than their White counterparts to have never used marijuana. Second, the data reveal that the magnitude of race differences in abstinence is, on average, larger among older students than among younger students. Third, race differences in abstinence tend to be smallest for marijuana, at an intermediate level for alcohol, and largest for cigarettes and illicit drugs other than marijuana.

Table 2 presents data on the three religion measures, first for the total sample, and then separately by race. Across grade levels, between 50% and 60% of students attend religious services once or twice a month or more, between a quarter and roughly a third rarely attend religious services, and 13% to 15% indicate that they never attend religious services. Consistent with the findings of past research on both adult and youth samples, African American students are more likely than White students to attend religious services regularly (i.e., once or twice per month or more) and less likely to rarely or never attend. The magnitude of the attendance gap (for rate of once a week or more) ranges from 3% among 8th graders to approximately 10% among 12th graders.

Data on the religious importance measure indicate that roughly one-third of 8th, 10th, and 12th graders say that religion is a "very important" part of their life, an additional third say that religion is "pretty important," approximately a quarter say religion is only "a little important," and 12% to 15% indicate that religion is "not important" (see Table 2). Comparing African American and White students, the data indicate that African American seniors are significantly more likely than White students to say that religion is a very important part of their lives. The race difference in the proportion of students who say religion is very important to them ranges from roughly 21% among 8th graders to nearly 30% among 12th graders.

The religious affiliation data reveal that between 40% and 50% of students belong to denominations that past research suggests are theologically conservative regarding the use of substances, approximately 12% are affiliated with denominations that have more moderate stances, between 26% and 31% belong to organizations that might be considered theologically liberal regarding the use of substances, and approximately 13% to 17% students report that they are religiously unaffiliated. Even more than the data for attendance and importance, the denominational affiliation data reveal large racial differences. More specifically, more than three-quarters of African American students belong to theologically conservative denominations compared to approximately 40% or less of White students. Fewer than 13% of African American students belong to either moderate or liberal denominations, and 10% to 12% do not claim any religious affiliation. Among White students, around 15% are affiliated with moderate denominations, 30% belong to theologically liberal denominations, and 13% to 18% have no religious affiliation.

Having established that, relative to White adolescents, African American adolescents are more likely to abstain from substance use, to attend religious services frequently, to ascribe greater importance to religion, and to belong to theologically conservative denominations, our next question concerns the extent to which controlling for race differences in religiosity might help to explain race differences in abstinence. As the first step to examining this question, we studied the bivariate relationship between substance use abstinence and the three religion measures, by race.

Bivariate Results

Figure 1 displays the percentages of African American and White students who abstain from alcohol, cigarette, marijuana, and other illicit substance use by their frequency of attendance at religious services, by the importance that they ascribe to religion, and by their denominational affiliation, for 8th, 10th, and 12th graders, respectively. Taken in total, the data reveal at least two important findings. First, although the magnitude of the differences in abstinence vary by substance, across grade level and by race, consistent with our expectations, the data generally indicate that young people who are highly religious, as measured by frequency of attendance and religious salience, are considerably more likely to abstain from substance use than their less religious counterparts. For example, among White 8th graders, 59% of those who say that religion is very important to them have never used alcohol compared to only 37% of students who say religion is not important. Similarly, among African American 8th graders 55% of those who say religion is very important to them have abstained from alcohol compared to 46% of those who say that religion is not important. The relationship between the denominational affiliation measure and substance use is generally weak and inconsistent among

African American students, whereas among White students the largest differences generally appear among those young people who belong to any denomination versus those who claim no affiliation.

A second important finding that the data reveal is that the strength of the relationships between abstinence from substance use and the religion measures—attendance and importance in particular—are stronger for White adolescents than for African American adolescents. For example, the alcohol data indicate sizable race differences in abstinence for African American and White students who are less religious (e.g., those who attend religious services infrequently or say religion is only a little or not important). Among students who are more highly religious, however, these race differences are significantly lower and in some instances completely absent. Although the magnitudes of the race differences vary for the other substances, the same general finding holds true for them as well. In fact, in a couple of instances (e.g., 10th grade marijuana use), the data indicate that highly religious White students are more likely to abstain than their African American counterparts. Put another way, the data suggest that controlling for race differences in religious attendance and importance greatly reduces the magnitude of race differences in substance use abstinence, particularly among young people who are highly religious. What should be kept in mind, however, is that these data represent significantly different proportions of the African American and White populations (see Table 2), particularly for the religious importance measure. For example, although White 10th graders who say that religion is a very important part of their life are slightly more likely to abstain from marijuana use than African American 10th graders who say that religion is a very important part of their life, these numbers represent 51% of the African American 10th grade population compared to only 27% of White 10th graders.

