Losing My Religion: The Social Sources of Religious Decline in Early Adulthood

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Many Americans exhibit declining religiosity during early adulthood. There is no consensus about why this occurs, though longstanding assumptions suggest the secularizing effects of higher education, normative deviance and life course factors. We evaluate these effects on decreasing frequency of religious practice, diminished importance of religion and disaffiliation from religion altogether. Results from analyses of the Add Health study indicate that only religious participation suffers substantial declines in young adulthood. Contrary to expectations, emerging adults that avoid college exhibit the most extensive patterns of religious decline, undermining conventional wisdom about the secularizing effect of higher education. Marriage curbs religious decline, while cohabitation, nonmarital sex, drugs and alcohol use each accelerate diminished religiosity — especially religious participation — during early adulthood.

The young adult years of many Americans are marked by a clear decline in outward religious expression, which is popularly thought to hit bottom during – and perhaps because of – the college experience. This is not new news. In the early 1980s, nearly 60 percent of young adults reported attending church less frequently than they did during adolescence (Willits and Crider 1989). Dropping out of organized religion altogether is also evident. Estimates of religious disaffiliation in emerging adulthood typically fall between 30 and 40 percent (Brinkerhoff and Mackie 1993; Hunsberger and Brown 1984; Sandomirsky and Wilson 1990). Seemingly no religious group is immune to this phenomenon: Catholics, Presbyterians and Mormons all lose more members during this stage

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of life than during any other (Albrecht, Cornwall and Cunningham 1988; Hoge 1981; Hoge, Johnson and Luidens 1993).

Several conventional explanations for early adult religious decline have long thrived. When adolescents graduate from (or drop out of) high school and move out of their parents' home, they experience a sudden transition into adulthood. Subsequently, their cognitive understanding of the world expands as they experience life apart from their family and within a new social environment (Hoge, Johnson and Luidens 1993). Typically (but not necessarily) fostered by higher education, this process could cultivate more secularized perspectives on the world – or at least ones at odds with their religious upbringing – which in turn may lead some young adults to cut ties with organized religion. Additionally, greater freedom affords emerging adults the opportunity to cease activities (such as church services) that they find uninteresting or devalued among peers, and to engage in actions that are at odds with their religious tradition's teachings – like those about substance use and nonmarital sex.

Family and union formation are also fairly common during this phase of the life course and often have religious ramifications. Cohabitation tends to be frowned upon by religious groups (given it implies nonmarital sexual behavior), which may reduce religious commitment, while marriage and childbearing may stimulate religious participation (Stolzenberg, Blair-Loy and Waite 1995).

As ought to be evident by now, most studies of religious decline in early adulthood are either dated themselves or make use of dated samples from the 1960s and 1970s. Interest in religious decline in emerging adulthood has itself waned and become more of an assumption than a social phenomenon to be explored and explained. But if religious decline is indeed subject to period and cohort effects (Chaves 1991; Miller and Nakamura 1996), the social processes that precipitate it today may be different from those of a generation ago. Period effects come and go (Argue, Johnson and White 1999), and America's current religious climate is certainly different than it was in the 1960s and 1970s. In this study, we employ data from Waves I and III of the National Longitudinal Study of Adolescent Health (Add Health) - collected in 1994-95 and 2001-02 - to identify sources of three types of religious decline in emerging adulthood: diminished religious service attendance, diminished self-reported importance of religion, and disaffiliation from religion. Before we do that, however, we explore evidence of the three most commonly perceived social sources of religious decline in young adulthood: higher education, the cognitive dissonance that accompanies deviance from religious norms, and life course factors.

Social Sources of Religious Decline

Higher Education

In their work on religious dropouts among college graduates, Caplovitz and Sherrow (1977:109) describe the university environment as "a breeding ground for apostasy," better known as the renunciation of religious faith. A study of the General Social Survey reveals a linear association between education and apostasy, leading its authors to conclude that "higher education tends to expand

one's horizons and may also mean greater exposure to countercultural values. For many persons, such exposure has worked to erode traditional plausibility structures" that uphold organized religion (Hadaway and Roof 1988:36). Other studies have linked college prep courses and educational attainment to declines in religious participation and beliefs in the Bible (Sherkat 1998), and young adults with a college degree give the most secular answers to questions about God and faith, while those who have not attended college offer the least secular (Funk and Willits 1987). So pervasive is this explanation for religious decline that some consider it a "well-established fact that education, even Christian education, secularizes." (Hunter 1983:132). This idea has been employed to explain trends in religious involvement, such as the decline of religious participation among mainline Protestants, a traditionally highly educated group (Wuthnow 1988).

Yet not all findings on the subject augment the education argument. For example, religiosity among emerging adults does not vary by educational attainment (Arnett and Jensen 2002). A different study – this one of Catholics at an elite university – finds that these students exhibit the same level of Catholic identity as other American Catholics (Dillon 1996). Indeed, the religion-education connection is more complex than a simple aggravation effect. Among Presbyterians, education indirectly curbs church attendance habits by negatively affecting religious beliefs and fertility, which are both factors associated with religiosity. But education also exhibits a direct, *positive* effect on church attendance, rendering the total effect of education close to zero (Hoge, Johnson and Luidens 1993).

Furthermore, education's impact on the religiosity of today's college students may be different from that of a generation ago for at least two important reasons. First, college student values have shifted over the past several decades. While in the mid-1960s more than 80 percent of college freshman listed "developing a meaningful philosophy of life" as an essential or very important goal, by 1996 that number had dwindled to just 42 percent. Interestingly, these figures are almost exactly reversed for premiums on "being very well-off financially," (Astin 1998) which reflects current norms about economic success and material wealth (Astin 2004). To the extent that students are more concerned about economic production and financial success and less about morals and beliefs, they may be less prone to grapple with issues central to their religious faith – or to enroll in the types of classes that might challenge that faith.¹ Those who do major in these fields – the social sciences and the humanities – are the most likely to diminish their religiosity (Kimball et al. 2006).

