



University of Pennsylvania
ScholarlyCommons

Departmental Papers (SPP)

School of Social Policy and Practice

5-4-2007

Adolescent Risk Behaviors and Religion: Findings from a National Study

Jill W. Sinha

Princeton University, jilsinha@camden.rutgers.edu

Ram A. Cnaan

University of Pennsylvania, cnaan@sp2.upenn.edu

Richard W. Gelles

University of Pennsylvania, gelles@sp2.upenn.edu

Follow this and additional works at: http://repository.upenn.edu/spp_papers

 Part of the [Child Psychology Commons](#)

Recommended Citation

Sinha, J. W., Cnaan, R. A., & Gelles, R. W. (2007). Adolescent Risk Behaviors and Religion: Findings from a National Study. Retrieved from http://repository.upenn.edu/spp_papers/54

Postprint version. Published in *Journal of Adolescence*, Volume 30, Issue 2, April 2007, pages 231-249.

Publisher URL: <http://dx.doi.org/10.1016/j.adolescence.2006.02.005>

This paper is posted at ScholarlyCommons. http://repository.upenn.edu/spp_papers/54

For more information, please contact libraryrepository@pobox.upenn.edu.

Adolescent Risk Behaviors and Religion: Findings from a National Study

Abstract

Too few studies have assessed the relationship between youth risk behaviors and religiosity using measures which captured the varied extent to which youth are engaged in religion. This study applied three measures of religiosity and risk behaviors. In addition, this study ascertained information about youths' participation in religious activities from a parent or caretaker. Based on a national random sample of 2,004 teens (ages 11-18), this study indicates that youth perceive religion as important, are active in religious worship and activities, and further shows that perceived importance of religion as well as participation in religious activities are associated with decreased risk behaviors. Looking at ten risk behaviors, religiosity variables were consistently associated with reduced risk behaviors in the areas of: smoking, alcohol use, truancy, sexual activity, marijuana use, and depression. In the case of these six risk variables, religiosity variables were significantly associated with reduced risk behaviors when controlling for family background variables and self esteem. The study highlights the importance of further understanding the relationship between religious variables, background variables, self esteem, and youth risk behaviors.

Keywords

religiosity, risk behavior, self-esteem

Disciplines

Child Psychology

Comments

Postprint version. Published in *Journal of Adolescence*, Volume 30, Issue 2, April 2007, pages 231-249.

Publisher URL: <http://dx.doi.org/10.1016/j.adolescence.2006.02.005>

Adolescent Risk Behaviors and Religion: Findings from a National Study

Jill W. Sinha
Princeton University

Ram A. Cnaan
University of Pennsylvania

Richard J. Gelles
University of Pennsylvania

Mailing address:
School of social Policy and Practice
University of Pennsylvania
3815 Walnut Street
Philadelphia, PA 19104

Adolescent Risk Behaviors and Religion: Findings from a National Study**Abstract**

Too few studies have assessed the relationship between youth risk behaviors and religiosity using measures which captured the varied extent to which youth are engaged in religion. This study applied three measures of religiosity and risk behaviors. In addition, this study ascertained information about youths' participation in religious activities from a parent or caretaker. Based on a national random sample of 2,004 teens (ages 11-18), this study indicates that youth perceive religion as important, are active in religious worship and activities, and further shows that perceived importance of religion as well as participation in religious activities are associated with decreased risk behaviors. Looking at ten risk behaviors, religiosity variables were consistently associated with reduced risk behaviors in the areas of: smoking, alcohol use, truancy, sexual activity, marijuana use, and depression. In the case of these six risk variables, religiosity variables were significantly associated with reduced risk behaviors when controlling for family background variables and self esteem. The study highlights the importance of further understanding the relationship between religious variables, background variables, self esteem, and youth risk behaviors.

Adolescent Risk Behaviors and Religion: Findings from a National Study

How involved in organized religion are teens?

Several years ago, Smith and colleagues (2003) noted that we know relatively little about the religious lives of American youth who are the future of our society. They suggested that the vast majority of American studies in religion focused on adults, while few scholars invested attention to youth's religious lives. They concluded that "As a result, our social scientific knowledge of the religious affiliations, practices, beliefs, experiences, and attitudes of American youth is lacking" (p. 111). Similar assertions have been made by others (cf. Wallace & Forman, 1998). Since then, Smith and Denton (2005) published results on a national sample of adolescents aged 13-17. Their conclusions may come as a surprise: Youth, in general, do not so much as reject the religious affiliation or beliefs of their parents as much as fail to engage religion in a meaningful way. Despite the observation that many youth are cursorily engaged in religion, it appears that even unreflective involvement with religion functions as a protective factor for a number of risk behaviors. In the following section outlines what we know about adolescent religious involvement and discusses research on the link between youth religiosity and risk behaviors.

The George H. Gallup International Institute has conducted a series of studies on youth and religion since the late 1950s. Each survey examined a sample of about 500 teenagers aged 13 to 17. Between the years 1959 and 1993, the proportions of teens who reported belief in God has been consistent. By 1993, the surveys showed only a modest decline in this percentage--down to 95 percent from 97 percent. Teens attend religious services as well: nearly half the teens (49%) reported they had attended religious services in the previous seven days, and more than one-third

of youth surveyed (36%) reported that they participated in a church (or other religious)-based youth group, with African Americans reporting a higher attendance rate than white youth. The Gallup survey findings are generally consistent with other national surveys. Johnson, Bachman, and O'Malley (1976-1995) reported a decline in weekly worship attendance from 41 percent in 1976 to 32 percent in 1992, which remained constant through 1995. In 1991, Johnson and colleagues included younger teens. Younger teens, compared to older teens, reported higher rates of weekly religious attendance but similar rates of the importance of religion in their lives. For example, 42 percent of eighth graders reported weekly religious attendance compared to 37 percent of tenth graders and 32 percent of high school seniors (12th grade). Weekly religious attendance was higher for girls and Blacks.

In addition, a relatively consistent proportion of youth (three in ten) reported that religion played a very important role in their lives (Johnson, Bachman, and O'Malley (1976-1995). However far more youth report that religion is just "important" in their lives: Cnaan, Gelles, and Sinha (2004) found in a national representative sample of over 2,000 teens (aged 11 to 18) that the majority of youth reported that religion is important in their lives (83.7%). The Barna Research Group (1999, 2000) reported that over half of youth (56%) feel that their religious faith is very important in their life, while two-thirds of the teens surveyed describe themselves as "religious" (64%). Nearly 9 out of 10 teens (89%) reported praying weekly, and over half (56%) reported attendance at a congregation on a given Sunday.

Finally, the Barna Research Group found that one-third of teens (32%) reported attending a youth group, other than a small group or Sunday school, each week. When this activity was expanded to include any type of church-related activity that is not worship such as Sunday

school, the proportion grew to seven in ten. Cnaan, Gelles, & Sinha (2004) found a similar proportion of youth (two-fifths or 41.2%) reported being members of a religious-based youth group (ranging from Sunday school to youth ministry).