Multivariate Results

The data presented in Figure 1, coupled with the findings of past research, suggest consistently that the strength of the relationship between religion and substance use varies by race. Given the presence of these statistical interactions, we conducted separate multivariate analyses for White and African American students. The purpose of these analyses was to investigate the extent to which the bivariate relationships identified in Figure 1 hold within race, controlling for the three religion measures simultaneously. Table 3a-d presents the results of the multivariate analyses, by grade level, for alcohol, cigarettes, marijuana, and illicit drugs other than marijuana, respectively.

Because the drug use measures are dichotomous (i.e., lifetime abstinence; no = 0, yes = 1) we used logistic regression to examine their relationship with the religion variables. The numbers presented in Table 3 are odds ratios. The omitted categories for the importance, attendance, and denomination measures are "very important," "about once a week or more," and "conservative," respectively. We hypothesized that students for whom religion is most important, who attend religious services most often, and who belong to theologically conservative denominations would be more likely than their less religious counterparts to abstain from drug use. If our hypothesis was correct, the odds ratios shown in Table 3a-d would be significantly less than 1. If however, the odds ratios exceeded 1, it suggests that the students for whom religion is very important, who attend religious services weekly or more, and who are affiliated with conservative denominations are less likely than their counterparts to abstain.

Alcohol. Consistent with our expectations, the odds ratios for the religious importance measure are less than 1, for both White and African American students, across all three grade levels. This finding suggests that young people for whom religion is "very" important are, on average, more likely to abstain than students for whom religion is "pretty," "a little," or "not" important, irrespective of race. Although frequency of attendance at religious services significantly correlates with alcohol abstinence for both White and African American students, there are clear race differences in the extent to which the relationships are consistent with our theoretical expectations. Consistent with expectations, White students who regularly attend religious services are significantly more likely to abstain than their counterparts who never attend. Among African American students, however, those who attend religious services weekly are no more likely to abstain than those who never attend. Controlling for attendance and importance, the strength and the statistical significance of the relationship between denominational affiliation varies by race and grade level, without any single, clear, and consistent pattern.

Cigarettes. For White 8th, 10th, and 12th graders, the importance, attendance, and denomination measures relate significantly to cigarette use. As expected, White students for whom religion is very important and who attend religious services weekly or more are more likely to abstain than their less religiously committed peers. Compared to their peers, however, White young people who belong to conservative denominations are less likely to abstain from cigarettes, after the importance and attendance measures are controlled. Although fewer of the relationships are statistically significant among African American students, the pattern of higher levels of abstinence among students who say that religion is very important to them and who attend religious services more frequently also holds. Religious denomination is not significantly related to African American students' abstinence, net of importance and attendance.

Marijuana. Among White 8th, 10th, and 12th graders, religious importance, attendance, and denomination relate significantly to abstinence from marijuana use, with abstinence significantly lower among students for whom religion is not "very" important and who do not attend religious services weekly. When importance and attendance are controlled, White students affiliated with liberal and moderate denominations are more likely to abstain than students who belong to conservative denominations. Among African American students, attendance and importance are also significantly correlated with abstinence, in the expected direction, but the extent to which denominational affiliation predicts abstinence varies inconsistently, across the three grade levels.

Other illicit drugs. Consistent with expectations and the findings for the other drugs, importance and attendance are significantly related to abstaining from other illicit drug use among White students. The relationship between the White students' denominational affiliation and abstinence is generally statistically significant but, again, not in the expected direction. More specifically, when attendance and importance are controlled, students affiliated with liberal, moderate, and no religious denomination are more likely to abstain from other illicit drug use than students who belong to conservative denominations. Among African American students, none of the relationships between the three religion measures and other illicit drug use is consistently statistically significant, across grade level. There is a trend, however, for abstinence

9

to be lower among students for whom religion is not very important, particularly among 12th graders.

Race differences in abstinence among the highly religious. The bivariate findings presented in Figure 1 and the multivariate findings presented in Table 3 suggest that religiosity may be an important factor in helping to explain why African American adolescents are, on average, more likely than White adolescents to abstain from substance use. In a final effort to ascertain the *simultaneous* impact of the religion measures on abstinence and on the race difference in abstinence, we take advantage of our large sample sizes to examine directly race differences in abstinence among young people who are highly religious—those who say that religion is very important to them, who attend religious services weekly or more, and who belong to theologically conservative denominations. "Highly religious" adolescents comprise approximately 23% of White 8th graders (N = 10,400), 20% of White 10th graders (N = 8,700), and 18% of White 12th graders (N = 7,700) compared to 32% of African American 8th graders (N = 3,500), 31% of African American 10th graders (N = 2,200), and 33% of African American 12th graders (N = 2,500).