Second, America's colleges and universities have also changed over time. Universities were once widely held to be hostile to religion, but recently they have been described not as a breeding ground for apostasy, but as "a breeding ground for vital religious practice and teaching" (Cherry, DeBerg and Porterfield 2001:295). Indeed, religion may not be as marginalized as some authors (e.g., Marsden 1994) have purported. America's institutions of higher learning – even secular state universities – instead have an (over)abundant supply of religious and para-church organizations to meet the demands of students, and they often teach tolerance and respect for religion in the classroom. In this way, universities may unwittingly accommodate and even encourage religious development in students' lives (Cherry, DeBerg and Porterfield 2001).²

How these changes actually affect religiosity among college students is not well understood. Pascarella and Terenzini (2005) note a shift in the effect of higher education on religious values beginning in the 1990s. In their meta-analysis, all the longitudinal studies conducted since 1990 have noted *increases* in the strength of students' religious convictions during college. While 14 percent of students report a weakening of their religious convictions during their college experience, 48 percent say their religiosity remained stable, and 38 percent claim to have strengthened their religious beliefs (Lee 2002). However, religious practice – defined as church attendance, religious discussion, participation in religious groups, and prayer or meditation – seems to wane during this period (Bryant, Choi and Yasuno 2003). What we may be tracking is a change in how students define or *think* about religion. Collegians may consider themselves religious because they maintain a religious or spiritual belief system, even as their external religious activity tapers off (Pascarella and Terenzini 2005).

Normative Deviation and Cognitive Dissonance

Early adulthood is a time of elevated exposure to – and participation in – behaviors such as binge drinking (Perkins 1987), drug use (Engs and Mullen 1999), and nonmarital sex (Zaleski and Schiaffino 2000), each of which tends to be out of step with the teachings and expectations of most American religious traditions. For some young adults this creates cognitive dissonance – the gap between what they are doing and what they think they ought to be doing. Such dissonance may lead them to distance themselves from organized religion, ascribe less importance to religion, or disassociate from religion altogether. Support for this theory is mixed, but the power of cognitive dissonance certainly varies across religious traditions. For example, 42 percent of Mormon nonattenders cite their "lifestyle was no longer compatible with participation in the church" as a reason for disengagement from the church (Albrecht, Cornwall and Cunningham 1988:69). By contrast, only ³ percent of inactive Presbyterians cite issues of sexual morality or drug use (Hoge, Johnson and Luidens 1993).3 Support for the theory also seems to vary by the behavior in question.

Alcohol Consumption

Religious attendance and salience appear inversely associated with excessive alcohol use among young adults (Engs and Mullen 1999; Wechsler and McFadden 1999). Binge drinking is clearly less evident among the more religious (Borynski 2003; O'Hare 1990; Perkins 1987), but religiosity appears unrelated to actual frequency of drinking (Borynski 2003). None of these studies, however, address the effect of alcohol consumption on religiosity. When this relationship is considered, increasing drinking behavior does not predict significant decreases in religious service attendance or religious salience among adolescents (Regnerus and Uecker 2006). Among college students, though, an increase in the number of hours spent "partying" undermines subsequent religiosity (Bryant, Choi and Yasuno 2003).

Drug Use

Religious or not, most Americans consider drug use more problematic than drinking. One test of the cognitive dissonance explanation finds that a variety of delinquent behaviors, including drug use, predict declining religiosity (Benda and Toombs 2002). Similarly, marijuana use secularizes beliefs and liberalizes morality among Presbyterians (Hoge, Johnson and Luidens 1993). According to the cognitive dissonance theory, then, religious institutions have stricter proscriptions of illicit drug use than of drinking, which would explain why such drug use – but not alcohol use – more consistently diminishes religiosity.

Nonmarital Sexual Behavior

There is limited evidence for the effects of sexual activity on subsequent religiosity. While higher religious involvement is commonly associated with less frequent sexual activity (Rostosky et al. 2004; Zaleski and Shiaffino 2000), the reverse is not often documented. Two studies of adolescents – employing different datasets – suggest sexual behavior does *not* affect subsequent religiosity (Hardy and Raffaelli 2003; Meier 2003). The association may be sensitive to measurement, however. A study of adolescent religious "transformations" (or large changes in church attendance or personal religious salience) notes that previous sexual activity – as well as adolescents' recent experience of first intercourse – predicts considerable decline in how important religion is to them (Regnerus and Uecker 2006).

Thus, evidence for the cognitive dissonance explanation is far from conclusive. Cultural and theological differences in religious traditions make assessing its validity challenging.

Life Course Factors

As young adults move from adolescence to adulthood, many not only form sexual relationships but also decide to cohabit or marry and to have children – though not necessarily in that order. Such decisions have long shaped patterns of adult religiosity.

Marriage

Church attendance and participation are positively correlated with being married (Ploch and Hastings 1998; Thornton, Axinn and Hill 1992), and those who never marry display higher rates of apostasy (Hadaway and Roof 1988; Sandomirsky and Wilson 1990) and are less likely to ever return to religion (Roof 1990). The association with marriage varies by religious homogamy, however: Marriage within one's denomination tends to increase religious service attendance, while attendance for those who marry outside their denomination often decreases (lannaccone 1994). Moreover, marriage may entail different consequences for men than for women. It appears to connect men to organized religion, but the effect for women is insignificant (Wilson and Sherkat 1994).

Cohabitation

Cohabitation, unlike marriage, corresponds with diminished religiosity, since the practice violates the teachings – or at least the sexual norms – of many religious

traditions. With about 40 percent of American women aged 20-29 cohabiting at some point (Bumpass and Lu 2000), this practice could be an important one for understanding patterns of religiosity. A study of Detroit-area young adults notes lower levels of religious participation among cohabitors, even after controlling for earlier religiosity (Thornton, Axinn and Hill 1992). Analysis of the National Longitudinal Study of the High School Class of 1972 corroborates this: Cohabitation retains a clear negative effect on church membership for both women and men in all three waves of the panel study (Stolzenberg, Blair-Loy and Waite 1995).

Parental Status

Having a child bolsters the religiosity of many parents as they seek help in providing children with "a core set of values to live by" (Ingersoll-Dayton, Krause and Morgan 2002:64). Young adults with children are less likely to drop out of organized religion (Sandomirsky and Wilson 1990), and they are more religiously active than those without children (Ploch and Hastings 1998). This effect, like the marriage effect, may be significant only for men (Wilson and Sherkat 1994) and may also be subject to timing. A stronger childbearing effect exists for parents who begin having children in their mid-20s (Stolzenberg, Blair-Loy and Waite 1995). The age of children also matters. As children approach school (or Sunday school) age, their parents' religious participation tends to increase (Argue, Johnson and White 1999; Stolzenberg, Blair-Loy and Waite 1995).

In sum, the debate about young adult religiosity has quieted in recent years (due perhaps to its *assumed* status), but the causes of religious decline during emerging adulthood are not entirely evident and are subject to change. Given the evidence for both religious diversity and resurgence in America, a fresh look at this issue is merited.