These sources combined indicate that today's teens are more exposed to organized religion than is often assumed. However, it is important to note that religion and spirituality are just one formative component in teens' lives. Youth are involved in education, pop-culture, peer relationships, limits testing, new physical and cognitive capabilities, dating and sexuality, career planning, establishing autonomy, and learning about the world around them. As such, organized religion and religious teaching are only one voice among a myriad of influences that teens juggle and weigh. As we will suggest, while religion can be a voice of moderation and often promotes pro-social behavior, teens are also inundated by multiple voices calling them to experimentation, including risk-taking. Thus, the assumption that valuing religion and participating in religious activities moderates risk behaviors bears further examination.

This study contributes two methodological strengths to the area of research on adolescent risk taking and religious involvement. First, concrete measures of youth's involvement with organized religious activities were used in conjunction with youth's attitude toward religion –the extent to which youth perceived religion as important. Second, youth's level of participation in religious activities was ascertained by asking a parent or caretaker rather than relying on the youth's self-report. Combined, these two dimensions offer a more conclusive look at the relationship between youth religiosity and risk behaviors. Finally, multiple measures of risk behaviors were used all of which are impacted differently by youth religiosity.

Religion and risk behaviors

Society today is concerned with what seems like high rates of youth involvement in risk behaviors. Whether or not these rates are on the rise or not, youth risk behaviors continues to trouble society, erode families, and pose tremendous challenge to social services. The fiscal and social cost for society today and in the near future of gun violence, truancy, consumption of alcohol and illegal substances is staggering. As such the search for what can explain or mediate risk behaviors is timely.

Many studies suggest a positive connection between membership in faith communities and pro-social behavior. Like adults, who show that affiliation with a socially-supportive group, such as a congregation, corresponds with improved physical and mental health (Bergan & McConatha, 2000; Koenig, McCullough, & Larson, 2001), teens benefit from belonging to a religious group (Donahue & Benson, 1995; Donelson, 1999). Youth participation in religiously-provided programs has been linked to positive ethnic identity formation, relationships with role models, acquisition of school and work related skills, decreased stress, and enduring positive relationships (Damon, 2000; Donelson, 1999; Grant et al., 2000; Smith, 2005; Steele, 1989). A study by Blythe and Leffert (1995) identified youths' attendance at religious services and youths' participation in structured activities, such as provided by a youth group, as two of six factors which promoted community health and youth development. Another study of 99,462 adolescents (6th-12th graders) suggested that religious adolescents reported consistently higher numbers of developmental assets which were also associated with increased restraint and decreased risk behavior (Furrow & Wagener, 2000). Teenagers and teens who reported being academically above average also reported higher rates of religious attendance (Regnerus & Elder, 2003)

These studies joined a litany of research showing an association between the perception of God or religion as important, participation in religious activities, and decreased risk behaviors, ranging from drug and alcohol abuse (Amey, Albrecht, & Miller, 1996; Brownfield & Sorenson, 1991; Gorsuch, 1995; Kharari & Harmon, 1984; McBride, Mutch, & Chitwood, 1996; Miller, Davies, & Greenwald, 2000), to juvenile delinquency (Benda, 1995; Benda & Corwyn, 2001; Cochran, 1989; Stark, Kent, & Doyle, 1982; Roehlkepartain, King, Wagener & Benson, 2006). For example, one study of 8,165 youth in the fifth through ninth grades showed a positive correlation between youth's pro-social behavior and connections to church and religion. Though not significant, the study found relationships between certain family and religion variables and the youth's use or non-use of alcohol and/or drugs. The study suggested that youth were less likely to use alcohol and drugs when the family nurture, affection and closeness was high and when commitment to the church and centrality of religion was high (Forliti & Benson, 1986). In addition, a study of 954 Australian teens (ages 15-19) indicated that youth who consider themselves highly religious were less involved in behaviors that youth in the study classified as high-risk. Membership in a religious group, such as youth group, was negatively correlated with risk-taking, as opposed to membership in a sports group which was positively correlated with risk-taking. In addition, youths' reported religious beliefs were only weakly associated with risk inhibition while membership in a church or faith community was significant in reducing risk behaviors (Abbott-Chapman & Denholm, 2001).

Studying religious U.S. 12th graders, Wallace and Forman (1998) reported that religious youth are less likely than their peers to engage in risk behaviors (e.g., carrying weapons, getting into fights, drinking and driving, and drug use) and are more likely than their peers to engage in

behaviors that enhance their health (e.g. proper nutrition, exercise and rest). The effects of religion on adolescents' health behaviors persisted, even after controlling for key sociodemographic factors.

Despite the above literature, questions about the nature of the relationship between religion and adolescent behaviors remain open. For example, a number of the studies cited here were limited in the size of the sample population, or used populations of youth in private religious schools. The national representative sample used in this paper is more appropriate for generalizing about the general teen population. In addition, this study addresses the methodological concern about the type of measures used to assess the relationship between religiosity and actual lifestyle choices. As Yeung (2004) noted, too many studies about religion and its influence on social issues have used a unilateral view: that is, they included only one measure to represent religion and/or the studied social issues (see also Levin, 1994; McFadden, 1995). Lam (2002) noted that the difference between praying, believing, and attending congregation are so significant that all should be included. In other words, though people may state that religion is important in their lives, this may be reflected quite differently or not at all in their behaviors and social choices. This study's use of three items which assessed youth's valuation of religion and participation in religious activities, along with a parent or caretaker's report of the youth's frequency of involvement in religious activities allows for a more discriminating look at the role of religious values and involvement in relation to youths' engagement in risk behaviors.

As noted in the introduction, while youth may not outrightly reject religious beliefs or involvement, it is not clear that they are embracing it in the same manner done by previous

generations. Smith and Denton (2005) found that while most teens were affiliated with congregations, in interviews with 300 youth, most of the youth were quite inarticulate about what the specifics of their faith were, or how it impacted their lives. However, given the latent role that involvement in a religious community seems to exert on adolescent behavior, our hypothesis is as follows: Teens who report that religion is important in their lives *and* who participate in organized worship and religious activities will exhibit lower rates of risk behaviors.

Furthermore, we believe that the religious variables will contribute to reduced involvement in risk behaviors above and beyond the explanatory power of selected social and psychological variables, such as family background and self esteem. We use self-esteem as a moderating variable as it may foster a cognitive/emotional framework that interacts with substance abuse and other risk behaviors (Warheit, et. al., 1995). That is, teens who exhibit low self esteem are assumed to also exhibit self-rejection and be willing to engage in activities that are risky and illegal. Conversely, Smith and Faris (2002) showed that religious U.S. 12th graders had significantly higher self-esteem and held more-positive attitudes about life in general than their less religious peers. Such personal perceptions are assumed to take place regardless of socio-demographic background and to moderate their explanatory power over risk behaviors. Thus, valuing religions and being involved in a religious community may foster positive self-esteem and perception of self efficacy (Ellison, 1993), or may compensate for low self-esteem by impeding risk behaviors through the formation of pro-social norms and providing role models and a peer environment that are risk avoiding (Brown, 1991). While we cannot examine a causal relationship, we hypothesize that the three religious variables together will add to the

explanatory power of risk behaviors above and beyond the background variables and self-esteem combined.

