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17 Religion and Adolescent Health-Compromising Behavior

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As a result of both real and perceived increases in the prevalence of teenage pregnancy, sexually transmitted diseases, drug use, violence, delinquency, school dropout, and mental health problems, there has been a substantial increase in research concerning adolescent health and well-being (OTA, 1991). Despite the continued and growing interest in behaviors that compromise adolescents' health, and the search for protective factors relevant to the prevention of these behaviors, social scientists typically ignore one potentially important protective factor to which nearly 50% of American youth are regularly "exposed." This factor is broadly termed *religion*. Although some researchers (Dryfoos, 1990; Hawkins, Catalano, & Miller, 1992) have identified lack of religiosity or low religiousness as a risk factor for a number of problem behaviors, religion measures are not routinely included in research, nor is religion widely acknowledged as an important correlate (if not predictor) of adolescent health-related attitudes, beliefs, and behaviors.

The purpose of this chapter is to begin to bridge the gap between research on religion (i.e., attitudes, beliefs, values, and behaviors concerning things spiritual) and research on adolescent health outcomes. In the first section we describe the "epidemiology" of religion among American youth. In the second section we discuss the relative neglect of religion by researchers interested in adolescent health. In the third section we review, selectively, empirical research on the relationship between religion and the two potentially health-compromising behaviors in which American youth are most likely to engage – precocious sexual involvement and the use of licit and illicit drugs. In the fourth section we discuss problems and limitations in the extant research on religion and adolescent health outcomes. The chapter concludes with the discussion of a conceptual framework designed to guide future research on the relationship between religion and adolescent health.

Religion and American Youth

American youth exhibit high levels of pro-religious beliefs, attitudes, and behaviors (Gallup & Bezilla, 1992). For example, 95% of American teens aged

13 to 17 believe in God (or a universal spirit), 76% believe that God observes their actions and rewards or punishes them, 93% believe that God loves them, 91% believe in heaven, 76% believe in hell, and 86% believe that Jesus Christ is God or the Son of God. Eighty percent of American teenagers say that religion is at least fairly important to them, and 40% report that they seriously try to follow the teaching of their religion. Ninety-three percent report being affiliated with a religious group or denomination (59% Protestant, 30% Catholic, 1% some other Christian denomination, 2% Jewish, 1% report some other affiliation) (Gallup & Bezilla, 1992).

With regard to their religious practices, 42% of teenagers report that they frequently pray alone, 48% report that they have attended church or synagogue within the last 7 days, and 36% report that they read the Bible weekly or more. Forty-one percent of American teens report that they are currently involved in Sunday school, 36% report being involved with a church youth group, 23% are involved in church-sponsored activities to help the less fortunate, and 18% are involved in a church choir or music group.

Figure 17.1 presents trend data on religious involvement among American teenagers from 1976 to 1993.[1] These data reveal that there has been a gradual decline in religious attendance over the past two decades and, concomitantly, a gradual increase in the percentage of youth who claim no religious affiliation. For example, in 1976, 41% of high school seniors reported that they attended services weekly; by 1993 this figure had decreased to 32%. Only 11% of 12th-grade students reported that they had no religious affiliation in 1976; by 1993 this figure had increased to 16%. Despite the decline in church attendance and the increase in the number of unaffiliated youth, a substantial proportion of the American youth population remains religiously involved and the importance that young people ascribe to religion has remained unchanged. For example, the same percentage of American high school seniors who reported that religion was very important to them in 1976 (29%) reported that religion was very important to them in 1993.

Data on the sociodemographic correlates of religious attendance, importance, and affiliation indicate the following: (1) In general, age does not appear to be strongly related to the importance that adolescents ascribe to religion or to the likelihood that they are not affiliated with a religious denomination. Age does, however, relate to attendance at religious services, with older adolescents attending less frequently than younger adolescents. (2) On average, females are slightly more religious than males, as measured by the importance, attendance, and affiliation variables. (3) Relative to White and Hispanic youth, Black youth are more religious across all three religion indicators. (4) Although adolescents from single- and two-parent families are equally likely to report that religion is very important to them, those in two-parent families attend religious services more often and are less likely to report that they are not religiously affiliated. (5) Parental education is not strongly related to the

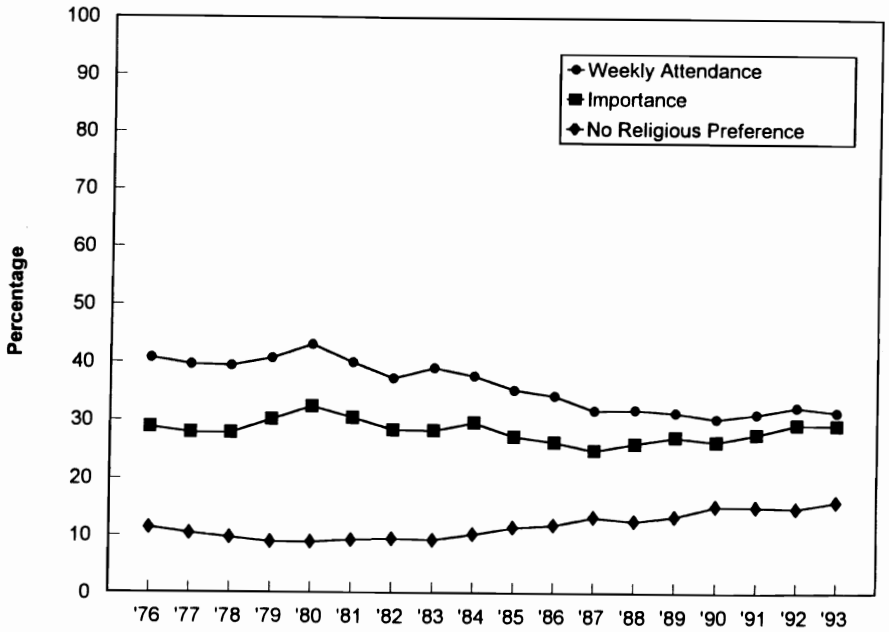

Figure 17.1. Trends in religion variables, 1976–1993.

importance that adolescents place on religion, but students with highly educated parents attend church more often and are less likely to say that they have no religious affiliation. (6) Adolescents who live in nonurban areas report greater importance of religion and more frequent attendance at religious services than do adolescents from medium-sized and large cities. (7) Relative to adolescents in the other regions of the country, southern youth attend church more often, are more likely to say that religion is very important to them, and are least likely to say that they do not belong to a religious group.