Figure 2 presents the results of these analyses, showing the percentages of highly religious White and African American 8th, 10th, and 12th graders who report lifetime abstinence from alcohol, tobacco, marijuana, and other illicit drugs. Table 1 shows that African American students are significantly more likely than White students to abstain from each substance at all grade levels, except for marijuana use among 8th graders. Among the highly religious, however, race differences are much smaller. In fact, Figure 2 reveals that highly religious White students are, on average, more likely than highly religious African American students to abstain from alcohol and marijuana and that the race gap in cigarette and illicit drug use is considerably reduced compared to the gap in the general population.

DISCUSSION

Based upon past research we expected to find that, irrespective of race, young people for whom religion is important, who attend religious services frequently, and who are affiliated with theologically conservative religious denominations would be more likely to abstain than their less religious counterparts. The data generally confirm these expectations, particularly for the attendance and importance measures. Regarding race differences, we expected to find that relative to White adolescents, African American adolescents would be more likely to abstain from substance use and to exhibit high levels of religiosity on our three key religion measures. Again, consistent with our hypotheses and the findings of past research, the data confirm these expectations. Our final expectation was that controlling for race differences in religiosity would significantly reduce, if not eliminate, race differences in adolescent substance use. This expectation is also confirmed; however, the nature of the relationship is more complex than we expected. The data reveal that, although a larger proportion of the African American youth population (compared with the White population) are considered highly religious, the strength of the relationship between religiosity and abstinence is substantially greater for White students than for African American students. In fact, among highly religious young people, race differences are relatively small and in some instances reversed.

In light of this finding, one important task of future research is to investigate the potentially different meaning of "religion" for African American and White students and to uncover the mechanisms that may explain why various religious differences appear to have less pronounced influences on the substance use of African American young people relative to their White counterparts. One plausible explanation may lie in what Ellison and Sherkat (1999) have labeled the "semi-voluntary" institution hypothesis. According Ellison and Sherkat (1999), because of the historical and contemporary importance of the Black Church to African Americans, many of them for whom religion may not serve a central spiritual function nevertheless are involved with the church as a cultural institution and to access its myriad social and relational resources. And so, in many African American communities, adolescents may attend religious services and be involved with churches and other faith-based organizations to access programs and resources like youth groups, after-school programs, cultural activities, and employment networks and to have a safe haven from the social problems prevalent in many low-income communities.

If Ellison and Sherkat (1999) are correct in their theory regarding the unique role and ubiquitous influence of religion among African Americans, the impact of religion on African American adolescents' drug use may operate primarily at the "community" level as an important sociological factor that promotes abstinence, even among those young people for whom religion may not be personally important. Conversely, among White youth, religion may operate more at the individual level, thus explaining the stronger relationship between individual-level religiosity and individual-level drug use among White youth.

Future research should address these and related hypotheses more explicitly. In the absence of these analyses, however, the findings presented here suggest that rather than viewing religion as a risk factor in its absence, we might better understand it as a protective factor that helps to prevent young people from engaging in behavior that past research suggests is directly linked to adolescent mortality and morbidity. Accordingly, religion measures should be included in the growing list of protective factors that researchers examine as they seek to understand the etiology and prevention of substance use among young people. Additionally, the findings of this study suggest that clergy, youth group leaders, churches, synagogues, and mosques should be included along with parents, teachers, physicians, social workers, schools, community centers, and other agencies and organizations in the effort to shield young people from the myriad health and social problems associated with the use and abuse of alcohol, tobacco, and other drugs.

REFERENCES

Amey, C., Albrecht, S., & Miller, M. (1996). Racial differences in adolescent drug use: The impact of religion. *Substance Use and Misuse, 31,* 1311-1332.

Baumrind, D., & Moselle, K. A. (1985.) A developmental perspective on adolescent drug abuse. *Advances in Alcohol & Substance Abuse, 4*(3-4), 41-67.

Botvin, G. J., Schinke, S., & Orlandi M. A. (Eds.). (1995). *Drug abuse prevention with multiethnic youth.* Thousand Oaks, CA: Sage Publications.

Brown, D. R., & Gary, L. E. (1991). Religious socialization and educational attainment among African Americans: An empirical assessment. *Journal of Negro Education, 60*, 411-426.

Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62,* 696-705.

Bry, B. H., McKeon, P., & Pandina, R. J. (1982). Extent of drug use as a function of number of risk factors. *Journal of Abnormal Psychology, 91,* 273-279.

Chatters, L. M., Taylor, R. J., & Lincoln, K. D. (1999). African American religious participation: A multi-sample comparison. *Journal for the Scientific Study of Religion, 38,* 132-145.

Ellison, C. G., & Sherkat, D. E. (1995). The "semi-involuntary institution" revisited: Regional variations in church participation among black Americans. *Social Forces, 73*, 1415-1437.

Ellison, C. G., & Sherkat, D. E. (1999). Identifying the "semi-involuntary institution": A clarification. *Social Forces, 78,* 793-802.

Goplerud, E. N. (Ed.) (1992). Breaking new ground for youth at risk: Program summaries. USDHHS, OSAP Technical Report-1. DHHS Pub. No. (ADM) 92-1658.

Gorsuch, R. L. (1988). Psychology of religion. *Annual Review of Psychology, 39,* 201-221.

Gorsuch, R. L. (1995). Religious aspects of substance abuse and recovery. *Journal of Social Issues, 51,* 65-83.

Hawkins, J. D., Catalano R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for prevention. *Psychological Bulletin, 112,* 64-105.

Heath, A. C., Madden, P. F., Grant, J. D., McLaughlin, T. L., Todorov, A. A., & Bucholz, K. K. (1999). Resiliency factors protecting against teenage alcohol use and smoking: Influences of religion, religious involvement and values, and ethnicity in the Missouri Adolescent Female Twin Study. *Twin Research, 2,* 145-155.

Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future National Survey Results on Drug Use, 1975-2001. Volume I: Secondary School Students.* (NIH Publication No. 02-5106). Bethesda, MD: National Institute on Drug Abuse.

Johnson, B. R., Tomkins, R. B., & Webb, D. (2002). Objective hope: Assessing the effectiveness of faith-based organizations: A review of the literature. University of Pennsylvania Center for Research on Religion and Urban Civil Society, Research Report.

Kandel, D. B. (1995). Ethnic differences in drug use: Patterns and paradoxes. In Botvin, G. J., Schinke, S., & Orlandi, M. A. (Eds.), *Drug abuse prevention with multiethnic youth* (pp. 81-104). Thousand Oaks, CA: Sage.

Lincoln, C. E., & Mamiya, L. H. (1990). *The Black Church in the African American experience.* Durham, NC: Duke University Press.

Maddahian, E., Newcomb, M. D., & Bentler, P. M. (1998). Risk factors for substance use: Ethnic differences among adolescents. *Journal of Substance Abuse, 1,* 11-23.

Newcomb, M. D., Maddahian, E., Skager, R., & Bentler, P. M. (1987). Substance abuse and psychosocial risk factors among teenagers: Associations with sex, age, ethnicity, and type of school. *American Journal of Drug and Alcohol Abuse, 13,* 413-433.

Roof, W. C., & McKinney, W. (1987). *American mainline religion.* New Brunswick, NJ: Rutgers University Press.

Smith, T. W. Classifying Protestant denominations. (1990). *Review of Religious Research, 31,* 225-245.

Wallace, J. M., Jr., & Bachman, J. G. (1991). Explaining racial/ethnic differences in adolescent drug use: The impact of background and lifestyle. *Social Problems, 38,* 333-357.

Wallace J. M., Bachman J. G., O'Malley P. M., & Johnston L. D. (1995). Racial/ethnic differences in adolescent drug use: Exploring possible explanations. In Botvin, G. J., Schinke, S., Orlandi, M. A. (Eds.) *Drug abuse prevention with multiethnic youth* (pp. 59-80). Thousand Oaks, CA: Sage.

Wallace, J. M., Jr., Forman, T. A., Guthrie, B. J., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (1999). The epidemiology of tobacco, alcohol, and other drug use among African American youth. *Journal of Studies on Alcohol, 60*(6), 800-809.

TABLES

Table 1. Abstaining from Drug Use by Race/Ethnicity, 1997-2001

	8th Grade				10th Grade				12th Grade			
	Total	White	Black		Total	White	Black		Total	White	Black	
Alcohol	47.8	47.6	51.4	*	29.2	27.6	38.7	*	19.3	17.0	29.5	*
Cigarette Smoking	57.0	56.4	60.4	*	43.2	40.6	56.0	*	36.1	32.1	54.0	*
Marijuana	78.5	80.2	77.0	*	59.4	59.7	61.5	*	50.8	49.7	56.2	*
Any Illicit Drug Other Than Marijuana	84.5	82.8	91.8	*	76.5	74.0	91.6	*	70.9	67.6	89.0	*
Approximate Ns	*86,430*	*49,400*	*11,930*		*72,370*	*47,280*	*8,010*		*69,760*	*45,940*	*8,520*	

* indicates significance between whites and blacks, p < 0.01.