Data

The data for this study come from Waves I and III of the National Longitudinal Study of Adolescent Health (Add Health), a panel study funded by the National Institute of Child Health and Human Development and 17 other federal agencies. It is a school-based study of health-related behaviors and their causes, with an emphasis on social context and social networks.

Wave I, conducted in 1994 and 1995, consisted of in-depth interviews with 20,745 American adolescents in grades 7-12. Data were also gathered from these adolescents' parents, siblings, friends, romantic partners, fellow students and school administrators. Schools included in the study were chosen from a sampling frame of U.S. high schools and were nationally representative with respect to size, urbanicity, ethnicity, type (public, private, religious, etc.), and region. The 132 schools that participated ranged in size from 100 to more than 3,000 students.⁴

Wave III was conducted in 2001 and 2002 and consisted of interviews with 15,197 of the Wave I respondents. Almost all Wave III respondents (more than 99 percent) were ages 18-25, and this wave focused on topics more pertinent

to young adults: relationship, marital, childbearing and educational histories, as well as key labor-force events. The study's longitudinal nature allows researchers to view the development of these areas as respondents moved from adolescence to young adulthood. At both waves, interviews were conducted in the respondents' homes. Less sensitive material was recorded by a trained interviewer; more sensitive material was inputted directly by the respondent into a laptop computer.

Measures

Dependent Variables

In our study, we distinguish among three distinct types of religious decline: 1.) diminishing religious involvement, 2.) shrinking personal importance of religion, and 3.) complete disaffiliation from organized religion. Each measure of religious decline is constructed from a combination of Wave I and Wave III religiosity measures.

The first is a decline in religious service attendance between study waves. Religious service attendance taps an individual's involvement in a moral community and his or her level of public religiosity. To measure this, Add Health researchers asked respondents, "In the past 12 months, how often did you attend religious services?" Respondents could choose "never," "less than once a month," "once a month or more, but less than once a week," or "once a week or more." We subtracted the Wave III response from the Wave I response and scored those with at least a one-unit decline in attendance as 1; all others were coded as 0.

To measure religious salience – a more private, subjective aspect of religiosity – interviewers asked, "How important is religion to you?" Again, respondents had four response categories from which to choose: "not important at all," "fairly unimportant," "fairly important," and "very important." Response categories for this variable changed between waves, so responses were recoded to make possible a direct comparison. We constructed our decline in religious salience variable in similar fashion to the attendance variable: The Wave III score was subtracted from the Wave I score and coded dichotomously.

We also employ an indicator of religious disaffiliation. Those who identified with a religion at Wave I but not at Wave III were considered dropouts and coded as 1. All other respondents were coded as 0.

Key Independent Variables

Our first set of independent variables allows us to identify differences in religious decline among religious groups. Then, in order to evaluate the three primary explanations for religious decline in young adulthood, we include the following classes of independent variables in our analyses: education, family formation and behavioral measures.

Religious Affiliation

Members of some religious traditions (such as evangelical Protestants) may be less susceptible to religious decline than others (Smith 1998). Following the

RELTRAD method outlined in Steensland et al. (2000), we assign a religious affiliation variable to each respondent. Respondents are classified as: evangelical Protestant, mainline Protestant, black Protestant, Catholic, Jewish or other religion.

Education

We incorporate a set of dummies for educational attainment. Add Health asked respondents to identify the number of years of schooling they had received, as well as their highest educational degree. Using this information, we divide our sample into six education categories: did not attend college, attended college but did not earn a degree, currently enrolled in a two-year college, currently enrolled in a four-year college, earned an associate's degree, and earned a bachelor's degree or higher.

Family Formation

As measures of family formation, we include dummy variables for the respondents' relationship status at Wave III (currently married, cohabiting or single), as well as whether or not they have a biological child or stepchild living in their home.

Behavioral Measures

We include two measures of sexual activity – a dummy variable for those who had not yet had sex by Wave III and an ordinal variable denoting the frequency of sexual intercourse over the past year. For the frequency of sex variable, we construct seven levels of sexual activity: 0 times over the past 12 months, 1-3 times, 4-15 times, 16-40 times, 41-75 times, 76-100 times, and more than 100 times. Because more than 1,000 respondents indicated they didn't know how many times they had had sex in the past year, we impute missing values for this variable based on the respondents' gender, age, race, region, relationship status, living situation (i.e., whether or not they live with their family of origin), educational attainment and number of sexual partners in the past year.

We also utilize measures of alcohol consumption at Wave I and changes in drinking habits between study waves. Baseline marijuana use and use between waves are both included. These change measures attempt to address whether changes in religiously suspect behaviors accompany religious decline and are chosen because of their high degree of religious relevance. That is, because these behaviors are commonly addressed by religious organizations, they may be especially tied to subsequent religious decline.

Control Variables

In addition to these key independent variables, we include demographic and personality characteristics that are often associated with religiosity and that might constitute selection effects in the study of religious decline. Gender, age and region are all controlled.⁹ A dichotomous variable indicating whether the respondent comes from a biologically intact, two-parent family (at Wave I) is also included in all analyses. "Safe" or risk-averse people tend to exhibit elevated

religiosity (Regnerus and Smith 2005), thus we include a measure of affinity for risk-taking. This question was not asked at Wave I, so we use the Wave III response as indicative of an underlying personality trait.

Additionally, strategic people also tend to be more religious (Regnerus and Smith 2005). The variable we dub "strategic" is a five-item summed index of how strategic a decision-maker the respondent is. The measures include responses to such questions as "When you have a problem to solve, one of the first things you do is get as many facts about the problem as possible." The alpha coefficient of reliability for this set of measures is 0.63.

Finally, we include a control for social desirability, which is thought to affect how respondents answer survey questions on religion. Adolescents who answered "strongly agree" to the statement "you never argue with anyone" were given one point toward three possible points on the social desirability scale. Similarly, one point was given for the same answer to the statement "You never get sad," and likewise for the statement "you never criticize other people." Thus, respondents who emphatically agree with such statements are thought to be characterizing themselves in a more positive light than is possible. The reliability coefficient for this construct is 0.83. For descriptive statistics of all variables, see the Appendix.¹⁰

Analytic Approach

We begin by presenting percentages for each type of religious decline by different social characteristics, followed by three series of nested logistic regression models predicting each of our religious decline variables. Each series has four models. The first model includes religious affiliation variables and our controls. The second model adds educational variables. The third model adds family formation measures, and the final model incorporates behavioral measures. By strategically adding sets of variables, we evaluate not only their effects on the dependent variables, but also how they alter or suppress the influence of the other independent variables on religious decline.