In sum, although there is considerable variation in the extent to which American young people attend religious services, feel that religion is a very important part of their life, engage in various religious practices, and hold specific beliefs about God, Satan, Jesus Christ, and other spiritual beings, one-third to one-half of them might be considered highly religious, with perhaps another 40% being considered at least mildly religious. Given the high prevalence of religious attitudes, beliefs, and practices among American youth, one would expect a substantial body of research examining religion and its causes and consequences in the lives of American adolescents; such is not the case. Having examined the epidemiology of religion among American youth, we now turn our attention to the relative neglect of this important topic as it relates to research on adolescence broadly and to research on adolescent health in particular.

Adolescence, Health, and the Neglect of Religion

There is little communication between scholars who do research on religion, those who do research on adolescence, and those who do research on health. As a result of this lack of conversation, relatively little is known concerning religion and its relationship to adolescent health. The lack of intellectual exchange between scholars of religion, adolescence, and health is evidenced in at least four ways. First, research on adolescence typically ignores religion. For example, an examination of 60 textbooks published in the last three decades in the areas of child and adolescent development revealed that 44 had no mention of religion, 9 only briefly mentioned religion, 5 had what might be considered an extensive discussion of religion, and only 2 had chapters that included the topic of religion in a chapter title (Thomas & Carver, 1990).

Second, research on adolescent religion typically omits any discussion of adolescent health. For example, neither a recent review of the research on adolescence and religion (Benson, Donahue, & Erickson, 1989) nor a recent book (Hyde, 1990) that comprehensively reviewed published research on religion in childhood and adolescence had a subsection or even references to adolescent health issues other than sex, drug use, or suicide.

Third, the adolescent health literature has largely ignored the relationship between religion and health. For example, perhaps the most important summary of research on adolescent health to date, the U.S. Congress's 726-page document entitled Adolescent Health (OTA, 1991), summarizes hundreds of studies relevant to adolescent health, and yet the index includes only two references to religion. The first reference simply mentions the importance of churches and synagogues as places to offer activities to adolescents. The second notes that there is a negative relationship between religiousness and initiation into sexual activity.

Fourth, when religion is included in research relevant to adolescent health, it is typically a nonfocal variable that is not taken seriously. For example, a recent review of research on the relationship between religion and drug abuse found it to be the most consistently replicated correlate of nonabuse and often the most significant predictor in the study. Despite this fact, however, researchers often failed to discuss the inverse relationship between religion and drug use in the abstract or the text of their research articles (Gorsuch, 1988).

Religion and Adolescent Health-Compromising Behavior: Empirical Research

Among adults, religion has been found to relate positively to health status, longevity, specific health outcomes, and a variety of health behaviors (for reviews, see King, 1990; Levin, 1994; Levin & Schiller, 1987). Despite a long history of research on the relationship between religion and health among adults, relatively little research has focused on religion as it relates to adoles-

cent health. In fact, research on religion and adolescent health issues is virtually nonexistent with the exception of that on the extent to which religion acts as a "social control" against what has broadly been referred to as *delinquency* or *deviance*.

We now review a number of the more rigorous studies that examine empirically the relationship between religion and the two most widespread adolescent health-compromising behaviors – precocious, typically unprotected sex and drug use. Where possible, the samples for the studies discussed are drawn from the general adolescent population (approximately 13 to 19 years old) rather than from more restricted populations (e.g., first-year psychology undergraduates).

Sexual Behaviors

Relatively high proportions of American adolescents are sexually active. For example, among high school students, 44% of 9th graders, 53% of 10th graders, 65% of 11th graders, and 71% of 12th graders reported ever having sexual intercourse (Kann et al., 1991). Of those who are sexually active, more than 40% reported that they had had four or more sexual partners. Trend data on the prevalence of sexual intercourse among young people suggest that the age of initiation into sexual intercourse continues to decline. For example, in 1970 less than 30% of 15- to 19-year-old girls reported having had premarital intercourse; by 1988 this figure had increased to nearly 52%. The relatively high rates of sexual intercourse among adolescents and the relatively high number of sexual partners among those who are sexually active place them at increased risk for a broad range of health problems including pregnancy, childbearing, abortion, cervical cancer, and a variety of sexually transmitted diseases (e.g., syphilis, gonorrhea, human immunodeficiency virus [HIV]).

Each year an estimated 1 million girls between the ages of 10 and 19 become pregnant in the United States. It is also estimated that more than 40% of America's 17 million adolescent females will become pregnant before their 20th birthday (OTA, 1991). Of the 1 million adolescent girls who get pregnant each year, slightly more than half give birth, about 40% have abortions, and approximately less than 15% miscarry.

Annually, 3 million teenagers (one out of eight) are infected with a sexually transmitted disease (National Commission on AIDS, 1994). In 1989 there were 11,820 new cases of gonorrhea among adolescents aged 10 to 14 years (69.7 cases per 100,000) and 204,023 new cases among adolescents aged 15 to 19 years (1,145.4 cases per 100,000). Recent data suggest that there have been increases not only in gonorrhea but also in syphilis and a variety of other sexually transmitted diseases, including HIV/AIDS. By the end of March 1993 there were 1,167 cases of AIDS among teenagers aged 13 to 19. The estimated 10-year lag between HIV infection and the onset of AIDS suggests that many

of the 10,949 20- to 24-year-olds with AIDS and the 44,171 25- to 29-year-olds with AIDS in the United States (as of March 1993) were actually infected as teenagers.

Clearly, early and typically unprotected sexual intercourse poses serious threats to the health and long-term well-being of young people. A variety of factors have been identified as key risk factors for pregnancy, HIV, and other sexually transmitted diseases. These risk factors include, but are not limited to, age at first intercourse, frequency of intercourse, number of sexual partners, and the absence and inappropriate use of contraceptives. The question that is relevant in the current context is: To what extent does religion relate to adolescent sexual activity and risk factors for sex-related health problems?

Religion can affect adolescent sexuality in a variety of ways, including influencing attitudes and beliefs about contraception; influencing attitudes and beliefs about the appropriateness and type of sexual activity permissible outside of marriage; and/or influencing the situations, environments, and relationships in which adolescents place themselves. A number of studies have examined the relationship between religion and adolescent sexual behaviors. In general, past reviews of the literature and recent findings from both national and local studies indicate a strong negative relationship between religion and sexual attitudes and behaviors (Hayes, 1987; Miller & Moore, 1990; Murry, 1994). Specific findings from selected studies will now be outlined.