Table 2. Religiosity by Race/Ethnicity, 1997-2001

Religious Attendance

	8th Grade				10th Grade				12th Grade			
	Total	White	Black		Total	White	Black		Total	White	Black	
Never	13.2	12.9	11.2	**	14.8	15.5	9.2	**	15.2	16.4	8.0	**
Rarely	26.4	25.9	24.1	**	30.1	29.7	28.4	**	35.4	36.2	31.0	**
Once or twice a month	16.6	16.2	16.8		16.6	16.4	18.6	**	17.3	16.7	19.6	**
About once a week or more	43.9	45.0	48.0	**	38.6	38.5	43.8	**	32.0	30.7	41.4	**
Ns	76,353	46,196	11,430		63,102	44,082	7,549		62,208	43,281	8,181	

Religious Importance

	8th Grade				10th Grade				12th Grade			
	Total	White	Black		Total	White	Black		Total	White	Black	
Not important	11.9	13.1	7.3	**	13.9	15.6	6.2	**	14.6	16.8	5.1	**
A little important	22.8	25.1	14.0	**	24.3	26.5	14.0	**	24.9	27.6	12.6	**
Pretty important	31.5	31.9	28.2	**	30.5	30.5	28.6	**	28.8	29.0	26.2	**
Very important	33.8	29.9	50.5	**	31.3	27.3	51.3	**	31.7	26.6	56.1	**
Ns	76,438	46,300	11,421		63,232	44,174	7,556		62,149	43,235	8,173	

Religious Conservatism

	8th Grade				10th Grade				12th Grade			
	Total	White	Black		Total	White	Black		Total	White	Black	
None	13.4	13.2	11.7	**	14.1	14.6	10.4	**	16.5	17.7	10.4	**
Liberal	25.7	28.4	5.8	**	28.4	29.8	6.9	**	31.1	32.9	6.9	**
Moderate	11.9	16.3	4.4	**	12.6	15.6	6.0	**	12.0	14.9	6.8	**
Conservative	49.0	42.2	78.0	**	44.8	40.0	76.7	**	40.4	34.5	76.0	**
Ns	73,759	44,911	11,100		61,885	43,410	7,381		61,424	42,843	8,067	

** indicates significance between whites and blacks, p < 0.01.

Table 3a. Multivariate Odds Ratios, Predicting to Abstaining from Alcohol: 1997 Through 2001 Combined

Predictors	8th Grade				10th Grade				12th Grade			
	White	95% CI	Black	95% CI	White	95% CI	Black	95% CI	White	95% CI	Black	95% CI
Religious Importance												
Not important	0.53 *	0.49-0.58	0.64 *	0.52-0.79	0.49 *	0.45-0.55	0.62 *	0.48-0.81	0.56 *	0.50-0.63	0.88	0.66-1.18
A little important	0.55 *	0.52-0.59	0.64 *	0.56-0.73	0.51 *	0.48-0.55	0.63 *	0.53-0.75	0.53 *	0.48-0.58	0.66 *	0.55-0.79
Pretty important	0.66 *	0.63-0.69	0.83 *	0.75-0.91	0.59 *	0.55-0.62	0.78 *	0.69-0.88	0.59 *	0.55-0.63	0.73 *	0.64-0.83
Very important[a]	—		—		—		—		—		—	
Religious Attendance												
Never	0.67 *	0.61-0.73	0.97	0.81-1.15	0.60 *	0.55-0.66	1.07	0.86-1.33	0.52 *	0.46-0.58	1.03	0.81-1.30
Rarely	0.66 *	0.62-0.69	0.83 *	0.74-0.92	0.56 *	0.52-0.59	0.81 *	0.71-0.92	0.43 *	0.40-0.46	0.68 *	0.59-0.78
Once or twice a month	0.69 *	0.65-0.73	0.74 *	0.65-0.83	0.58 *	0.55-0.63	0.78 *	0.68-0.90	0.52 *	0.48-0.57	0.72 *	0.62-0.83
About once a week or more[a]	—		—		—		—		—		—	
Religious Denomination												
None	1.05	0.97-1.13	1.13	0.97-1.32	1.18 *	1.08-1.29	1.22	1.01-1.48	0.95	0.85-1.06	0.99	0.80-1.21
Liberal	1.13 *	1.08-1.19	0.82 *	0.68-0.98	0.98	0.93-1.04	0.88	0.71-1.08	0.67 *	0.62-0.71	0.73 *	0.59-0.91
Moderate	1.09 *	1.03-1.15	0.91	0.74-1.11	1.03	0.96-1.10	1.00	0.80-1.23	0.99	0.91-1.07	0.92	0.75-1.14
Conservative[a]	—		—		—		—		—		—	
Model chi-square	1786.45*		123.54		2149.62*		86.59*		2481.26*		141.57*	
Degrees of freedom	9		9		9		9		9		9	
N	47,744		10,891		46,472		7,571		45,430		8,185	