Each table uses a sample of only those respondents "at risk" for each type of religious decline. For example, respondents who report no religious affiliation are not able to give up their affiliation between waves, so they are not included in the analysis. Respondents who, at Wave I, indicated attending religious services never or less than once a month are similarly omitted, as are those who reported religion as not at all important or fairly unimportant to them.

Results

Bivariate Analyses

To begin, Table 1 indicates that we are not tracking something that does not exist. Emerging adults are particularly inclined to reduce their religious participation. Among young adults who are eligible for a decline in religious service attendance (i.e., those who attended at least once a month at Wave I), about 69 percent attend less often than they did as adolescents. However, fewer emerging adults

Table 1: Percent of Young Adults Experiencing Types of Religious Decline

Table 1. Terecit of roung runts Experiencing 1	Decline in		
	religious	Decline in	
	service	importance of	Disaffiliated
	attendance ^a	religion⁵	from religion ^c
Religious Affiliation			
Evangelical Protestant	62.7	19.6	16.8
Black Protestant	62.7	13.6	11.1
Mainline Protestant	73.5	22.2	20.5
Catholic	76.5	22.3	13.4
Jewish	66.8	13.3	8.2
Other religion	58.8	19.9	27.0
Educational Attainment			
Did not attend college	76.2	23.7	20.3
Attended some college but earned no degree	71.5	16.3	14.6
Enrolled in a two-year college	64.9	22.2	19.0
Enrolled in a four-year college	64.2	18.2	13.6
Earned an associate's degree	60.3	15.1	14.4
Earned at least a bachelor's degree	59.2	15.0	15.0
Family Formation			
Currently single	68.4	20.0	16.7
Currently cohabiting	84.5	27.1	22.4
Currently married	56.7	14.1	13.2
Has child or stepchild living in household	67.6	17.6	16.3
Behavioral Variables			
Had sex before age at marriage	72.8	21.0	17.5
Did not have sex before age at marriage	49.6	15.1	14.1
Has ever smoked marijuana	79.2	24.3	21.3
Has never smoked marijuana	60.4	16.5	13.2
Increased alcohol consumption	73.0	21.1	17.2
Did not increase alcohol consumption	62.0	18.4	16.7
All young adults	68.6	20.0	17.0

Notes:

report private religious decline than a dip in attendance, and fewer still disaffiliate from their religious tradition. Only one in five reduce religious salience, and an even smaller number – 17 percent – disaffiliate altogether.¹¹

Declines in religious participation are most evident among mainline Protestants and Catholics. About three-fourths of these young adults curb their service attendance habits. By contrast, just under 63 percent of evangelical Protestants and black Protestants and 67 percent of Jews reduce their attendance. The picture is similar, though not identical, for declines in private religiosity. Again, mainline Protestant and Catholic adults are the most likely to report decreased religious salience in early adulthood. Jews and black Protestants are the least likely, and evangelical Protestants reduce the importance of their faith at a rate

 $^{^{}a}$ N = 7,840 b N = 10,402 c N = 10,731

comparable to the national average. When religious disaffiliation is considered, racial and ethnic ties to religion become apparent. Jews, Catholics and black Protestants – whose cultural heritage is often inextricably linked to religion – drop out of their religion at the lowest frequency, while white Protestants – especially mainline Protestants – have more pronounced rates of disaffiliation.

Religious decline does indeed vary by education level, but not in the way most might expect. For all three types of religious decline, it is the respondents who did not go to college who exhibit the highest rates of diminished religiosity. Those with the highest level of education – the respondents with at least a bachelor's degree – are the least likely to curtail their church attendance. They are followed by those with an associate's degree, then by four-year college students, and then two-year college students. The most educated are also the least likely to report a decrease in religion's importance, although those who attended college but did not finish also report low levels of decline in religious salience. On this measure, two-year college students are nearly as likely to report a decline as those who never attended college. Interestingly, when we look at dropping one's religious affiliation altogether, it is the four-year college students who are least likely to disaffiliate. Here again it is the two-year college students and those who never went to college who are most prone to disaffiliate.

Among family formation variables, only two stand out. Not surprisingly, cohabitors are the most likely individuals to report each type of religious decline: 85 percent diminish their religious service attendance, 27 percent report lower religious salience, and 22 percent drop their religious affiliation altogether. Married respondents, on the other hand, are the least likely to report each type of decline. There are no clear effects of having a child or stepchild living in one's household, although respondents with children appear slightly less likely to report a decline in religious salience.

Finally, all three kinds of religious decline appear higher among those participating in religiously suspect behaviors, most notably premarital sex and smoking marijuana. There is less of a difference between those who increased their drinking and those who did not, although respondents who drank more at Wave III than at Wave I diminish their religious service attendance at noticeably higher rates.

Multivariate Analyses

Decline in Religious Service Attendance

Table 2 displays estimated odds ratios from logistic regression models predicting a decrease in religious service attendance between Add Health Waves I and III. In general, these estimates confirm the bivariate associations witnessed in Table 1. Model 1 suggests that the religious affiliation effects in Table 1 withstand demographic controls: Evangelical Protestants, black Protestants and adherents to "other religions" are significantly less likely than mainline Protestants to curb their religious service attendance. Model 2 reveals that those who have not pursued higher education at all have the highest odds of diminishing their religious service attendance, followed by young adults who attended college but did not receive a degree. Marriage and cohabitation are also salient predictors

Table 2: Odds Ratios from Logistic Regression Models Predicting Decrease in Religious Service Attendance

	Model 1	Model 2	Model 3	Model 4
Demographic and Demonality Effects				
Demographic and Personality Effects Female	.78**	.82**	.84*	.91
			.99	.97
Age	.97	.96		
Lives in the South	.87	.85+	.88	.91
Strategic	.95***	.97**	.97*	.98
Likes taking risks	1.11***	1.12***	1.11***	1.05+
Biologically intact, two-parent family	.68***	.77**	.80**	.81**
Religious Affiliation Effects ^a				
Evangelical Protestant	.63***	.55***	.58***	.62***
Black Protestant	.59***	.53***	.50***	.59***
Catholic	1.16	1.14	1.11	1.10
Jewish	.75	.92	.94	.76
Other religion	.51***	.48***	.50***	.57***
Educational Effects ^b				
Did not attend college		2.01***	2.08***	2.18***
Attended some college but earned				
no degree		1.57***	1.55**	1.46**
Enrolled in a two-year college		1.07	1.08	1.10
Earned an associate's degree		.95	.98	1.02
Earned at least a bachelor's degree		.89	.87	.84
Family Formation Effects		.00	.01	.01
Currently married ^c			.58***	.71**
Currently cohabiting ^c			2.15***	1.73***
			2.13	1.73
Has child or stepchild living in household			.99	.98
			.99	.90
Behavioral Effects				70*
Has not had sex				.72*
Frequency of sex in the last year				1.08**
Frequency of drinking at Wave I				1.21***
Has smoked marijuana at Wave I				1.53**
Change in drinking between waves				1.18***
Change in marijuana use between				
waves				1.52***
Model Fit Statistics				
-2 log likelihood	9,442.3	9,280.8	9,105.6	8,726.5
Pseudo R-square	.03	.05	.07	.11
N .	7,840	7,840	7,840	7,840