One of the most comprehensive studies on the relationship between religion and adolescent females' sexual behavior was that conducted by Zelnick, Kantner, and Ford (1981). The study, based on two national U.S. surveys of adolescent females aged 15 to 19 years, examined the extent to which religious affiliation and religiosity (an index combining the importance of religion to the young woman, her perception of the importance of religion in her family, and her frequency of attendance at religious services) related to a number of sex-related outcomes, including the prevalence of premarital sex, age at initiation into sex, number of sexual partners, and patterns of contraceptive use. Both religion measures had strong bivariate relationships with the prevalence of premarital intercourse. On average, young women who were more religious and who belonged to more fundamentalist versus liberal or no religious groups were less likely to report engaging in premarital sex. Fundamentalist religious denominations are those that are theologically (and often politically) conservative and that hold doctrines such as the inerrancy of Scripture, the virgin birth, and the resurrection of Jesus Christ. In 1976 the prevalence of premarital sex among fundamentalist females was 44% compared to 58% among those with no religious affiliation. Similarly, only 24% of the young women in the high category of the religiosity index reported having premarital sex compared to 54% of those in the low-religiosity category. Compared to sexually active young women from fundamentalist religious backgrounds and those with high levels of religiosity, religiously less involved, sexually active young

women initiated sex earlier, had more sexual partners, and had more frequent premarital sexual experiences. Controlling for a number of variables (e.g., race, age, parental education, family stability, age at menarche), one or both of the religion measures continued to relate significantly to the prevalence of intercourse, mean age at first intercourse, number of sexual partners, and frequency of intercourse. Generally, neither denominational affiliation nor religiosity strongly or consistently related to whether or not sexually active females had used contraception during their first or last intercourse experience.

Thornton and Camburn (1989) examined the relationship between several measures of religiosity (i.e., denominational affiliation, frequency of church attendance, and self-rated importance of religion) and attitudes toward premarital sex, the likelihood of ever having had intercourse, the number of sexual partners, and recency of intercourse. They tested the hypothesis that religiosity would influence sexual behaviors and attitudes, and alternatively, that sexual behaviors and attitudes would influence religiosity. Overall, denominational affiliation (i.e., Protestant, Catholic, none) did not differentiate sexual attitudes or behaviors very well. Having said this, however, we should note that, on average, adolescents with no religious affiliation were more likely to have had sex, had a greater number of sexual partners, and had sex more often than adolescents who were affiliated with some religious group. Attendance at religious services and importance of religion were both strongly negatively related to sexual involvement. For example, 78% of adolescents who never attended religious services reported having had sex compared to only 39% of those who attended church once or several times a week. Similarly, 70% of those who said religion was not important to them had had sex compared to 50% of those for whom religion was very important. The average number of sexual partners and recency of sexual intercourse were also strongly related to religiosity. Adolescents who never attended religious services reported an average of nearly three sexual partners compared to less than one partner for those who attended services several times a week. The hypothesis that sexual attitudes and behaviors would impact religiosity also received some support; having positive attitudes toward premarital sex was significantly related to reduced attendance at religious services. Having had sex was also related to reduced attendance, but the relationship was not statistically significant.

In a study examining the relationship between religiosity (attendance, importance, and affiliation) and contraceptive use, Strader and Thornton (1989) found that although highly religious, sexually experienced female adolescents were no less likely than less religious, sexually experienced females to use some form of contraception, they were less likely to use medical methods of contraception (i.e., the pill or intrauterine device).

Using a nationally representative sample of African American females,

Murry (1994) investigated factors that differentiated late versus early coital initiators. Early initiators (57.3%) were much less likely than late initiators (85.2%) to be frequent (once a week or more) church attendees. Discriminant function analyses revealed that church attendance remained a significant predictor of late initiation, even after controls for parental teaching about sexuality, contraceptive knowledge, number of hours worked, family structure, age at puberty, family income, parental control, mothers' employment, family income, and urbanicity. In fact, church attendance was one of the strongest predictors of late coital initiation, second only to parental teaching.

In a recent study of 16- to 18-year-olds, Sheeran, Abrams, Abraham, and Spears (1993) examined the relationship between religiosity and personal sexual attitudes, attitudes toward sexually active others, virginal status, anticipation of sexual intercourse, and frequency of both coitus and noncoital sexual experiences over the previous year. The religiosity indicators included measures of religious upbringing (were you brought up according to a religion?), denominational affiliation, ritual/behavior (church attendance), self-attitude/self-schema (would you say that you are religious?), and salience of religious identity (religious beliefs would influence my decisions about sex).

All of the religion measures related significantly to adolescents' personal sexual standards and their judgments of others. Specifically, having been brought up according to a religion, being brought up Catholic or Protestant (versus another affiliation), frequent church attendance, feeling that they were religious, and indicating that religious beliefs would influence their decisions about sex were all related to negative attitudes toward engaging in premarital sex and to negative evaluations of persons who change partners a number of times during a year. Only religious self-attitude and frequency of church attendance were related significantly to being a virgin. Having a religious upbringing and the three measures of current religiosity (self-attitude, attendance, and identity salience) were associated with the respondent's not anticipating having sex in the next year or having had sex in the past year. Interestingly, only religious identity salience was significantly related to frequency of sexual experience with and without intercourse (the question did not ask about the specific nature of the experience). When all of the variables were simultaneously controlled, frequent church attendance, high religious self-attitude, and high salience of religious identity related significantly to more conservative sexual attitudes and less anticipation of having sex in the next year. Only religious self-attitude (feeling that they were religious) related significantly to having negative attitudes toward others being involved in many different relationships. Religious self-attitude was also significantly and positively related to being a virgin, whereas being raised Catholic (versus Protestant or another affiliation) was significantly and negatively related to being a

virgin and significantly and positively related to frequency of intercourse and nonintercourse sexual experience. Religious identity salience continued to relate to frequency of nonintercourse sexual experiences, net of the other factors.

In sum, although the research that explicitly examines the relationship between religion and adolescent sexual behaviors in a sophisticated fashion is not large, sufficient work has been done to allow us to reach some tentative conclusions. Attendance at religious services, self-rated importance of religion, and denominational affiliation have all been found to relate significantly to lower levels of sexual involvement. The research suggests that on average, highly religious adolescents initiate sex later, have fewer sexual partners, and have sex less often than their less religious peers (Hayes, 1987; Miller & Moore, 1990; Murry, 1994; Thornton & Camburn, 1989; Zelnick et al., 1981). Accordingly, they are at less risk of experiencing the negative physical and social health problems associated with early sexual involvement. On the other hand, sexually active religious females appear less likely to use medical (i.e., the most reliable) methods of contraception and thus may be at increased risk of pregnancy (Strader & Thornton, 1989; Zelnick et al., 1981). Having said this, however, we should note that empirical examination of the data on this issue indicates no significant differences in the prevalence of contraception (Zelnick et al., 1981).