*p ≤ 0.01.
[a]Contrast category.

Table 3b. Multivariate Odds Ratios, Predicting to Abstaining from Cigarettes: 1997 Through 2001 Combined

Predictors	8th Grade				10th Grade				12th Grade			
	White	95% CI	Black	95% CI	White	95% CI	Black	95% CI	White	95% CI	Black	95% CI
Religious Importance												
Not important	0.57 *	0.52-0.62	0.71 *	0.58-0.86	0.59 *	0.54-0.64	0.64 *	0.50-0.82	0.82 *	0.75-0.90	0.80	0.63-1.03
A little important	0.60 *	0.57-0.64	0.72 *	0.63-0.82	0.59 *	0.56-0.63	0.71 *	0.61-0.83	0.71 *	0.67-0.76	0.77 *	0.66-0.89
Pretty important	0.68 *	0.64-0.71	0.80 *	0.73-0.88	0.65 *	0.62-0.68	0.85 *	0.76-0.95	0.69 *	0.65-0.73	0.86 *	0.77-0.96
Very important[a]	—		—		—		—		—		—	
Religious Attendance												
Never	0.64 *	0.59-0.70	0.86	0.73-1.02	0.63 *	0.58-0.68	0.94	0.76-1.16	0.57 *	0.53-0.63	0.70 *	0.57-0.87
Rarely	0.66 *	0.62-0.69	0.77 *	0.69-0.85	0.61 *	0.58-0.65	0.81 *	0.72-0.92	0.55 *	0.52-0.58	0.62 *	0.56-0.70
Once or twice a month	0.71 *	0.67-0.75	0.78 *	0.70-0.88	0.66 *	0.63-0.70	0.87	0.76-0.99	0.59 *	0.56-0.63	0.75 *	0.66-0.84
About once a week or more[a]	—		—		—		—		—		—	
Religious Denomination												
None	1.11 *	1.03-1.19	1.16	1.00-1.35	1.29 *	1.19-1.39	1.02	0.85-1.23	1.00	0.92-1.08	1.23	1.03-1.46
Liberal	1.58 *	1.51-1.66	0.92	0.77-1.09	1.39 *	1.32-1.46	1.02	0.84-1.23	1.17 *	1.11-1.23	0.93	0.77-1.11
Moderate	1.35 *	1.28-1.43	0.89	0.73-1.07	1.27 *	1.20-1.34	0.86	0.70-1.05	1.29 *	1.21-1.37	0.91	0.76-1.09
Conservative[a]	—		—		—		—		—		—	
Model chi-square	1888.10*		110.33*		1640.55		68.66*		1421.54*		135.03*	
Degrees of freedom	9		9		9		9		9		9	
N	49,279		11,998		47,269		8,041		46,327		8,642	

*p ≤ 0.01.
[a]Contrast category.

Table 3c. Multivariate Odds Ratios, Predicting to Abstaining from Marijuana: 1997 Through 2001 Combined