Methods

Sample

The University of Pennsylvania Center for the Study of Youth Policy surveyed a nationally representative sample of 2004 youth ages 11 to 18 residing at home. The survey was conducted by telephone. The survey research firm, Schulman, Ronca and Bucavalas used a random digit dial procedure to draw the sample. Households that were contacted were initially screened for an eligible youth in the home. The primary screening question was whether there was a youth residing in the home, aged 11 to 18. If there was no eligible youth residing in the home, the interview was terminated. If there was an eligible youth, the parent or guardian was asked a series of questions including the relationship of the person answering the phone to the child and demographic questions including religious affiliation. When more than one eligible child resided in the home, the interviewer selected the child who had the most recent birthday. The adult portion of the interview included informed consent questions that asked permission to interview the youth. The youth portion of the interview began with an informed consent question. The completion rate of the survey, calculated as the percentage of eligible subjects (as determined from the screening question) who completed the interview, was 80.57 percent.

Data Collection

Telephone interviews were conducted during two time periods. The initial data collection period

was May and June 2000. The second data collection period was October and November 2000. Approximately half the sample (1,253) was surveyed in the initial period, while the remaining sample was interviewed during the fall data collection period. Based on a series of t-tests and X^2 squares tests of associations, there were no significant differences between these two groups. On average, interviews lasted 20 to 25 minutes.

Measures

To assess the role of religion in the life of teenagers, we examined three key variables: (1) Perception of religion as important in one's daily life, which was measured by asking each teen respondent: "How important is religion in your life today?" The response was a 5-item Likert scale ranging from "Extremely important" to "Not important at all;" (2) Religious participation, which was measured by asking each parent or caretaker, "to the best of your knowledge, in the past month, how many times has your child attended organized religious worship services?" and (3) Participation in religious programs was measured by asking each parent or caretaker, "Does your child participate in any organized program offered by a religious congregation or a religious organization?"

We applied ten measures of risk behaviors and three measures of religiosity drawn both from the parents/caretakers and the teens. We used ten items measuring various risk behaviors. In most cases the question was originally or later transformed into a yes-no type question eliciting engagement in a certain risk behavior. We asked about smoking (Are you currently a smoker?); alcohol use (Do you currently drink alcohol?); truancy (During the last four weeks, how many whole days of school have you missed because you skipped or "cut"?); vandalism (How many times in the last year have you purposely damaged or destroyed property belonging

to your parents or other family members?); interpersonal violence (How many times in the last year have you hit or threatened to hit anyone else?); sexual activity (Have you ever had sexual intercourse?); marijuana use (Have you ever smoked marijuana?); feeling of depression (During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?); suicide ideation (During the past 12 months, did you ever seriously consider attempting suicide?); and carrying a weapon (During the past 30 days, on how many days did you carry a weapon such as a knife or club?). In the cases of interval variables any response other than “no” was categorized as “yes.”

Background variables were included in order to assess whether these variables had a significant explanatory power which could mitigate the effect of religiosity. Background variables in this study included ethnicity/race, gender, age, household income, level of parent/guardian’s education, and parent’s participation in organized religion. We asked the teen to identify his or her ethnic/racial group. Four key groups were available for analysis: White/Caucasian; African American, Hispanic or Latino, and others. We asked both the parent/guardian and the teen about the teen’s gender (male or female) and the teen’s age (we included only those 11 to 18 years of age). We asked the parent/guardian about the household income and used ten categories in \$10,000 increments with the highest category at \$100,000 or more. Finally, we asked for the highest educational level of the parent/guardian and counted years of education as our measure for the analysis.

Assuming that not only the background influences may be associated with risk behaviors but also the teen’s psychological soundness, we also measured the teen’s self esteem. We used Rosenberg’s self-esteem scale (1965; 1979). We did not score the scale using a Guttman scale,

but totaled the individual 4 category items reversing the negatively worded items. The measure had a Cronbach alpha reliability of .87.

Sample Characteristics

Two thousand and four sets of parent and teen interviews were conducted. The largest cohort of teens was 16-year-olds (15.2%) and the smallest cohort was 18-year-olds (10.6%). The sample was almost equally divided between girls (50.3%) and boys (49.7%). The majority of the teens interviewed were in grades 5 to 12. A small number of teens were attending college (3.2%) or were not in school (3.9%). With regards to race and ethnicity, the largest group of teens identified themselves as white (71.6%), followed by African-American (13.6%), Hispanic (10.3%), Asian or Pacific Islander (2.5%), and American Indian (1.3%). Less than 1 percent (0.7%) identified him- or herself as something other than the above listed groups (18 teens did not answer this question). Ten percent (10.7%) of the parents reported household income in excess of \$100,000 per year, while 11.3 percent reported incomes below \$20,000. In terms of place of residence, the majority of the families reside in suburban communities (47.4%) followed by urban (26.9%) and rural (25.7%). Residence was not included in the analysis as it was not significantly associated with the religion variables or the risk behaviors variables.

When asked about their religious affiliation, most parents responded that they are Protestant Christian (48.2%) followed by Roman Catholic (26.7%). One-eighth (12%) reported that religiously they are “nothing in particular.” One and one-half percent of the sample reported that they were Jewish, while less than one percent of the sample reported they were Muslim (0.4%). Due to the phrasing of this question, we could not distinguish between key Protestant denominations and as such this variable was not included in the analysis.

Results

The first hypothesis focused on the relationship between the three religion-related variables and the ten at-risk behaviors. As Table-1 shows, the perceived importance of religion was significantly associated with eight of the ten risk behavior variables (the two risk behaviors that were not significantly associated with the perceived importance of religion were vandalism and carrying a weapon). For the eight significant associations, the direction of the relationship was as hypothesized--namely, those who perceived religion as important engaged less in the risk behavior.

Insert Table-1 about here

Attendance in organized worship, as reported by a parent or guardian, was significantly associated with five risk behaviors (see Table-1). In all of these, the direction of the relationship was as hypothesized--namely, those who attended worship were less engaged in the risk behavior. Participation in a religious youth group was significantly associated with six risk behaviors in the expected direction (see Table-1). In all six significant associations, those who participate in a religious youth group were less engaged in the risk behavior.