Alcohol, Tobacco, and Other Drug Use

The use of alcohol, tobacco, and other drugs is widespread among American youth. For example, in 1994, the lifetime prevalence of illicit drug use was nearly 26% among 8th graders, 37% for 10th graders, and 46% for 12th graders (Johnston, Bachman, & O'Malley, 1995). The illicit drugs used most widely by adolescents are inhalants and marijuana. The lifetime prevalence of inhalant use was 20% for 8th graders, 18% for 10th graders, and 18% for 12th graders. Lifetime prevalence rates for marijuana use were 17% for 8th graders, 30% for 10th graders, and 38% for 12th graders. Use of those drugs that are legal for adults – alcohol and cigarettes – is even more widespread among American adolescents. For example, the annual prevalence of alcohol use in 1994 was 47% among 8th graders, 64% among 10th graders, and 73% among 12th graders. The prevalence of heavy drinking (five or more drinks in a row on a single occasion within the last 2 weeks) was 15% among 8th graders, 24% among 10th graders, and 28% among 12th graders. The 1994 30-day prevalence of cigarette use was 19% among 8th graders, 25% among 10th graders, and 31% among 12th graders. Further, 9% of 8th graders, 15% of 10th graders, and 19% of 12th graders were daily smokers. Despite the substantial declines in drug use among American youth during the 1980s, recent trend data suggest

that drug use among American adolescents is on the increase (Johnston et al., 1995).

Given the link between drug use, motor vehicle accidents, school problems, delinquency, violence, and other problem behaviors (Dryfoos, 1990), researchers have invested considerable effort in the identification of risk and protective factors for the abuse of alcohol, tobacco, and other drugs. A recent publication from the Office of Substance Abuse Prevention (OSAP) listed over 100 specific risk and protective factors for drug use (Gopelrud, 1992). A recent review of empirical research on risk and protective factors for drug use identified 17 categories of variables (Hawkins et al., 1992). Interestingly, the OSAP list did not include religion at all, and the review by Hawkins et al. included it under the subheading of alienation and rebellion. Specifically, Hawkins et al. noted that "alienation from the dominant values of society, low religiosity, and rebelliousness have been shown to relate positively to drug use and delinquent behavior" (p. 85). The limited attention given to religion as it relates to drug use is particularly curious in light of Gorsuch's earlier finding that religion was "the most consistently replicated correlate of nonabuse" (1988, p. 209). Despite the fact that recent risk and protective factor research has paid relatively little attention to the importance of religion as it relates to drug use, a number of researchers have explicitly examined this relationship. Several of these studies will now be reviewed.

Using data from over 3,000 Canadian adolescents, Adlaf and Smart (1985) examined the relationship between drug use (measured by the frequency of use of alcohol, cannabis, and hallucinogens; medical and nonmedical use of stimulants, barbiturates, or tranquilizers; and a polydrug use index) and religious affiliation (Protestant, Catholic, none), religiosity (very religious, moderately religious, do not care one way or the other), and frequency of church attendance (never to very frequently). They found that Catholic students were less likely than Protestant or unaffiliated students to report cannabis, nonmedical, or hallucinogenic drug use in the previous year. They also found that religiously unaffiliated youth were less likely than Catholic and Protestant youth to have used alcohol in the last year (68% versus 76% and 75% respectively). (This seemingly contradictory finding might be the result of Catholic and Protestant youth's ritual use of alcohol for communion.) The religiosity and church attendance measures both had strong negative relationships with drug use. For example, students who reported that they were very religious were much less likely to use drugs than those who indicated that they did not care about religion one way or the other: alcohol (61% versus 80%), cannabis (8% versus 39%), nonmedical (6% versus 31%), hallucinogenic (2% versus 22%), and medical drug use (10% versus 20%). Similarly, students who reported that they attended religious services very frequently were much less likely to use drugs than students who never attended or who attended less

frequently. The drug use prevalences for the very frequent attendees versus those who never attended religious services were as follows: 62% versus 77% for alcohol, 11% versus 36% for cannabis, 10% versus 28% for nonmedical use, 3% versus 21% for hallucinogens, and 12% versus 21% for medical use. Based on multivariate analyses run separately for males and females and controlling for age, Adlaf and Smart concluded that (1) religious affiliation had relatively little impact on drug use; (2) church attendance was more strongly related to drug use than was the attitudinal religiosity measure; and (3) generally, the strength of the relationship between religion and drug use increased as the drug in question approached the illicit end of the licit–illicit drug continuum.[2]

Analyzing data from a nationally representative sample of U.S. high school seniors. Bachman and Wallace (in press) also found a strong negative relationship between religious commitment (an index that combines self-rated importance and attendance) and drug use (see also Wallace & Bachman, 1991). For example, relative to seniors with low religious commitment, highly religious seniors were much less likely to report daily cigarette use (3% versus 18%), heavy drinking (12% versus 37%), 30-day marijuana use (4% versus 21%), and annual cocaine use (1% versus 6%). Examination of the relationship between religion and trends in drug use suggests that religion "protected" religiously highly committed youth from the drug epidemic experienced by much of the nation.

Hadaway, Elifson, and Petersen (1984) explored the relationship between religion and drug use, paying particular attention to the potential impact of family and the extent to which the impact varied, depending on societal constraints surrounding a particular behavior. The study dealt with multiple measures of religion, including frequency of attendance at religious services, parental attendance at religious services, salience of religion (self-rated importance of religion), respondents' belief that God answers prayer, an index of religious orthodoxy (items like "God really exists"), and a denominational variable trichotomized into fundamentalist Protestant, liberal Protestant, and Catholic. Additionally, they included an attitudinal "morality" variable that asked respondents' level of agreement with the statement "Children should obey all the rules their parents make for them." The dependent measures focused on attitudes toward persons of their own age using alcohol, as well as marijuana and other illicit drugs, and on the respondents' annual use of alcohol, as well as marijuana and other illicit drugs. All the religion measures and the morality measures had a moderate to strong negative relationship with attitudes toward drug use and with actual self-reported use (gammas = $-.27$ to $-.57$). Further, with the exception of the relationship between parents' church attendance and adolescents' drinking, all of the relationships were statistically significant.