Predictors	8th Grade				10th Grade				12th Grade			
	White	95% CI	Black	95% CI	White	95% CI	Black	95% CI	White	95% CI	Black	95% CI
Religious Importance												
Not important	0.44 *	0.40-0.49	0.67 *	0.54-0.84	0.52 *	0.47-0.56	0.50 *	0.39-0.64	0.68 *	0.62-0.74	0.62 *	0.48-0.81
A little important	0.55 *	0.51-0.59	0.64 *	0.55-0.73	0.62 *	0.59-0.66	0.61 *	0.52-0.71	0.71 *	0.66-0.75	0.70 *	0.60-0.82
Pretty important	0.70 *	0.65-0.75	0.77 *	0.69-0.86	0.75 *	0.71-0.79	0.76 *	0.67-0.85	0.78 *	0.74-0.83	0.77 *	0.69-0.86
Very important[a]	—		—		—		—		—		—	
Religious Attendance												
Never	0.54 *	0.49-0.59	0.77 *	0.64-0.93	0.53 *	0.49-0.57	1.01	0.81-1.24	0.45 *	0.41-0.48	0.67 *	0.54-0.83
Rarely	0.60 *	0.56-0.65	0.75 *	0.66-0.84	0.56 *	0.53-0.59	0.78 *	0.69-0.89	0.50 *	0.47-0.52	0.57 *	0.51-0.64
Once or twice a month	0.67 *	0.62-0.72	0.78 *	0.68-0.89	0.64 *	0.60-0.68	0.83 *	0.72-0.95	0.61 *	0.57-0.65	0.67 *	0.59-0.76
About once a week or more[a]	—		—		—		—		—		—	
Religious Denomination												
None	1.08	0.99-1.17	1.09	0.93-1.29	1.20 *	1.11-1.29	1.02	0.85-1.23	1.04	0.97-1.11	1.17	0.98-1.40
Liberal	1.61 *	1.51-1.71	1.51 *	1.21-1.89	1.34 *	1.28-1.41	1.24	1.02-1.52	1.08 *	1.03-1.13	1.12	0.93-1.35
Moderate	1.49 *	1.39-1.61	1.40 *	1.10-1.79	1.49 *	1.40-1.58	1.04	0.85-1.28	1.49 *	1.40-1.58	1.34 *	1.11-1.62
Conservative[a]	—		—		—		—		—		—	
Model chi-square	2037.30*		148.41*		2267.25*		128.17*		2284.53*		232.08*	
Degrees of freedom	9		9		9		9		9		9	
N	49,399		11,932		47,282		8,008		45,939		8,520	

*p ≤ 0.01.
[a]Contrast category.

Table 3d. Multivariate Odds Ratios, Predicting to Abstaining from Any Illicit Drug Other Than Marijuana: 1997 Through 2001 Combined

Predictors	8th Grade				10th Grade				12th Grade			
	White	95% CI	Black	95% CI	White	95% CI	Black	95% CI	White	95% CI	Black	95% CI
Religious Importance												
Not important	0.45 *	0.40-0.50	0.84	0.60-1.19	0.56 *	0.51-0.61	0.58 *	0.39-0.84	0.71 *	0.65-0.78	0.31 *	0.22-0.44
A little important	0.57 *	0.53-0.61	0.71 *	0.57-0.88	0.68 *	0.64-0.73	0.88	0.66-1.18	0.77 *	0.72-0.83	0.60 *	0.47-0.75
Pretty important	0.69 *	0.65-0.74	0.89	0.75-1.06	0.78 *	0.74-0.83	0.88	0.71-1.08	0.84 *	0.79-0.89	0.88	0.73-1.05
Very important[a]	—		—		—		—		—		—	
Religious Attendance												
Never	0.77 *	0.70-0.85	0.89	0.66-1.18	0.63 *	0.58-0.68	0.90	0.63-1.27	0.51 *	0.47-0.55	1.12	0.81-1.54
Rarely	0.83 *	0.77-0.89	0.99	0.82-1.19	0.69 *	0.65-0.74	1.23	0.99-1.55	0.58 *	0.55-0.62	1.12	0.93-1.36
Once or twice a month	0.77 *	0.71-0.83	1.10	0.89-1.35	0.76 *	0.71-0.81	1.13	0.89-1.45	0.67 *	0.62-0.71	1.28	1.04-1.59
About once a week or more[a]	—		—		—		—		—		—	
Religious Denomination												
None	1.16 *	1.06-1.27	1.07	0.83-1.40	1.18 *	1.09-1.28	0.90	0.66-1.23	1.08	1.01-1.16	1.31	0.99-1.73
Liberal	1.59 *	1.49-1.70	0.61 *	0.47-0.80	1.53 *	1.45-1.62	0.87	0.62-1.21	1.35 *	1.28-1.42	0.65 *	0.51-0.84
Moderate	1.34 *	1.25-1.45	0.75	0.54-1.02	1.54 *	1.44-1.65	0.96	0.67-1.38	1.49 *	1.39-1.59	1.16	0.84-1.58
Conservative[a]	—		—		—		—		—		—	
Model chi-square	974.16*		29.63*		1259.47*		22.94*		1369.62*		72.82*	
Degrees of freedom	9		9		9		9		9		9	
N	48,893		11,593		47,065		7,851		45,547		8,290	

*p ≤ 0.01.
[a]Contrast category.