The religion-related variables were hardly or not at all associated with four at-risk behaviors, namely: vandalism, interpersonal violence, suicide ideation, and carrying weapon. The only exceptions for these four risk behaviors were the associations between perception of importance of religion and interpersonal violence ($X^2 = 4.65$, d.f. = 1, $p < .05$) and suicide ideation ($X^2 = 9.00$, d.f. = 1, $p < .01$). It should be noted that the associations between the religiosity variables and vandalism and suicide ideation were found insignificant mostly because

so few of the interviewees (less than 2%) reported any engagement in these activities. As such, the variability was too low to be detected by an explanatory variable.

In order to test the significance of the three religious variables compared to the background variables and controlling for self-esteem, three logistic regression models were compared. The first model included only the five background variables: age of the adolescent, sex (males being noted as zero and females as one), ethnicity (four groups with Whites to be contrasted against, household income, and parent education). The second model added self-esteem, and the third and final model added the religious variables. Our analysis below examines the remaining six risk behaviors that were consistently related to the religious variables: smoking, alcohol use, truancy, sexual activity, marijuana use, and depression. We included only the risk behaviors that the bivariate analyses suggested that at least two religiosity variables are associated with them.

Smoking

As can be seen from Table-2, two of the religious variables that were entered into the multiple logistic regression were significant in the third model. Importance of religion and attendance in worship services were negatively associated with smoking. In other words the more religious a teen perceived him or herself, the less the risk of smoking.

Insert Table-2 about here

In addition to the three religious variables, only age and race (being White compared to being Black), were significant in the final model. Yet, in the first two models, parents' education and household income were positively associated with smoking. In other words, without the contribution of the religious variables, a higher household income and parent's higher level of

education were significantly and positively correlated with youths' incidence of smoking.

The contribution of the religious variables to the previous model was significant. We deducted the likelihood ratio of the last model from the likelihood ratio of the second model and tested the result as X^2 with three degrees of freedom (Allison, 1999; Hosmer & Lemeshow, 1999). The result indicates that adding the three religious variables improved our exploratory power significantly ($X^2 = 31.62$, d.f. = 3, $p < .001$).

Alcohol use

As can be seen from Table-3, only one of the religious variables that was entered into the multiple logistic regression, attending worship services, was significant in the final model. Taken together, when we deducted the likelihood ratio of the last model from the likelihood ratio of the second model and tested the result as X^2 with three degrees of freedom, the result indicated that adding the three religious variables improved our exploratory power significantly ($X^2 = 17.22$, d.f. = 3, $p < .001$).

Insert Table-3 about here

As in the previous analysis, age was a significant explanatory variable in all three models for alcohol use. Household income was also significant in the final model, but in the opposite direction than in smoking. That is, the lower the household income, the higher the likelihood of the teen using alcohol.

Truancy

Two of the religious variables that were entered into the multiple logistic regression were significant in the final model for truancy (Table-4). Both perception of importance of religion

and participation in a religious youth group were negatively correlated with truancy. Taken together, when we deducted the likelihood ratio of the last model from the likelihood ratio of the second model and tested the result as X^2 with three degrees of freedom, the result indicated that adding the three religious variables improved our exploratory power significantly ($X^2 = 20.49$, d.f. = 3, $p < .001$). This finding supports research by Regnerus and Elder (2003), Loury (2004), and Markstrom (1999), who found attendance at religious services, had significant impacts on youths' performance in school and years of education.

Insert Table-4 about here

Three other variables were significant in the final model for truancy. As in the previous analyses, age was positively correlated with truancy and Hispanic teens reported more truancy than white or Black teens. High self-esteem was correlated with reduced likelihood of truancy. These findings are discussed in more detail in the conclusion.

Sexual activity

All three religious variables entered into the multiple logistic regression were significant in the final model (Table-5). Both attendance in worship services and participation in a religious youth group were negatively correlated with sexual activity, whereas perception of the importance of religion was positively correlated with sexual activity. These findings are discussed in more detail in the conclusion. Taken together, the three religious variables significantly added to the explanatory power of sexual activity among teens ($X^2 = 41.82$, d.f. = 3, $p < .001$).

Insert Table-5 about here

Four background variables were also significant in the final model. As expected, age was positively correlated with sexual activity. In addition, Black teens, compared with Latino and White teens were more likely to engage in sexual activity. Household income and education were also significantly and positively associated with youth sexual activity. These counter intuitive findings will be discussed in the concluding section.

Marijuana use

Two of the religious variables that were entered into the multiple logistic regression were significant in the final model (Table-6). Both reported importance of religion and attendance of worship services were negatively correlated with marijuana use. Taken together, the three religious variables significantly added to the explanatory power of marijuana use among teens ($X^2 = 54.85$, d.f. = 3, $p < .001$). Only one background variable, age, was significantly and positively correlated with marijuana use.

Insert Table-6 about here

Depression

Two of the religious variables entered into the multiple logistic regression were significant in the final model (Table-7). Both perception of importance of religion and participation in a religious youth group were negatively correlated with depression. Taken together, the three religious variables significantly added to the explanatory power of depression among teens ($X^2 = 20.50$, d.f. = 3, $p < .001$).

Insert Table-7 about here

Three other variables were significant in the final model. The older the teen, the more accounts of depression were reported. Hispanic teens reported higher rates of depression when compared with White teens. Teens with higher self esteem tended to report lower rates of depression.

Discussion and Conclusions

Our findings demonstrate that religiosity, measured as perceived importance of religion, attendance in worship services, and participation in religious youth group, significantly contributed to explaining variation in six youth risk behaviors (smoking, alcohol use, truancy, sexual activity, marijuana use, and depression). Increased religious perception and increased religious behaviors are generally good predictors of decreased youth risk behaviors. Of course, like all youth, religious youth do engage in risk behavior, but the likelihood of their involvement in risk behaviors is less than those of less-religiously active youth.

One exception to this trend was the correlation between perceived importance of religion and engagement in sexual activity. This correlation was positive. When we looked at the various groups, we found that the highest reported rate of sexual involvement was among Black males (37.6%) followed by Latino males (29.4%) with White males far behind (19.6%). Among females the picture was different. While Black females reported the highest rate of sexual experience (28.1%) they were followed closely by White females (25.4%) and far behind were Latino females (13.8%). As such, Black teens reported being both more religiously active (see also Taylor, Chatters, & Levin, 2003) and most sexually active. This finding corresponds with a finding that religion can interact differently among different ethnic groups. Amey, Albrecht, and Miller (1996) found that religion was more of a deterrent for drug use among Whites than among

Blacks. While we did not find this association regarding substance use, we found it regarding sexual activity.

Another possible explanation to this link between sexual activity and the religious variables is that sexual activity, especially among older teens, is an expression of intimacy and love. These two emotional expressions-intimacy and love, can also be thought of as religious in nature and may explain the higher rate of sexual involvement among teens who reported high levels of *importance* of religion, but not higher attendance at a congregation or youth group.