A more detailed examination of the relationship between the importance of religion and drug use and church attendance and drug use suggested that the relationships are quite strong (Hadaway et al., 1984). For example, among those who said that religion was extremely important to them, in the previous year 52% did not use alcohol, 83% did not use marijuana, and 97% did not use other illicit drugs. Among adolescents who indicated that religion was not too important, the corresponding figures were 21%, 47%, and 75%, respectively. Denominational affiliation was also an important correlate of substance use: Adolescents belonging to fundamentalist Protestant denominations reported more negative attitudes toward drugs and less substance use than did their Catholic and liberal Protestant counterparts. Similarly, the strength of the negative relationships between alcohol use and attitudes toward drug use tended to be stronger among fundamentalist Protestants than among the other two groups. Multiple discriminant analyses controlling for peer marijuana use, parents' views about peers, fighting with parents, grade in school, academic performance, sex, and closeness to mother revealed that religious salience and peer use were the two best predictors of negative attitudes toward drug and alcohol use. Religious salience was the third strongest predictor of marijuana use (after peer use and grades) and only fifth best in discriminating students who did and did not use an illicit drug other than marijuana. Based on the findings of this study, the authors conclude that (1) higher levels of religious activity, belief, salience, and orthodoxy are associated with lower levels of drug use and (2) the role of religion as an agent of social control appears to be most salient when few other constraining social forces are at work.

In a panel study of the link between religion and marijuana use among 264 American high school youths, Burkett and Warren (1987) found that the negative impact of religion on adolescent marijuana use was primarily indirect, through its impact on the selection of non-marijuana-using peers. Following this study, Burkett (1993) investigated the extent to which parents' religiosity, as perceived by their children, influenced adolescents' alcohol use. He concluded that parental influence was largely indirect, through its impact on both adolescents' peer selection and religious commitment.

In a novel follow-up to an earlier study, Lorch and Hughes (1988) collected data from pastors regarding their church's or denomination's stance on the use of alcohol and other drugs, as well as their efforts to educate youth in their congregations about these substances. The study revealed that religious groups with the most liberal attitudes toward alcohol and drug use (e.g., Jews and Catholics) were least likely to have alcohol and drug education programs, were least likely to forbid alcohol and drug use as part of their teaching about alcohol and drugs, were most likely to view alcohol and drug addiction as an illness, and were least likely to view alcohol and drug addiction as a sin. When they compared their results with the data from their earlier study of alcohol and drug use patterns among over 13,000 youths from various religious denominations (Lorch & Hughes, 1985), the authors found that the liberal

groups had the highest prevalence of alcohol and drug use among young members. Alternatively, those denominations with the most proscriptive beliefs about alcohol and drug use had the greatest number of education programs and the lowest prevalences of alcohol and drug use among their youths. The results of this study suggest that denominational affiliation influenced adolescent drug use through explicit teachings and group expectations, as well as through norms contrary to alcohol and drug use.

In sum, research on adolescent drug use suggests that there is a moderate yet significant inverse relationship between religiosity (attitudes, beliefs, affiliations, and behaviors) and drug use. Young people who frequently attend religious services, who report that religion is important to them, and who belong to religious denominations that explicitly prohibit drug use on average are less likely to be involved with drugs than are their less religiously engaged counterparts. The research suggests that one of the important ways in which religion is related to drug use is through the type of young people adolescents select as peers. Specifically, it appears that religious adolescents are less likely than nonreligious ones to choose young people as friends who use drugs.

Religion and Adolescent Health-Compromising Behaviors: Problems and Limitations

A number of limitations plague the small body of research that has attempted to examine the relationship between religion and adolescent health-compromising behaviors. These limitations include problems in design, problems in the measurement of religion and health-compromising behaviors, and problems in the match between the theoretical frameworks used to guide the research and the actual operationalization of the theoretical constructs.

The design problems most common to research in the area of religion and adolescent health-compromising behaviors are the use of samples that are often small, nonrepresentative, and typically homogeneous with regard to economic and racial/ethnic representation (i.e., middle-class white youth). Another major design limitation is that much of the research has been done on college students instead of on adolescents of various ages in the general population. Given the selection bias with regard to college attendance, as well as the potential effects of the college experience and environment itself on young people's health behaviors and religious attitudes and behaviors, findings from these studies lack generalizibility.

In addition to design problems, serious measurement problems are typical of research on religion and adolescent health. Perhaps the most basic measurement problem in this body of research is the way in which religion is measured. Religion scholars have long theorized about and empirically verified the multidimensional nature of religion (see Spilka, Hood, & Gorsuch,

1985). These dimensions include but may not be limited to a belief or an ideological component, a ritual or behavioral component (e.g., church attendance), an experiential component, and a consequential component (i.e., how religion influences the way in which one lives one's daily life) (Stark & Glock, 1968).

Despite a voluminous body of research on the multidimensionality of religion, the vast majority of research on religion and adolescent health behaviors treats religion as a unidimensional construct, typically assessed by the measures attendance, importance, and affiliation. Williams (1994) has recently provided a comprehensive overview of the weaknesses of these unidimensional measures of religious involvement. The operationalization of religious affiliation as Catholic versus Protestant versus Jewish is problematic because it fails to capture the variation among religious groups. It has long been noted, for example, that there is more variation within the Protestant category than between Protestants and Catholics. The distinction between church and sect is perhaps a more useful way in which to classify denominations (see Iannaccone, 1988). The church–sect distinction may be particularly important as it pertains to health-related behaviors because emphasis on morality and living a distinctive lifestyle are the defining characteristics of religious sects, whereas more traditional religious organizations (i.e., churches) are less likely to emphasize these issues.

Although the frequency of attendance at religious services is a robust correlate of adult and adolescent health outcomes, it is not always an indicator of anything intrinsically religious, it is an inadequate measure of public religious participation, and it captures only a small part of religious commitment and activity (Williams, 1994). Unidimensional measures like attendance and denominational affiliation are particularly problematic as indicators of adolescent religiosity given that the frequency with which most adolescents attend church and the denomination to which they belong are not solely under their personal control; these are choices determined largely by their parents. Measures of subjective religiosity (i.e., how important adolescents feel religion is in their lives) fail to capture the extent to which religiosity is a critical force in helping to define adolescents' identity or the extent to which it is a central part of who they perceive themselves to be. Broad multidimensional measures of religious involvement exist (e.g., Hilty, Morgan, & Burns, 1984) that can facilitate identification of the specific aspects of religious commitment that relate to adolescent health attitudes, beliefs, and behaviors, but they have seldom been used in research on the relationship between religion and adolescents' involvement in health-compromising behavior.