Notes: +p < .10 *p < .05 **p < .01 ***p < .001 (two-tailed tests)

^a Reference category = Mainline Protestant ^b Reference category = Enrolled in a four-year college ^c Reference category = Currently single

The regression models also control for the respondent's likelihood of giving socially desirable answers.

of diminished religious participation (Model 3). While cohabitation heightens the odds of reduced religious service attendance, marriage seems to correspond to continued attendance. Those having at least one biological or stepchild living in their household do not appear to be at higher or lower risk for this type of religious decline.

Every behavioral variable included in Model 4 significantly predicts decline in religious service attendance. Maintaining virginity into young adulthood reduces the odds that young adults decrease their service attendance, while having more frequent sexual intercourse in the past year increases those odds. ¹² Reporting higher levels of alcohol consumption at Wave I also increases the odds of a decline, as does a change in drinking level. ¹³ Both marijuana use at Wave I and the onset of marijuana use by Wave III predict an increase in the odds of diminished religious service attendance.

Notably, the relationships between the education and relationship variables and declines in religious participation withstand all controls and independent variables in Model 4. If anything, accounting for family formation and behavioral effects *strengthens* (albeit slightly) the aggravating effect of not having gone to college. The odds ratios for the educated emerging adults are quite robust. The only substantial mediators in Table 2 are the behavioral effects, which explain some – but not all – of the influence of marriage and cohabitation on religious service attendance. Interestingly, even after considering sexual activity, cohabitation remains powerfully associated with religious attendance decline.

Decline in the Importance of Religion

Table 3 presents odds ratios predicting a decrease in the importance of religion, or religious salience, between adolescence and emerging adulthood. Compared to attendance, diminishing religious salience is certainly more difficult to predict, perhaps since it is a measure of cognitive valuing rather than an activity requiring repeated decision-making, or perhaps because it is simply much rarer. Model 1 nonetheless reveals patterns similar to those in Table 1. Black Protestant and Jewish respondents have higher odds than mainline Protestants of maintaining their religious salience in early adulthood. Here again, in Model 2 it is those who do not attend college, and not the more educated, who are more likely to report a decline in the importance of religion. Model 2 also indicates that students at two-year colleges are about 29 percent more likely than those at four-year colleges to report diminished religious salience.

Adding family formation variables (in Model 3) reveals that the odds that cohabiting individuals will reduce their religious salience are 44 percent higher than the odds among those who are not married or cohabiting. Marriage, as is the case with religious service attendance, is associated with lower odds of diminished private religiosity.

We find fewer significant relationships among our behavioral measures in Model 4 (when compared with attendance). When considering the importance of religion in young adults' lives, virginity maintenance does not appear to matter. The frequency of intercourse does. With increased sexual activity, the odds also increase that emerging adults will say religion is less important than they once

Table 3: Odds Ratios from Logistic Regression Models Predicting Decrease in Importance of

Religion

Kengion	Model 1	Model 2	Model 3	Model 4
Demographic and Personality Effects				
Female	.74***	.76***	.77***	.79**
Age	.93**	.93*	.95*	.97
Lives in the South	.71***	.71***	.73**	.75**
Strategic	.98	.99	.99	.99
Likes taking risks	1.05	1.05	1.04	1.03
Biologically intact, two-parent family	.78***	.83**	.85*	.86*
Religious Affiliation Effects ^a				
Evangelical Protestant	.96	.91	.92	.93
Black Protestant	.60***	.58***	.56***	.58***
Catholic	.99	.98	.97	.98
Jewish	.52*	.58+	.57*	.57*
Other religion	.90	.88	.90	.92
Educational Effects ^b				
Did not attend college		1.48***	1.49***	1.47**
Attended some college but earned				
no degree		.99	.97	.95
Enrolled in a two-year college		1.29+	1.30*	1.28+
Earned an associate's degree		.91	.93	.93
Earned at least a bachelor's degree		.96	.93	.92
Family Formation Effects				
Currently married ^c			.71**	.83
Currently cohabiting ^c			1.44***	1.28*
Has child or stepchild living in				
household			.92	.94
Behavioral Effects				
Has not had sex				.98
Frequency of sex in the last year				1.07**
Frequency of drinking at Wave I				.94
Has smoked marijuana at Wave I				1.35**
Change in drinking between waves				.98
Change in marijuana use between				
waves				1.42***
Model Fit Statistics				
-2 log likelihood	10,199.0	10,142.7	10,074.3	10,007.9
Pseudo R-square	.02	.03	.03	.04
N	10,402	10,402	10,402	10,402

Notes: +p < .10 *p < .05 **p < .01 ***p < .001 (two-tailed tests)

^a Reference category = Mainline Protestant ^b Reference category = Enrolled in a four-year college ^c Reference category = Currently single

The regression models also control for the respondent's likelihood of giving socially desirable answers.

reported. Drinking habits neither increase nor decrease the odds of diminished religious salience. Marijuana use affects religious salience somewhat differently. There are no effects of marijuana use at baseline, but respondents who used marijuana for the first time between study waves experience increased odds that they would reduce their religious salience. We should also note that, as with religious service attendance, young people who do not attend college remain more likely to report reduced religious salience, net of life course and behavioral factors. Cohabitors' proclivity for diminished importance of religion is partially explained by their behavioral characteristics (most notably, sexual behavior). Unlike in Table 2, however, behavioral effects eliminate the effect of marriage. Those who marry may also be more likely to avoid these religiously problematic behaviors which typically lead to reduced religious salience.