In terms of social demographic variables, age of the teen was the most consistent and powerful explanation of risk involvement, where engagement in risk behaviors increased with age. Irrespective of age, within each age cohort, teens who reported religion to be important in their lives and teens who participate in religious activities were less likely to engage in risk behaviors. That age is such a powerful explanatory variable is no surprise. The combination of hormonal changes, physical growth, ability to drive or participate in activities independent of a parent or caretaker, and a culture that encourages older teens to experiment with new behaviors means that with each additional year of age, the chance of engaging in risk behaviors increases. The fact that religion continues to have an impact across age cohorts is notable.

Other social or demographic factors did not have a consistent impact, yet posed some interesting questions for future research. Parents' education was positively correlated with engagement in smoking and both parents' education and household income were positively correlated with sexual activity. On the other hand, in this study, unlike other national studies of adolescent alcohol use, household income was negatively correlated with alcohol use (Greenblatt, 2000; Pergamit, Huang, & Lane, 2001; O'Malley, Johnston, & Bachman, 1998).

Clearly, parents' social position, and by extension, their presence and supervisory role in terms of time and style, helps explain variability in some risk behaviors. However, this picture is inconsistent and warrants further study. It is possible that the parents of today are significantly different than those of previous generations. Specifically, we wonder whether parents of today are home with teens less often and thus whether our knowledge about current parenting practices regarding alcohol use and sexual behaviors needs to be studied and refined.

Self esteem, as a representation of the youth's psychological perception of her- or himself, was significantly correlated with only two risk behaviors. In truancy and depression, self esteem played a significant role. Thus, self esteem itself may be a useful predictive variable for only a few risk behaviors. For truancy and depression, adding self esteem to the model yielded a significantly better model. However, when the religious variables were added into these models, in each the model was further and significantly improved over the model with self esteem and the background variables. As hypothesized, in this study the religious variables offered more of a contribution in explaining the variability in the risk behaviors than self-esteem.

There are numerous plausible explanations to account for our findings. We do not claim, nor can we substantiate, that attendance, affiliation with religious activities, or the perceived importance of religion, protected youth from engaging in risk behaviors. While religious teaching might support this explanation, how and if religious teachings are internalized and shape behavior was not addressed in this study. It is possible that involvement with organized religion and perceived importance of religion helped set clear boundaries for teens and teens are more accepting of limits when boundary messages are consistent and well grounded in more than one setting (Ianni, 1989).

We also cannot discern the plausible impact of social bonding of the congregation and group norms set by congregational leaders, religious youth leaders and a peer group. Another reasonable argument is that when youth's time is filled with pro-social, usually supervised, activities with peers, the time available to explore other risk behaviors is minimized. However, it is equally plausible that risk-averse youth seek religious settings while risk seekers avoid religious involvement (Cochran, Wood, Arneklev, 1994). A final possible explanation is that youth who value religion as important and are active with religious congregations have parents who supervise them more closely and encourage them to get involved with organized religion and thus contribute to their decreased risk activity (Cnaan, Gelles, & Sinha, 2004). Furthermore, parents' own religiosity was found to be strongly and positively correlated with reduced risk of adolescents involvement in criminal activities and risk behaviors (Pearce & Haynie, 2001) suggesting that the parents have an important role in helping their children avoid risk behaviors. Smith (2003), for example, found that parental religious participation increases parental moral expectations and supervision of their adolescent children. All of these explanations are possible and call for further investigation into the nature of the relationships of the reported correlations. In particular, the varying influence of religious involvement on different risk behaviors and the interaction of religion with sociodemographic factors pose interesting questions for future study.

At the same time, we cannot rule out the possible impact of the importance of religion on sex as a behavior. The literature is clear that early sexual activity, and having multiple sexual partners, is a strong indicator for contracting sexual diseases. Although all sexually active persons are at some risk for negative sexual outcomes or "sexual risks," adolescents are at extremely high risk. Each year, 9.1 million youth between 15 and 24 years of age will acquire a

STD (Hutchinson, 1999; Weinstock, Berman, & Cates, 2004). Religious beliefs can serve as a deterrent from sexual activity: Moore, Driscoll, and Lindberg (1998) found that of girls who are not engaging in sexual activity, 44 percent cited religious or moral values as their motivation for abstinence. As noted above, Wallace and Forman (1998) found in a large national sample of high school seniors that even after using multivariate analysis, the relationships between religious importance and religious participation and reduced risk behavior persisted even after controlling for demographic factors. As this study used several cohorts of seniors they also found that these relationships existed over time. Wallace and Forman (1998) also noted that given the rise in marijuana use among teens in general it is impressive the religious youth were not affected by this trend.

It should also be noted that of the three measures of religion (perceived importance of religion, congregational attendance, and membership in religious youth group), only the former, which is more impressionistic, was found to be positively correlated with sexual activity in this study. The latter two variables refer to actual involvement in a religious congregation or group and thus suggest that youth are involved in a socialization process rather than just stating a personal attitude or belief. We clearly need more research before being able to answer this question conclusively yet the data regarding the power of a personal sense of religion and religious participation strongly suggest that religiosity itself has strong explanatory power in reduced risk behavior.

The study included teens from 11 to 18 years of age, a relatively wide age span covering adolescent maturational process. A host of studies show that when teens reach the age of 16 their perceived and practiced religiosity decreases. Simultaneously their involvement in risk behavior

increases. The same was found in our sample. At age 16 and beyond most teenagers: undergo major hormonal changes; may obtain a driving license; may start employment and exposure to expanded opportunities; and are starting to find their place in the world vis-à-vis and in contrast to their parents. Still, regardless of age, those who remain most involved in a religious group have reduced probability of engaging in risk behaviors. It is not clear which one leads to the other but their strong association is important for understanding adolescents and assessing appropriate interventions.

This study supports other findings that religious valuation and involvement in religious activities were significantly correlated with reduced probability to engage in numerous risk behaviors. In particular, the study added important knowledge about the strength of religious involvement even when controlling for sociodemographic background variables and self-esteem. These findings suggest that the nexus between religion and youth should be further explored in research and practice. Religious values, in addition to involvement in religious activities, either alone or as moderating variables, are powerful factors that can contribute to explaining significant variability in youths' risk behaviors.

It is of interest that the three variables of religiousness interact differently with the risk behaviors. In particular we draw attention again to the first variable which is the youth's perception of the importance they place on religion in contrast to the second two religious variables which imply involvement in a religious congregation, including having friends and friends' parents and other adults who are involved in the same congregation or who uphold similar values. There is not yet enough research to unpack this "black box" of religious influence. Is the influence of religiousness primarily that of socialization and peer relationships?

Or, is there a unique influence of exposure to religious teaching and personal habits such as prayer and reading scripture which influences adolescents' values and behaviors (Smith 2005; Regnerus, 2003)?