FIGURES

Figure 1. Abstinence from Substance Use by Race, Grade (8th, 10th, 12th), and Religiosity
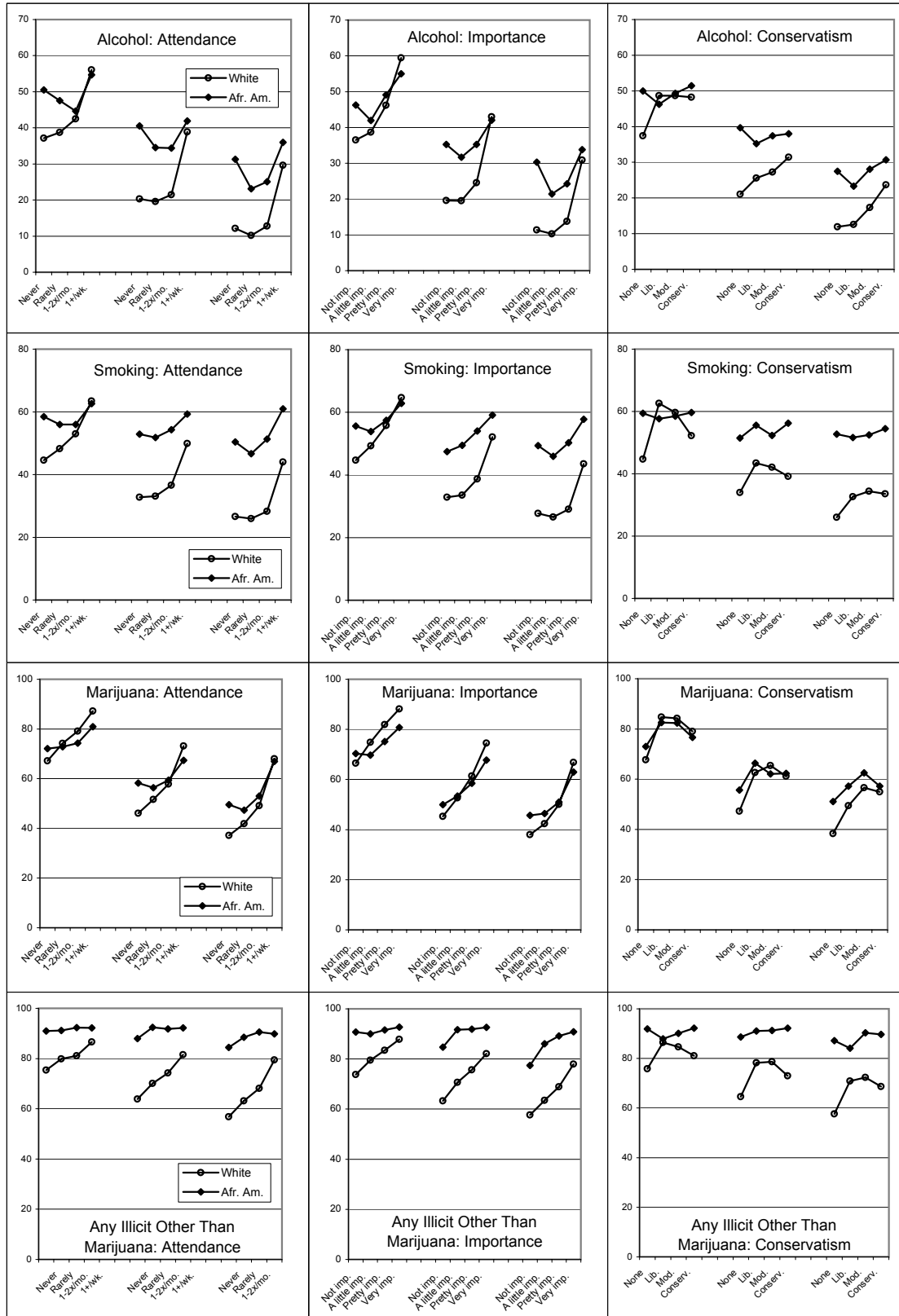
Figure 2. Abstinence from Substance Use by Race and Grade Among the Highly Religious

Alcohol

Grade	White	Black
8th	64	58
10th	54	44
12th	46	39

Cigarettes

Grade	White	Black
8th	65	65
10th	57	61
12th	54	62

Marijuana

Grade	White	Black
8th	90	83
10th	81	70
12th	78	70

Any Illicit Other Than Marijuana

Grade	White	Black
8th	88	93
10th	85	92
12th	83	91