Disaffiliation from Religion

Table 4 shifts attention to religious disaffiliation. And again, the bivariate relationships in Table 1 are robust to controls. Model 1 indicates that black Protestants, Catholics and Jews – those who have racial and ethnic ties to their religion – have lower odds (than mainline Protestants) of dropping their religion entirely. Similar to Table 3, those who did not attend college and two-year college students are much more likely – 61 and 54 percent more, respectively – than four-year college students to relinquish their religious affiliation. Model 3 suggests that, as with declines in service attendance and the importance of religion, the odds that cohabitors will drop their religious affiliation are higher than those of single adults. We also witness a protective effect of marriage on religious disaffiliation. Parents are not statistically different from other young adults when it comes to dropping out of their religious tradition.

Finally, only two behavior variables predict dropping out of religion (in Model 4). Those who had ever smoked marijuana by Wave I are more than twice as likely to have dropped their religious affiliation by Wave III. Additionally, the odds of dropping out increase by nearly 50 percent for those who initiated marijuana use between study waves. Interestingly, despite its effects on religious service attendance and religious salience, sexual activity does not seem particularly helpful for predicting religious dropouts. Neither does drinking behavior. The behavioral measures reduce the effects of cohabiting and marriage to marginal statistical significance, and the aggravating effects of either foregoing college or attending a two-year college remain even in our most complete model.

Discussion and Conclusions

Young adults are vastly more likely to curb their attendance at religious services than to alter how important they say religion is in their life or to drop their religious affiliation altogether. While attendance wanes for nearly 70 percent of these individuals, only about one fifth exhibit diminished religious salience, and even fewer – about one in six – disaffiliate from religion. So what precipitates these declines? We evaluated the three most common assumptions: higher education, normative deviation and life course effects.

Table 4: Odds Ratios from Logistic Regression Models Predicting Disaffiliation from Religion

Demographic and Personality Effects Female .73***		Model 1	Model 2	Model 3	Model 4
Female .73*** .74*** .75*** .77*** Age .95+ .95+ .96+ .94* Lives in the South .55**** .54**** .56*** .58*** Strategic .98+ .98 .98 .99 Likes taking risks 1.02 1.02 1.01 .99 Biologically intact, two-parent family .71**** .75**** .77**** .81*** Religious Affiliation Effects* .95 .89 .91 .92 Black Protestant .57*** .55**** .54**** .56*** Catholic .57*** .55*** .54**** .56*** Jewish .33* .35* .35* .31* Other religion 1.47*** 1.45*** 1.48*** 1.51*** Educational Effects*	Domographia and Paragnality Effects				
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Lives in the South .55*** .54*** .56*** .58*** Strategic .98+ .98 .98 .99 Likes taking risks 1.02 1.02 1.01 .99 Biologically intact, two-parent family .71*** .75*** .77*** .81** Religious Affiliation Effects* .95 .89 .91 .92 Black Protestant .95 .89 .91 .92 Black Protestant .57*** .55*** .54**** .56*** Catholic .57*** .55*** .54**** .56*** Jewish .33* .35* .35* .31* Other religion 1.47** 1.45*** 1.48*** 1.51** Educational Effects* 1.01 1.48*** 1.51*** Did not attend college 1.61**** 1.60**** 1.55*** Attended some college but earned no degree 1.19 1.18 1.13 Earned an associate's degree 1.54*** 1.53*** 1.50*** Earned at least a b					
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Likes taking risks					
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Attended some college but earned no degree 1.19 1.18 1.13 Enrolled in a two-year college 1.54** 1.53** 1.50** Earned an associate's degree 1.14 1.15 1.15 Earned at least a bachelor's degree 1.31+ 1.29+ 1.32+ Family Formation Effects Currently married° 7.72** 7.9+ Currently cohabiting° 1.31* 1.20+ Has child or stepchild living in household 1.03 1.03 Behavioral Effects Has not had sex 1.05 Frequency of sex in the last year 1.02 Frequency of drinking at Wave I 9.99 Has smoked marijuana at Wave I 2.04*** Change in drinking between waves Change in marijuana use between waves Model Fit Statistics -2 log likelihood 9,411.4 9,318.3 9,618.3 9,222.2 Pseudo R-square 0.04 0.05 0.05 0.06					
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Has not had sex Frequency of sex in the last year Frequency of drinking at Wave I Has smoked marijuana at Wave I Change in drinking between waves Change in marijuana use between waves Model Fit Statistics -2 log likelihood Pseudo R-square 1.05 1.02 2.04*** 2.09 1.49*** 9,99 1.49*** 9,918.3 9,618.3 9,222.2 9,618.3 9,222.2	Has child or stepchild living in household			1.03	1.03
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Pseudo R-square .04 .05 .05 .06		9 411 4	9 318 3	9 618 3	9 222 2
	N	10,731	10,731	10,731	10,731

Notes: +p < .10 *p < .05 **p < .01 ***p < .001 (two-tailed tests)

^a Reference category = Mainline Protestant ^b Reference category = Enrolled in a four-year college ^c Reference category = Currently single

The regression models also control for the respondent's likelihood of giving socially desirable answers.

Higher Education

Sociologists of religion have long linked educational attainment to religious decline (Caplovitz and Sherrow 1977; Hadaway and Roof 1988; Hunter 1983; Sherkat 1998). But the assumption that a college education is the *reason* for religious decline gathers little support here. Emerging adults who do *not* attend college are most prone to curb all three types of religiousness in early adulthood. Simply put, higher education is not the enemy of religiosity that so many have made it out to be. So if a college education is not the secularizing force we presumed it to be, what is going on?

Certainly many college students participate less in formal religious activities than they did as adolescents, but church attendance may take a hit simply because of factors that influence the lives of all emerging adults: the late-night orientation of young adult life; organized religion's emphasis on other age groups, namely school-aged youth and parents; and collective norms about appearing "too religious." (Smith and Denton 2005)

The overwhelming majority (82 percent) of college students maintain at least a static level of personal religiosity in early adulthood. Similarly, 86 percent retain their religious affiliation. For most, it seems religious belief systems go largely untouched for the duration of their education. Religious faith is rarely seen as something that could either influence or be influenced by the educational process. This is true for several reasons. First, some students have elected not to engage in the intellectual life around them. They are on campus to pursue an "applicable" degree, among other, more mundane pursuits, and not to wrestle with issues of morality or meaning. They instead stick to what they "need to know" - that which will be on the exam. Such students are numerous, and as a result students' own religious faith (or lack of it) faces little challenge. Indeed, many university curricula are constructed to reward this type of intellectual disengagement. The modern university seems increasingly interested in certifying students, boosting their technical skill set, and offering, as one example, money-generating "crash course" weekend curricula, all of which are quite distinct from previous emphases on the liberal arts and communication skills. What is not contested, then, cannot be lost. Faith simply remains in the background of students' lives as a part of who they are, but not a part they talk about much with their peers or professors.