Despite the need for on-going research to confirm what is beneficial about religious involvement for youth, based on these findings it is appropriate to suggest that prevention programs which collaborate with, are anchored in, or are offered by local religious congregations, should be given attention and support by the wider community when it comes to supporting healthy youth development. Given the fact that youth who value religion and participate in congregation's activities are less involved in risk behaviors, it is possible that at-risk youth, in particular, may alter some of their behaviors if they are associated with a caring environment that stresses risk avoidance, pro-social behaviors, positive role models, and healthy relationships (Sinha & Cnaan, 2004). One of the sources of such an environment can be a local congregation that offers programs and activities designed for adolescents. While these data do not lend themselves to a prescriptive analysis, the promise behind our findings calls for openness toward the involvement of faith communities in helping youths integrate and participate with the wider society.

References

- Abbott-Chapman, J. & Denholm, C. (2001). Adolescents' risk activities, risk hierarchies and the influence of religiosity. *Journal of Youth Studies, 4*, 279-297.
- Allison, P. D. (1999). *Logistic regression using the SAS system: Theory and application*. Cary, NC: SAS Institute.
- Amey, C. H., Albrecht, S. L., & Miller, M. K. (1996). Racial differences in adolescent drug use: The impact of religion. *Substance Use and Misuse, 31*, 1311-1332.
- The Barna Research Group (1999, 2000). *Barna research online: Teenagers*. Retrieved November 8, 2000, from <http://www.barna.org/FlexPage.aspx?Page=Topic&TopicID=37>
- Benda, B. B. (1995). The effect of religion on adolescent delinquency revisited. *Journal of Research in Crime & Delinquency, 32*, 446-466.
- Benda, B. B., & Corwyn, R. F. (2001). Are the effects of religion on crime mediated, moderated, and misrepresented by inappropriate measures? *Journal of Social Service Research, 27*, 57-86.
- Bergan A., & McConatha, J. T. (2000). Religiosity and life satisfaction. *Activities, Adaptation and Aging, 24*(3), 23-34.
- Blythe, D. A., & Leffert, N. (1995). Communities as contexts for adolescent development: An empirical analysis. *Journal of Adolescent Research, 10*, 64-87.
- Brown, D. (1991). Religious socialization and educational attainment among African Americans: An empirical assessment. *Journal of Negro Education, 60*, 411-426.
- Brownfield, D., & Sorenson, A. M. (1991). Religion and drug use among adolescents: A social support conceptualization and interpretation. *Deviant Behavior, 12*, 259-276.

- Cnaan, R. A., Gelles, R. J., & Sinha, J. W. (2004). Youth and religion: The Gameboy generation goes to "church." *Social Indicators Research*, 68, 175-200.
- Cochran, J. K. (1989). Another look at delinquency and religiosity. *Sociological Spectrum*, 9, 147-162.
- Cochran, J. K., Wood, P. B., Arneklev, B. J. (1994). Is the religiosity-delinquency relationship spurious? Social control theories. *Journal of Research in Crime and Delinquency*, 31, 92-123.
- Damon, W. (2000). Setting the stage for the development of wisdom: Self-understanding and moral identity during adolescence. In W. S., Brown (Ed.), *Understanding wisdom: Sources, science, and society* (pp. 361-391). Philadelphia: Templeton Foundation.
- Donahue, M. J., & Benson, P. L. (1995). Religion and the well-being of adolescents. *Journal of Social Issues*, 51, 145-160.
- Donelson, E. (1999). Psychology of religion and adolescents in the United States: Past to present. *Journal of Adolescence*, 22, 187-204.
- Ellison, C. G. (1993). Religious involvement and self-perception among Black Americans. *Social Forces*. 71, 1027-1055.
- Forliti, J., & Benson, P. L. (1986). Young adolescents: A national study. *Religious education*, 81, 199-224.
- Furrow, J. L., & Wagener, L. M. (2000). Lessons learned: The role of religion in the development of wisdom in adolescence. In: Brown, W. S. (Ed). *Understanding wisdom: Sources, science, & society*, (pp. 361-391). Philadelphia, PA: Templeton Foundation.
- Gallup, G., Jr. (2001). Americans more religious now than ten years ago, but less so than in

- 1950s and 1960s. Press release by the Gallup Organization, Princeton, NJ. Also:
Retrieved December 2, 2003 from <http://www.gallup.com/poll/releases/pr010329.asp>
- Gorsuch, R. L. (1995). Religious aspects of substance abuse and recovery. *Journal of Social Issues, 51*, 65-83.
- Grant, K. E., O’Koon, J. H., Davis, T. H., Roache, N. A., Poindexter, L. M. Armstrong, M. L., et al. (2000). Protective factors affecting low-income urban African American youth exposed to stress. *Journal of Early Adolescence, 20*, 388-417.
- Greenblatt, J. C. (2000, March). *Patterns of alcohol use among adolescents and associations with emotional and behavioral problems* [Electronic version]. Rockville, MD: Office of Applied Studies, Substance Abuse and Mental Health Services Administration. Retrieved September 10, 2004, from <http://www.health.org/govstudy/adolemotion/>
- Hosmer, Jr. D. W., & Lemeshow, W. (1999). *Applied logistic regression*. New York: John Wiley.
- Hutchinson, M. K. (1999). Individual, family, and relationship predictors of young women’s sexual risk perceptions. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 28*, 60-67.
- Johnston, L. D., Bachman, J. G., O’Malley, P. M. (1976, 1981, 1986, 1991, 1992, 1993, 1994, 1995). *Monitoring the future: Questionnaire responses from the nation’s high school Seniors*. Ann Arbor, Michigan: Institute for Social Research, The University of Michigan.
- Kharari, K., & Harmon, T. N. (1984). The relationships between the degree of professed religious beliefs and the use of drugs. *International Journal of the Addictions, 17*, 847-857.

- Koenig, H. G., McCullough, M. E., & Larson, D. B. (2001). *Handbook of religion and health: A century of research reviewed*. New York: Oxford University Press.
- Lam, P. (2002). As the flocks gather: How religion affects voluntary association participation. *Journal for the Scientific Study of Religion, 41*, 405-422.
- Levin, J. S. (1994). Religion and health: Is there an association, is it valid, and is it causal? *Social Science & Medicine, 38*, 1475-1482.
- Loury, G. C. (2002). *The anatomy of racial inequality*. Cambridge, MA: Harvard University Press.
- Markstrom, C. (1999). Religious involvement and adolescent psychosocial development. *Journal of Adolescence, 22*, 205-221.
- McBride, D. C., Mutch, P. B., & Chitwood, D. D. (1996). Religious belief and the initiation and prevention of drug use among youth. In: C. B. McCoy, L. R. Metsch, et al. (Eds.). *Intervening with drug-involved youth*. (pp. 110-130). Thousand Oaks, CA: Sage.
- McFadden, S. H. (1995). Religion and well-being in aging persons in an aging society. *Journal of Social Issues, 51*, 161-175.
- Miller, L., Davies, M., & Greenwald, S. (2000). Religiosity and substance use and abuse among adolescents in the National Comorbidity Survey. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 1190-1197.
- Moore, K. A., Driscoll, A. K., & Lindberg, L. D. (1998). *A statistical portrait of adolescent sex, contraception, and childbearing*. Washington, D.C.: National Campaign to Prevent Teen Pregnancy.
- O'Malley, P. M., Johnston, L. D., Bachman, J. G. (1998). Alcohol use among adolescents.