Beyond problems with the measurement of religion, the operationalization of the dependent health outcome variables is also often problematic. Many of the health-related variables with which researchers are concerned are highly

skewed, particularly for younger adolescents (e.g., number of sexual partners, frequency of cocaine use in the last month). Given the limited variability in these dependent measures, it is difficult for any single factor to significantly (in a statistical sense) predict the level of involvement in the behavior in question. This is particularly the case when the distributions of the dependent and independent variables violate the assumptions of the statistical procedures being used.

Related to the measurement problems typical of research on religion and adolescent health outcomes is the mismatch that often occurs between the theoretical issue under investigation and the operationalization of the theoretical constructs. For example, a paper may have as its stated research question "Are religious youth less likely to be sexually active than nonreligious youth?" Although this appears to be a relatively straightforward research question, readily amenable to empirical investigation, differences in sample composition, the way in which the independent variable (religion) and the dependent variable (sexual behavior) are operationalized, and the statistical technique used to examine the relationship may cause researchers to arrive at drastically different conclusions. For example, if the study is conducted on a sample of middle school students, the dependent variable is frequency of sex in the last month (measured zero to one time, two or three times, four or more times), the religion variable is frequency of church attendance ("often," "sometimes," "never"), and the data analytic technique is ordinary least squares regression, it is quite likely that the study will conclude that "religion has relatively little influence on adolescent sexual involvement." The reasons for this conclusion will include the following: (1) there is little variability to explain in the dependent variable because very few middle school students will have had sex in the last month; (2) the religion measure is poor because the response categories are vague and because the frequency with which the average middle school age student attends church is probably not under his or her control; and (3) the use of ordinary least squares regression does not directly address whether religious youth are less likely to be sexually active than nonreligious youth; rather, it addresses the extent to which adolescents' (subjective) church attendance predicts how often they will have had sex in the last month. As a result of the theory–operationalization mismatch, the skewed distribution of the sex variable, the relatively poor measurement of religion, and the mismatch between the chosen data analytic technique and the research question, it is highly unlikely that a substantively significant relationship will be found between religion and adolescents' sexual involvement. On the other hand, a study that closely matches theory and operationalization, utilizes data analytic techniques appropriate for the distribution and form of the dependent variable, and measures religion concretely and multidimensionally will, in all likelihood, conclude that "religion is strongly related to adolescent sexual involvement."

Religion and Adolescent Health-Compromising Behavior: Problems and Prospects

Research on adolescent drug use and research on adolescent sexual activity suggest that religion plays an important, if not central, role in understanding why some young people are less likely to engage in these health-compromising behaviors than others. Nevertheless, religion remains outside the set of widely accepted variables (e.g., peer influence) that researchers recognize must be included in investigations concerning adolescent health. In fact, religion is typically treated as simply a sociodemographic marker that must be "controlled" for, rather than as a variable of primary theoretical and empirical importance. This lack of conceptual and theoretical clarity and sophistication with regard to how, why, when, and under what circumstances religion is expected to relate to health outcomes is perhaps the central problem of research linking religion and adolescent health-compromising behaviors.

As a preliminary effort to address this problem and to take advantage of the opportunity that this problem presents, we have developed a conceptual framework within which to begin to investigate the relationship between religion and adolescent health outcomes (Figure 17.2). The model consists of five basic components: (1) the primary socialization influence of the family; (2) three secondary socialization influences; (3) the mechanisms by which the secondary socialization influences are thought to relate to adolescent health outcomes; (4) the health outcomes themselves; and (5) the macrosociocultural context in which adolescents' lives are nested. Before describing the various components of the model, it is important to reiterate the importance of the measurement of religion.

Measurement of Religion. The model explicitly recognizes religion as a key socialization influence and calls for researchers to recognize the ways in which religious influence operate cooperatively, interactively, or antagonistically with the other socialization influences. A full understanding of the role of religion as it relates to adolescent health outcomes is contingent on the assessment of religion in all of its complexity. Current methods of measuring religion (e.g., denominational affiliation) used in research that examines religion's relationship to adolescent health outcomes are simplistic and, as a result, yield inconsistent results. Future research that measures religion multidimensionally and uses the framework provided by the socialization influence model should yield findings that demonstrate consistently the importance of religion as a key socialization influence on adolescent health outcomes through its effects on the other socialization influences and mechanisms.

Religion and the Primary Socialization Influence. The socialization influence model postulates that adolescent health outcomes, and health-compromising

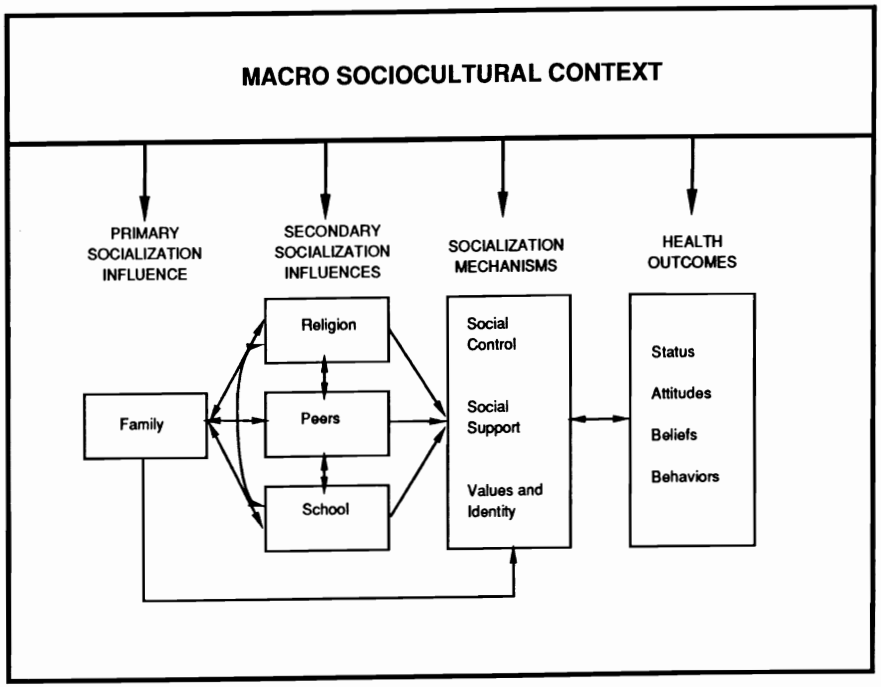

Figure 17.2. Socialization influence framework.

behavior in particular, are the result of a dynamic socialization process that begins in childhood and extends over the life course. As the first source of socialization into the norms and values of the larger society, the family is viewed as the primary socialization influence. Although adolescents experience increasingly greater influence from secondary socialization sources as they age, the influence of parents does not cease; rather, adolescents experience parental influence along with the influence of other domains. Because parents, peer networks, schools, and religion are all presumed to influence adolescents' health outcomes, it is necessary to understand the influence of each of these domains, but the impact of the family is viewed as primary.