Second, while higher education opens up new worlds for students who apply themselves, it can, but does not often, create skepticism about old (religious) worlds, or at least not among most American young people, in part because students themselves do not perceive a great deal of competition between higher education and faith, and also because very many young Americans are so undersocialized in their religious faith (before college begins) that they would have difficulty recognizing faith-challenging material when it appears. And even if they were to perceive a challenge, many young people do not consider religion something worth arguing over.

On the other hand are devoutly religious college students. They arrive on campus *expecting* challenges and hostility to their religious perspectives. When they do not get it, they are pleasantly surprised; when they do, it merely meets their expectations and fits within their expected narrative about college life.

Campus religious organizations anticipate such intellectual challenge and often provide a forum for like-minded students. In fact, college campuses are often less hostile to organized religious expression and its retention than are other contexts encountered by emerging adults, such as their workplaces. Campus religious organizations provide additional religious community to which non-students lack access. Furthermore, the arrival of postmodern, post-positivist thought on university campuses has served to legitimize religiosity and spirituality, even in intellectual circles. Together with heightened emphasis on religious tolerance and emerging emphases on spiritual development, antireligious hostility on campus may even be at a decades-long low.

Normative Deviation and Cognitive Dissonance

On the whole, our findings provide modest support for the normative deviance explanation. Nonmarital sexual activity, frequent alcohol consumption, and marijuana use are all associated with declining religiosity in early adulthood. As the normative deviance theory would suggest, the effects are most pronounced for declines in religious service attendance, a measure of public religiosity that requires repeated decision-making and exposes individuals to religious teachings. Cognitive dissonance can only occur if one is familiar with religious teachings, and church services are the primary means through which these teachings are disseminated. Less objective and more private measures of religiosity, such as religious salience and disaffiliation, are not as affected by these behaviors, which may indicate a lack of religious authority over the personal decisions of young adults.

We must be careful, however, to draw any firm connections here. The study waves are about seven years apart, and it is impossible to discern which came first: the problematic behavior or the religious decline. It is likely that many young adults reduce their religiosity and then commence (religiously) problematic behavior. We suspect the relationship is bidirectional.

Life Course Factors

Marriage

Our evidence suggests that married young adults attend church at higher rates than their single counterparts and more commonly retain their levels of religious commitment. We, like Greeley (1989), attribute this to issues of selection. Marriage and religion are both social commitments; a young adult who is prone to make one commitment is also more likely to make the other. It could also be argued that the relationship here is bidirectional: Young adults who have not reduced their religiosity (i.e., those who are more religious) may choose to marry at higher rates than other young adults. Whichever the case, marriage continues to be associated with heightened religious commitment in early adulthood.

Cohabitation

There remains little doubt about the effects of cohabitation on emerging adult religiosity. Cohabitation is linked to each type of religious decline, which is

consonant with previous findings on the subject (Stolzenberg, Blair-Loy and Waite 1995; Thornton, Axinn and Hill 1992). Interestingly, cohabitation has an independent effect on declines in religious service attendance, even after we consider sexual behavior. Although it is difficult to pinpoint exactly what is going on here, several processes are likely. On one hand, the cognitive dissonance explanation could be in effect and even augmented. That is, cohabitation tends to involve a public component (e.g., a shared address) while a sexual relationship can remain covert. As a result, cohabitors may be met in church with direct and indirect sanctions that criticize their choice. Many may quit attending in anticipation of this; others guit after experiencing it. Alternatively, emerging adults who choose to cohabit may have long since diminished their religiosity and consequently experience no cognitive dissonance (as well as little interest in organized religion). What we can conclude with confidence is that cohabitation and religion continue to be at odds, even as cohabitation becomes increasingly normative. As a result, cohabitation will likely play an increasing role in shaping demographic trends in religious membership for years to come.

Parental Status

We witness no difference in religious decline among emerging adults based on their parental status. This could constitute a change in the effect of childrearing on religiosity, yet we suspect the lack of findings is more indicative of the nature of the Add Health sample than of any changing relationship between parenting and religiosity. Add Health respondents are mostly ages 18-25, meaning the parents among them are comparatively young. If the effect of children is evident only for "conventional" families who marry later and have children beginning in their mid- to late-20s, as Stolzenberg and colleagues (1995) purport, our null finding is not surprising. Furthermore, the children of the respondents are also young. To the extent that school-age children – and not infants – are catalysts for a return to religion (Argue, Johnson and White 1999; Stolzenberg, Blair-Loy and Waite 1995), we should not expect the presence of young children to curb religious decline.

Alternative Explanations

Even after considering the three most prominent social explanations for religious decline in early adulthood (and obtaining statistically significant results), we are able to explain little of the variance in religious decline. What else could be contributing to this phenomenon? First, recall that declines in religious salience and religious disaffiliation are relatively rare occurrences and thus difficult to predict in statistical models. Declines in religious participation, however, are quite common. Smith and Denton's (2005) study of teenagers finds that religious decline is largely attributable to fairly passive processes. Adolescents simply lose interest, just stop going to church, or are incapable of providing a reason altogether. Similarly, the top two reasons Presbyterians drop out ("left home" and "too busy") are also quite ambiguous (Hoge, Johnson and Luidens 1993). We assert that these passive rationales are prominent in early adulthood. Emerging adulthood brings with it a host of responsibilities (e.g., work, school) and opportunities (e.g., increased autonomy) that simply and subtly crowd out religious participation.

If education, family formation and behavioral explanations do not explain much of the religious decline we see in early adulthood, the phenomenon could also be attributable to processes set in motion during adolescence – namely weak religious socialization. If parents do not actively affirm and transmit the oral and written traditions of a religion, their failure to "teach the language" results in young adults who cannot "speak the language" and who are at elevated risk of shedding their religious value system altogether. Thus, once adolescents leave the structures (i.e., families) that have patterned their religious lives, religiosity may simply be left behind as well.

Finally, declines in religious participation could be indicative of the rampant religious privatization among even the most devoutly religious Americans which may cause some young adults to devalue involvement in a religious community. These religious young people may also feel out of place in, or turned off by, religious communities that focus heavily on children and parents, to the exclusion of single and/or childless young adults. Whatever the case, cultural broadening (via higher education) is not often the catalyst for these declines. Rather, religious involvement is simply not a priority among this generation of young adults.