- Alcohol Health & Research World*, 22, 85-94.
- Pearce, L. D. & Haynie, D. L. (August, 2001). Dimensions of religion in families and adolescent delinquency: Examining the role of religious incongruities. Presented at the annual meeting of the American Sociological Association, Anaheim, CA.
- Pergamit, M. R., Huang, L., Lane, J. (2001, August). *The long term impact of adolescent risky behaviors and family environment* [Electronic version]. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. Retrieved September 10, 2004, from <http://aspe.hhs.gov/hsp/riskybehav01>
- Regnerus, M. (2003). Religion and positive adolescent outcomes: A Review of Research and Theory. *Review of Religious Research*, 44: 394-413.
- Regnerus, M., & Elder, G. H. (2003). Staying on track in school: Religious influences in high- and low-risk settings. *Journal for the Scientific Study of Religion*, 42, 633-649.
- Roehlkepartain, E. C., King, P. C., Wagener, L., Benson, P. L. (2006). *The handbook of spiritual development in childhood and adolescence*. Thousand Oaks, CA: Sage.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.
- Sinha, J. W., & Cnaan, R. A. (2004). *Exploring the impact of a faith-based demonstration program for at-risk youth*. Washington, DC: Administration for Children and Families, Health and Human Services.
- Smith, C. (2003). Religious participation and parental moral expectations and supervision of American youth. *Review of Religious Research*, 44, 414-424.

- Smith, C., & Faris, R. (2002). *Religion and the life attitudes and self-images of American adolescents*. Chapel Hill, NC: University of North Carolina, national Study of Youth & Religion.
- Smith, C., & Denton, M. L. (2005). *Soul searching: The religious and spiritual lives of American teenagers*. New York: Oxford University Press.
- Smith, C., Faris, R., Denton, M. L., & Regnerus, M. (2003). Mapping American adolescent subjective religiosity and attitudes of alienation toward religion: A research report. *Sociology of Religion*, 64, 111-133.
- Stark, R., Kent, C., & Doyle, D. P. (1982). Religiosity and delinquency: The ecology of the lost relationships. *Journal on Crime and Delinquency*, 7, 83-96.
- Steele, L. L. (1989). Research in faith development. *Christian Education Journal*, 9(2), 21-30.
- Taylor, R. J., Chatters, L. M., & Levin, J., (2003). *Religion in the lives of African Americans: Social, psychological, and health perspectives*. Thousand Oaks, CA: Sage.
- Wallace, J. M., & Forman, T. A. (1998). Religion's role in promoting health and reducing risk among American youth. *Health, Education & Behavior*, 25, 721-741.
- Warheit, G. J., Biafora, F. A., Zimmerman, R. S., Gil, A. G., et al (1995). Self-rejection/derogation, peer factors, and alcohol, drug, and cigarette use among a sample of Hispanic, African-American, and White non-Hispanic adolescents. *International Journal of the Addictions*, 30(2), 97-116.
- Weinstock, H., Berman, S., & Cates, W. (2004). Sexually transmitted diseases among American youth: Incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health*, 36, 6-10.

Yeung, A. B. (2004). An intricate triangle—Religiosity, volunteering, and social capital: The European perspective, the case of Finland. *Nonprofit and Voluntary Sector Quarterly*, 33, 401-422.

Authors' note: The authors wish to acknowledge the statistical support given by Paul Allison and Vera Huang, University of Pennsylvania. Financial support for data collection was received from the Phillip Morris Corporation. We also want to thank the thoughtful comments received from the journal's anonymous reviewers and especially the editor Professor Alan Waterman.

Table 1: Bivariate associations between faith factors and risk behaviors

Variable	Perception of personal importance of religion (Using Fisher Exact Test of Association)	Congregational attendance in past month (Using T-test)	Participation in youth group (Using Fisher Exact Test of Association)
Smoking (171; 8.5%)	25.92 ***	5.45***	22.35 ***
Alcohol (206; 10.3%)	12.34 ***	4.04 ***	7.50 **
Truancy (267; 13.3%)	17.73 ***	2.37 *	18.96 ***
Vandalism (95; 4.7%)	.04	1.11	.01
Interpersonal violence (553; 27.6%)	4.65 *	1.62	2.64
Sexual activity (466; 23.3%)	30.91 ***	5.45 ***	32.13 ***
Marijuana use (135; 6.7%)	46.82 ***	4.46 ***	14.87 ***
Feelings of depression (286; 14.3%)	9.09 **	1.20	4.40 *
Suicide ideation (109; 5.4%)	9.00 **	.21	3.34
Carrying weapon (142; 7.1%)	.54	.26	1.29

* P < .05
 ** P < .01
 *** P < .001

Table 2: Logistic Regression explaining variability in Smoking (N=1690) (point estimate and 95% confidence limits)

Variable	Background variables (BG)	BG + Self esteem (SE)	BG + SE + Religious factors.
Age of child	1.79 (1.60, 2.01) ***.	1.80 (1.60, 2.02) ***	1.75 (1.59, 1.96) ***
Female Sex	.87 (.60, 1.23)	.87 (.60, 1.26)	.82 (.06, 1.20)
Race (White = reference)			
Black	.29 (.14, .62)**	.29 (.14, .62) **	.36 (.17, .79) *
Hispanic	.48 (.23, 1.02)	.47 (.22, .99) *	.53 (.25, 1.14)
Other race non-white	.85 (.35, 2.12)	.82 (.39, 2.05)	.81 (.32, 2.09)
Household income	1.50 (1.01, 2.25)*	1.51 (1.01, 2.36) *	1.47 (.97, 2.22)
Parent education	1.58 (1.07, 2.36) *	1.59 (1.07, 2.36) *	1.49 (1.00, 2.42)
Self esteem		.80 (.29, 1.20)	.76 (.21, .99)
Perception of personal importance of religion			.44 (1.01, 2.42) *
Congregational attendance in past month			.84 (.75, .93) **
Participation in youth group			.97 (.57, 1.60)
Likelihood ratio	162.83 ***	163.56 ***	195.18 ***

Note: Coefficients are odds ratio.