The family is typically the child's primary socialization influence during the first few years of life. As children age, however, they are exposed to other socialization influences for increasingly longer periods of time. Eventually, as the children move into adolescence, they begin to attend school full time, to participate in extracurricular activities, to date, and so on, and only a small amount of their day may be under the direct influence, supervision, and observation of parents. Nevertheless, the family remains an important influence in the lives of young people, particularly with regard to their religious socialization and development.

Greater attention needs to be given to the ways in which the primary socialization of children and adolescents within the family context is shaped by religion. Fowler's (1991) work on religious development provides some insights that can be used to examine this relationship. Building on and integrating Piaget's theory of cognitive development, Kohlberg's theory of moral development, and Erikson's theory of psychosocial development, Fowler has proposed a stage model of faith development that begins with the family as the first and primary religious socializer of children. The first stage, primal faith, begins during infancy and lays the foundation for the later stages (Fowler, 1991). During this stage, infants learn to develop trust and to overcome the anxiety that results from separation from significant others. Thus, the foundation for religious faith begins with basic faith in parents, the primary caregivers. The second stage, intuitive-projective faith, emerges during early childhood. During this stage, "imagination, stimulated by stories, gestures, and symbols but not yet controlled by logical thinking, combines with perception and feelings to create long-lasting faith images" (p. 35). Children's perceptions of and thinking about God are drawn from their experiences and interactions with parents and the other adults with whom they have significant emotional attachments. The third stage, the mythic-literal faith stage, begins in and extends through the elementary school years. During this stage, "concrete-operational thinking, the developing ability to think logically, emerges to help [children] order the world with categories of causality, space, time and number" (p. 35). Religious beliefs and concepts are transmitted primarily through stories from parents, religious classes, sermons, and so on, and are taken and interpreted literally.

The fourth stage, the synthetic-conventional faith stage, is hypothesized to begin during early adolescence. Cognitively, this stage is characterized by the emergence of formal operational thinking, the ability to reflect on and integrate past experiences, and concern about identity, the future, and personal relationships (Fowler, 1991). According to Fowler, concerns about personal relationships (e.g., with family members and peers) during this stage "correlate with a hunger for a personal relationship to God in which we feel ourselves to be known and loved in a deep and comprehensive way"(p. 38). During this stage, adolescents integrate the various messages, influences, and pieces of information they receive in their primary roles and relationships into their value system and worldview. The fifth stage of faith, the individuative-reflective stage, emerges during middle to late adolescence and may last through middle adulthood (Fowler, 1991). This is the stage during which adolescents question, examine, and reconstitute the values and beliefs they received from their families and from others responsible for their religious training. It is also during the individuative-reflective stage that adolescents

begin to establish their autonomy with regard to decisions concerning commitments, relationships, and self-identity, including those pertaining to religious commitments and beliefs. Although not yet tested fully and verified empirically, Fowler's theory of the stages of faith development effectively integrates past theoretical work on identity development, moral development, and cognitive development into a useful framework within which to begin to investigate the family's role in religious development across the lifespan.

Religion and the Secondary Socialization Influences. Within the socialization influence model, it is imperative to understand how the influence of religion on the family, and on parents in particular, impacts the other secondary socialization influences. Parents for whom religion is particularly important may seek to shape the other domains of socialization to fit with their religious convictions. More specifically, highly religious parents may send their children to religious schools, may choose the community in which they live based on its religious composition, and may even seek to constrain, either directly or indirectly, their children's choice of friends based on their religious background. The socialization influence model posits that religion is an important socialization influence that operates independently, interdependently, and perhaps even in competition with the other secondary socialization influences to help create and shape the socialization mechanisms that, in turn, impact adolescent health outcomes.

Religion, the Socialization Mechanisms, and Health Outcomes. Theoretical and empirical research has largely ignored the importance of religion as a key factor in understanding adolescent health outcomes. The socialization influence model suggests that religion relates to health outcomes but only indirectly, through its influence on various socialization mechanisms, including social control, social support, and value and identity formation. Given religion's consistently negative relationship to health-compromising behavior, it seems imperative for future research to understand better the social control, social support, and values and identity mechanisms through which religion protects young people from acting in ways potentially detrimental to their long-term health and well-being.

In recent years, considerable debate has arisen concerning the nature of religion's social control effect on adolescent behavior. The impetus for this debate was the publication of Hirschi and Stark's 1969 article "Hellfire and Delinquency." According to Stark (1984), the original purpose of this study was merely to document what everyone knew to be true: that religious commitment is negatively related to delinquent behavior. What Hirschi and Stark found, however, was that young people who attended church and believed in hell and the afterlife were no less likely to engage in deviant acts than were their nonattending, nonbelieving counterparts. As a result of this finding, Hirschi and Stark concluded that "the church is irrelevant to delinquency because it fails to instill in its members love for their neighbors and because belief in the possibility of pleasure and pain in another world cannot now, and perhaps never could, compete with the pleasures and pains of everyday life" (1969, pp. 213–214).

"Hellfire and Delinquency" and the subsequent efforts to confirm or refute its findings all tested an implicitly psychological model. The psychological model tested by Hirschi and Stark posited that religion operates primarily at the individual level as an internalized psychological control against deviant behavior. In time, however, a number of researchers attempted to replicate Hirschi and Stark's findings. Using a sample of youth from a southern U.S. city, Rhodes and Reiss (1970) found that church attendance had a strong negative relationship to delinquent behaviors. The authors suggested that the discrepancy between their findings and those of Hirschi and Stark might have resulted from the higher level of religiosity in the South relative to the West. According to Stark and colleagues, this suggestion provided the key to understanding the relationship between deviance and religion (Stark, 1984). This key was to understand religion not as an individual-level psychological restraint against deviant behavior, but rather as a group or contextual phenomenon, consistent with a more sociological theoretical framework. Stark (1987) concluded, "We cannot assess the impact of religion on conformity unless we examine variations among groups. Put another way, to rediscover religious effects we must rediscover the moral community" (p. 114).