Notes

- 1. These types of classes (e.g., liberal arts, humanities) are relatively easy to avoid because many curricula do not encourage students to take them (Chickering, Dalton and Stamm 2006).
- 2. This may even be intentional in some cases. Several scholars note a recent trend toward fostering spiritual development in college curricula (Astin 2004; Chickering, Dalton and Stamm 2006; Love 2000).
- 3. These studies are not directly comparable. The Mormon nonattenders could choose more than one reason for nonattendance, while the Presbyterians were forced to pick their primary rationale. Still, it would appear lifestyle is a more prominent issue for members of stricter churches.
- 4. Though respondents were interviewed for a second wave one year later, we do not include these data because Wave I high school seniors were (purposefully) left out of the Wave II follow-up. For details on this or other Add Health data, contact the Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 or go to: www.cpc.unc.edu/addhealth/contract.html).
- 5. The question wording changed slightly between Waves I and III. At the latter wave, respondents were asked, "How often have you attended religious services in the past 12 months?"
- 6. Wave III response categories included "never," "a few times," "several times," "once a month," "2 or 3 times a month," "once a week," and "more than once a week." These were recoded to align with the Wave I measure.
- 7. Add Health also altered the wording of this question slightly at Wave III. Respondents were asked, "How important is your religious faith to you?"

- 8. Wave III response categories included "not important," "somewhat important," "very important," and "more important than anything else." In order to assess change between waves, we collapsed two responses from Wave I "fairly unimportant" and "fairly important" and two responses from Wave III "very important" and "more important than anything else." This left us with three response categories roughly equivalent to not important, somewhat important, and very important.
- 9. Because of the inclusion of "Black Protestant" in our models, we do not include a control for race. The two variables are highly correlated (r = 0.86, p < .001), which inflates the standard errors for each when both are included in the models.
- 10. Some studies have also included measures of parental religiosity as predictors of religious decline. We do not include them here because doing so results in a large number of missing cases (between 11 and 14 percent of each of our samples). Ancillary analyses reveal that parent religiosity does protect against each type of religious decline, but it does not significantly alter the odds ratios of the other variables in our models.
- 11. These declines do not appear to be attributable to a period effect. According to data from the General Social Survey, church attendance among 18 through 25 year olds remained static between 1994 and 2002.
- 12. Add Health Wave III contains both married and unmarried respondents, which might conflate the effect of sexual behavior on religious decline (because there is no reason for marital sex to curb religiosity). However, when we split the sample by marital status, the sex variables behaved similarly among both married and unmarried respondents.
- 13. Because alcohol consumption becomes legal at age 21 (and therefore acceptable in most religious traditions), the effects of drinking behavior may be diminished. To test this, we split our sample into 18–20 year olds and 21–25 year olds. The drinking variables behaved similarly among both samples.

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Appendix: Means, Standard Deviations and Ranges of Measures

Variables	Mean (SD), Attendance Sample ^a	Mean (SD), Salience Sample⁵	Mean (SD), Disaffiliation Sample	Panga
variables	Sample	Sample	Sample	Range
Decline in religious service attendance	.69 (.46)	_	_	0,1
Decline in importance of religion	—	.20 (.40)	_	0,1
Disaffiliated from religion	_	——————————————————————————————————————	.17 (.38)	0,1
Female	.52 (.50)	.51 (.50)	.50 (.50)	0,1
Age	21.66 (1.83)	21.76 (1.85)	21.77 (1.84)	18–27
Lives in the South, Wave I	.45 (.50)	.44 (.50)	.41 (.49)	0,1
Strategic, Wave I	18.32 (2.82)	18.31 (2.81)	18.25 (2.81)	5-25
Likes taking risks	3.43 (1.06)	3.43 (1.07)	3.45 (1.06)	1-5
Biologically intact, two-parent family,	, ,	, ,	,	
Wave I	.62 (.48)	.59 (.49)	.59 (.49)	0,1
Did not attend college	.34 (.47)	.38 (.48)	.38 (.48)	0,1
Attended some college but earned				
no degree	.12 (.32)	.12 (.32)	.12 (.32)	0,1
Enrolled in a two-year college	.11 (.32)	.11 (.32)	.11 (.31)	0,1
Enrolled in a four-year college	.26 (.44)	.23 (.42)	.23 (.42)	0,1
Earned an associate's degree	.04 (.21)	.05 (.21)	.05 (.21)	0,1
Earned at least a bachelor's degree	.12 (.32)	.11 (.31)	.11 (.32)	0,1
Currently single	.69 (.46)	.67 (.47)	.67 (.47)	0,1
Currently married	.17 (.38)	.18 (.38)	.17 (.38)	0,1
Currently cohabiting	.14 (.34)	.15 (.36)	.16 (.36)	0,1
Has child or stepchild living in				
household	.19 (.39)	.21 (.41)	.21 (.41)	0,1
Evangelical Protestant, Wave I	.23 (.42)	.23 (.42)	.21 (.41)	0,1
Mainline Protestant, Wave I	.23 (.42)	.24 (.42)	.24 (.43)	0,1
Black Protestant, Wave I	.16 (.37)	.15 (.36)	.13 (.34)	0,1
Catholic, Wave I	.27 (.45)	.27 (.44)	.29 (.46)	0,1
Jewish, Wave I	.01 (.08)	.01 (.09)	.01 (.10)	0,1
Other religion, Wave I	.11 (.31)	.11 (.32)	.11 (.31)	0,1
Had sex before age at marriage	.82(.39)	.84(.37)	.85(.36)	0,1
Has not had sex	.15 (.36)	.14 (.35)	.13 (.34)	0,1
Frequency of sex in the last year	2.00 (2.00)	2.06 (2.01)	2.12 (2.02)	0-6
Frequency of drinking at Wave I	.95 (1.39)	1.03 (1.43)	1.09 (1.45)	0-6
Has smoked marijuana at Wave I Change in drinking between waves	.21 (.41) 1.27 (1.96)	.24 (.43) 1.20 (1.99)	.26 (.44) 1.23 (2.00)	0,1 -6 to 6
Change in marijuana use between	1.21 (1.90)	1.20 (1.99)	1.23 (2.00)	-0 10 0
waves	.22 (.57)	.21 (.57)	.21 (.58)	-1 to 1
Gives socially desirable responses,	.22 (.01)	.21 (.31)	.21 (.30)	-1101
Wave I	.11 (.40)	.11 (.41)	.11 (.40)	0–3
TTUTO I	. 1 1 (.70)	(. 7 1)	. 1 1 (.70)	0 -0

Notes:

Unless otherwise specified, variables are Wave III measures.

 $^{^{\}rm a}$ N = 7,840 $^{\rm b}$ N = 10,402 $^{\rm c}$ N = 10,731