* P < .05

** P < .01

*** P < .001

Table 3: Logistic Regression explaining variability in use of alcohol (N=1688) (point estimate and 95% confidence limits)

Variable	Background variables (BG)	BG + Self esteem (SE)	BG + SE + Religious factors.
Age of child	1.87 (1.68, 2.09) ***	1.87 (1.68, 2.08) ***	1.84 (1.65, 2.05) ***
Female Sex	1.07 (.76, 1.50)	1.07 (.76, 1.50)	1.04 (.74, 1.47)
Race (White = reference)			
Black	.64 (.35, 1.16)	.64 (.35, 1.15)	.75 (.41, 1.46)
Hispanic	1.31 (.74, 2.33)	1.35 (.76, 2.40)	1.50 (.84, 2.69)
Other race non-white	.57 (.21, 1.51)	.58 (.22, 1.55)	.58 (.22, 1.56)
Household income	.61 (.41, .90) *	.60 (.41, .89) *	.59 (.40, .87) **
Parent education	.98 (.68, 1.41)	.98 (.68, 1.14)	.93 (.64, 1.35)
Self esteem		.82 (.54, 1.26)	.85 (.56, 1.29)
Perception of personal importance of religion			1.48 (.96, 2.24)
Congregational attendance in past month			.91 (.85, .98) *
Participation in youth group			1.01 (.67, 1.53)
Likelihood ratio	209.64 ***	210.49 ***	227.71 ***

Note: Coefficients are odds ratio.

* P < .05

** P < .01

*** P < .001

Table 4: Logistic Regression explaining variability in truancy (N=1666) (point estimate and 95% confidence limits)

Variable	Background variables (BG)	BG + Self esteem (SE)	BG + SE + Religious factors.
Age of child	1.26 (1.18, 1.36) ***	1.28 (1.19, 1.38) ***	1.27 (1.19, 1.36) ***
Female Sex	.99 (.75, 1.33)	1.00 (.75, 1.34)	.98 (.73, 1.31)
Race (White = reference)			
Black	.68 (.41, 1.12)	.68 (.41, 1.12)	.77 (.48, 1.28)
Hispanic	1.75 (1.12, 2.72) *	1.70 (1.09, 2.65) *	1.75 (1.11, 2.74) *
Other race non-white	1.93 (1.07, 3.49)*	1.79 (.98, 3.26)	1.81 (0.99, 3.33)
Household income	1.05 (.76, 1.45)	1.06 (.77, 1.46)	1.02 (.74, 1.41)
Parent education	1.12 (.82, 1.52)	1.11 (.81, 1.51)	1.06 (.778, 1.46)
Self esteem		.49 (.20, .88) **	0.50 (.31, .98) **
Perception of personal importance of religion			.59 (.41, .85)**
Congregational attendance in past month			1.02 (.98, 1.06)
Participation in youth group			.61 (.43, .86)**
Likelihood ratio	59.54 ***	67.05 ***	87.54 ***

Note: Coefficients are odds ratio.

* P < .05

** P < .01

*** P < .001

Table 5: Logistic Regression explaining variability in sexual activity (N=1666) (point estimate and 95% confidence limits)

Variable	Background variables (BG)	BG + Self esteem (SE)	BG + SE + Religious factors.
Age of child	2.02 (1.86, 2.190) ***	2.02 (1.86, 2.20) ***	2.02 (1.85, 2.20) ***
Female Sex	1.05 (.81, 1.37)	1.05 (.81, 1.37)	1.03 (.79, 1.36)
Race (White = reference)			
Black	1.97 (1.34, 2.89) ***	1.97 (1.34, 2.90) ***	2.53 (1.70, 3.78) ***
Hispanic	1.09 (.69, 1.73)	1.09 (.69, 1.73)	1.20 (.75, 1.91)
Other race non-white	.75 (.37, 1.52)	.75 (.37, 1.51)	.77 (.37, 1.59)
Household income	1.41 (1.06, 1.90) *	1.42 (1.06, 1.90) *	1.34 (1.03, 1.88) *
Parent education	1.74 (1.311, 2.31) ***	1.74 (1.31, 2.31) ***	1.63 (1.22, 2.18) ***
Self esteem		.95 (.66, 1.35)	.90 (.59, 1.34)
Perception of personal importance of religion			1.87 (1.32, 2.65) ***
Congregational attendance in past month			.94 (.90, .99) **
Participation in youth group			.74 (.54, 1.02) *
Likelihood ratio	453.85 ***	453.22 ***	495.25 ***

Note: Coefficients are odds ratio.

* P < .05

** P < .01

*** P < .001

Table 6: Logistic Regression explaining variability in marijuana use (N=1687) (point estimate and 95% confidence limits)

Variable	Background variables (BG)	BG + Self esteem (SE)	BG + SE + Religious factors.
Age of child	1.59 (1.42, 1.79) ***	1.60 (1.43, 1.79) ***	1.56 (1.39, 1.75)***
Female Sex	1.33 (.90, 1.99)	1.35 (.91, 2.00)	1.30 (.87, 1.95)
Race (White = reference)			
Black	.62 (.32, 1.21)	.62 (.32, 1.22)	.86 (.43, 1.70)
Hispanic	.81 (.40, 1.66)	.78 (.38, 1.59)	.93 (.485, 1.93)
Other race non-white	.52 (.16, 1.74)	.51 (.15, 1.69)	.53 (.16, 1.93)
Household income	1.25 (.81, 1.93)	1.26 (.81, 1.95)	1.21 (.78, 1.89)
Parent education	1.08 (.71, 1.65)	1.08 (.71, 1.65)	1.01 (.65, 1.56)
Self esteem		.66 (.21, 1.43)	.66 (.21, 1.49)
Perception of personal importance of religion			.43 (.27, .68) ***
Congregational attendance in past month			.86 (.77, .96) **
Participation in youth group			1.05 (.62, 1.76)
Likelihood ratio	86.96 ***	88.43 ***	125.18 ***

Note: Coefficients are odds ratio.

* P < .05

** P < .01

*** P < .001

Table 7: Logistic Regression explaining variability in Feeling of Depression (N=1666) (point estimate and 95% confidence limits)

Variable	Background variables (BG)	BG + Self esteem (SE)	BG + SE + Religious factors.
Age of child	1.10 (1.03, 1.17) ***	1.15 (1.08, 1.233) ***	1.14 (1.06, 1.22) ***
Female Sex	.54 (.41, .72) ***	.54 (.40, .72) ***	.52 (.39, .70) ***
Race (White = reference)			
Black	1.06 (.71, 1.64)	1.09 (.71, 1.66)	1.91 (.76, 1.83)
Hispanic	.84 (.51, 1.40)	.77 (.46, 1.30)	.80 (.47, 1.35)
Other race non-white	1.15 (.59, 2.25)	.95 (.47, 1.93)	.98 (.48, 1.99)
Household income	1.16 (.85, 1.58)	1.19 (.87, 1.63)	1.16 (.85, 1.60)
Parent education	1.18 (.88, 1.60)	1.12 (.83, 1.52)	1.10 (.81, 1.50)
Self esteem		3.055 (2.28, 4.09)***	3.10 (2.61, 4.17)**
Perception of personal importance of religion			.59 (.41, .85) ***
Congregational attendance in past month			.99 (.96, 1.03)
Participation in youth group			.89 (.64, 1.24) **
Likelihood ratio	59.54 ***	67.05 ***	87.54 ***

Note: Coefficients are odds ratio.

* P < .05

** P < .01

*** P < .001