Stark (1984) and Stark et al. (1982) characterize moral communities as those in which people express traditional religious beliefs and engage in traditional religious practices such as attending worship services, praying, and belonging to local churches. In order to test their moral community hypothesis, Stark et al. used data collected in 1966 from a study of white males located in 87 schools. Schools were used as representative of communities. A school was classified as a *secular community* if 60% or more of the sample from that school scored below the mean on a religious values index and if no more than 20% scored at the highest level of the index. *Moral communities* were those not classified as secular. A religious values index was developed that included four questions that asked if it was a good thing (1) to be devout about one's religious faith; (2) to attend religious services regularly; (3) to live one's religion in daily life; and (4) to encourage others to attend services and live religious lives.

Stark et al. empirically demonstrated that there were higher levels of delinquency in the secular communities relative to the moral communities and that the correlation between religiosity (measured by self-rated importance) and delinquency was significantly lower in the secular communities (gamma = .15) than in the moral communities (gamma = .31). Based on these findings, Stark and colleagues concluded that religiosity has a strong negative impact on deviance within the moral community.

Following the lead of "Hellfire and Delinquency," the theoretical models used to guide the empirical investigation of the relationship between religion and health have placed disproportionate emphasis on the constraining, conformist, or other negative social control functions of religion while ignoring the positive control functions that come about by providing a system of social integration and social support. Some recent research has highlighted the social support function of religion (see Brownfield & Sorenson, 1991; Burkett & Warren, 1987). Specifically, this research suggests that one of the most important ways in which religion relates to drug use (and presumably other problem behaviors) is that it influences adolescents' peer selection to include other young people who are not engaged in problem behaviors, and it provides encouragement and social rewards for engaging in conventional behaviors (e.g., doing well in school) versus problem behaviors. In an example from the adult literature, Williams, Larson, Buckler, Heckman, and Pyle (1991) found that religious attendance was not related to psychological well-being once initial health status was controlled; however, further examination revealed that in the face of stress, the social support provided by religious attendance reduced the negative consequences of stress on psychological well-being.

A third key mechanism through which religion is expected to influence adolescents' health outcomes is by its impact on their values and identity. As noted by Williams (1994), "religious socialization, including identification with religious characters or groups, can play a critical role in the establishment of religious identity in particular, and identity formation in general" (p. 140). For many American young people, religion may be much more than just going to church, claiming a denominational affiliation, or believing in the existence of God. For many, their religion – that is, what they believe to be their personal relationship with God and the fellowship they experience with like-minded others – may be central to their identity. If the religion with which these young people identify prohibits the use of drugs, extramarital sex, or other potentially health-compromising behaviors, it is likely that these young people will refrain from them.

Religion and the Macrosociocultural Context. Future research should seek to understand the manner and extent to which the larger macrosociocultural context affects religion, the other socialization influences, and adolescent health outcomes. The socialization influence model suggests that adolescents, their families, their religious beliefs and affiliations, their peer networks, their schools, the socialization mechanisms that influence their health outcomes, and the health outcomes themselves are all nested within and influenced by the larger sociocultural context. Thus, in addition to the condition of the economy, the images presented in the mass media, and other factors, religion at a macro (e.g., national) level might also influence adolescent health outcomes. For example, the relatively high rate of religious commitment and belief among American youth may be a key factor in understanding why America has a higher rate of teenage pregnancy than other nations, even though American teens report levels of sexual involvement similar to those in other nations (OTA, 1991).

If American youths' religious beliefs cause them to feel that sexual involvement before marriage is morally wrong, the consistent use of birth control devices would bring them face to face with the discrepancy between their stated beliefs and their behavior. Youths who are unable to resolve the cognitive dissonance that results from this situation may be less likely to use contraception and thus more likely to conceive a child, even though they are not less likely to be sexually active. A positive relationship between religion and pregnancy among sexually active teenagers and a reciprocal relationship between religion and sex (i.e., resolving the dissonance between being sexually active and religious by becoming less religious) are both possibilities (see Thorton & Camburn, 1989). In other words, although the vast majority of research has viewed religion as a control against health-compromising behavior, such may not be the case. In fact, religion, depending on how it is defined and what it means in a particular sociocultural context, can relate to adolescent health outcomes at multiple levels and in multiple ways. Simplistic theoretical models that hypothesize about adolescents' fear of future "hellfire" and its supposed constraining effects on adolescent health-compromising behaviors are misguided in that they ignore the complex interrelationships that exist between adolescents, their families, their peers, and the social contexts, both micro and macro, in which they live. In order to assess accurately the relationship between religion and adolescent health outcomes, future research must begin to recognize the potential complexity of the relationship. It is hoped that the socialization influence model will assist future research toward this end.

Conclusion

Substantial proportions of American youth report that they believe in God, that they are affiliated with a religious denomination, that they regularly attend church, that religion is important to them, and that they try to live their lives in accord with their religious beliefs. Although past research suffers from a number of design, measurement, and theoretical problems, there appears to be a negative relationship between religion and at least two of the most pressing adolescent health-compromising behaviors in the United States: sexual involvement and drug use. Accordingly, a better understanding of religion may have important implications for research and interventions aimed at preventing health-compromising behaviors among adolescents. In light of this information, scientists, particularly those concerned with prevention, should not ignore the potential opportunities that lie in understanding the mech-

anisms through which religion influences adolescent's health-compromising behavior.

Further, given that religious leaders and institutions are ubiquitous to American communities, that clergy are often sought out before or instead of other mental health professionals, and given that religious organizations are the only American institutions that have frequent, often weekly, access to entire families, political, religious and ideological biases must be put aside in a collaborative effort to promote the health and well-being of America's young people.

Notes

1 The data are unpublished data from the University of Michigan's Monitoring the Future study. The principal investigators are Lloyd Johnston, Jerald Bachman, and Patrick O'Malley.

2 Adlaf and Smart's conclusion that religious affiliation has relatively little impact on drug use is probably a result of the weak measurement of affiliation rather than the lack of a relationship. This assertion is supported by studies reviewed later and by the section of the present chapter on problems and limitations of research on religion and adolescent health-compromising behaviors.

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