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Abstract

Although previous studies have found that black youths use drugs less than white youths, black-white differences have rarely been explained by using data that span childhood through young adulthood. To fill this research gap, we employ nationally representative panel data to examine whether race differences occur because black youths (1) are less likely to be reared by parents who smoke, drink, and/or use illicit drugs; (2) are less likely to have drug-using friends; more likely to grow up within an evangelical Protestant religion; and (3) are more likely to be religiously involved than white youths are. Results from estimating a series of ordinary least squares regression models show that the race differences in drug use during young adulthood are due partly to differences between black and white youths in exposure to parent and peer drug users, religious involvement, and, to a lesser extent, religious upbringing.

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Prior research has tended to show lower levels of licit and illicit drug use among blacks than among whites during adolescence and young adulthood in the United States (Wallace 1999; Wallace et al. 2003). To explain black-white differences in drug use among youths, previous studies focused on factors or circumstances in which black youths are more protected or at less risk for drug use than are white youths. Such factors include religiosity and exposure to drug users, especially parents and peers (Wallace et al. 1995). However, these studies were based mostly on data collected from a particular age group or grade in school, whether from regional or national samples. As a result, researchers generally failed to study factors of childhood as well as adolescence and young adulthood. This is unfortunate, since prevention researchers have already shown that different risk and protective factors are salient at different points of child or adolescent development (Bell 1986). Indeed, it has become routine for information on developmental processes to be considered in designing appropriate preventive intervention programs (Catalano and Hawkins 1996).

To fill this gap in knowledge, we employ panel data collected from a nationally representative sample of American children who were interviewed and later reinterviewed when they were adolescents and then again as young adults. Specifically, we hypothesize that black youths tend to use drugs less than their white counterparts do partly because black youths are less likely to be reared by parents who smoke, drink, and/or use illicit drugs; are less likely to have drug-using friends; and are more religious in terms of background as well as current involvement. We test this hypothesis by examining whether black-white differences in drug use decrease as we introduce the explanatory variables into a series of ordinary least squares (OLS) regression models. Before presenting our theoretical model, we briefly review prior research on black-white differences in drug use.

BLACK-WHITE DIFFERENCES IN DRUG USE

Previous research has found that black youths are less likely than white youths to drink alcohol, smoke cigarettes, use tobacco products, and use illegal substances, including marijuana (Bachman et al. 1991; Brown et al. 2001; Gillmore et al. 1990; Wallace et al. 1995, 2003). This pattern of race differences during adolescence through young adulthood does not change across different measures of drug use in terms of severity (i.e., casual use versus abuse), type (i.e., prevalence versus frequency), or time period of measurement (i.e., lifetime, annual, and thirty-day rate of use). In sum, the difference in drug use between black and white adolescents and young adults tends to be well established, making an interesting contrast with another empirical observation in criminology:

that black youths tend to be more deviant than white youths in terms of nondrug crime and delinquency.

Researchers have proposed theoretical explanations of this "apparent paradox" (Wallace et al. 1995: 65) of black-white differences among adolescents and young adults (Bachman et al. 1991; Brown et al. 2001; Gillmore et al. 1990; Griesler and Kandel 1998; Hawkins, Catalano, and Miller 1992; Hawkins et al. 1988; Kandel 1980; Kandel et al. 2004; Wallace 1999; Wallace and Bachman 1991; Wallace et al. 1995, 2003; Watt and Rogers 2007; Wells et al. 1992). Among them, Wallace and his associates have contributed the most to the literature on black-white differences in drug use. In their critical review of different explanations of black-white differences in adolescent drug use, Wallace and colleagues (1995) suggest two factors that might be central: exposure to drug users and religion.

Exposure to Drug Users

Akers's (1985) social learning theory explains how drug-using parents and peers come to have intergenerational and intragenerational influence on adolescent drug use (Kandel 1980). For example, children who grow up seeing their parents smoke, drink, or even use illicit drugs are likely to imitate their parents' drug-using behaviors. According to Akers, such observational learning is expected to have an especially significant impact on the initiation of drug use. Also, whether intentionally or not, drug-using parents are likely to socialize their children to consider drug use an acceptable lifestyle, and the children therefore develop favorable attitudes toward drug use (Kandel 1980). Drug-using friends are likely to be aggressive, unapologetic agents of pro-drug socialization through the mechanism of differential reinforcement and peer pressure as well as imitation and changes in attitudes toward drug use. In addition, parent as well as peer drug users offer nonusers an opportunity structure in which drugs are immediately available and easily accessible (Gillmore et al. 1990; Hawkins et al. 1992).

Prior research not only provides empirical support for social learning explanations of drug use in general (Hawkins et al. 1988, 1992; Kandel 1980; Kandel, Simcha-Fagan, and Davies 1986; Thornberry and Krohn 1997; Wallace 1999), but also demonstrates that black adolescents are less likely to have parents and peers who use drugs, whether licit or illicit, and more likely to have perceived risks from drug use as well as to have unfavorable attitudes toward drug use than do their white counterparts (Gillmore et al. 1990; Watt and Rogers 2007). Research also confirms that black adolescents are less vulnerable to the influence of peers, including peer drug users. That is, although the peer factor explains drug use for both white and black adolescents, peer influence on drug use tends to be stronger among white adolescents than among black adolescents (Kandel et al. 2004; Wallace 1999). In sum, black-white differences in parent and peer drug use

are likely to explain some of the black-white differences in drug use among adolescents and young adults.

Religion

There is considerable empirical evidence that religiosity helps to protect youths from illicit drug use, underage drinking, and smoking as well as from crime and delinquency (Baier and Wright 2001; Burkett and Warren 1987; Johnson, Li, and McCullough 2000; Mason and Windle 2002; Miller, Davies, and Greenwald 2000; Nonnemaker, McNeely, and Blum 2003). These protective effects persist even if there is no established social control against such behaviors in the surrounding community (Jang and Johnson, 2001; Johnson et al. 2000). Furthermore, a recent study shows that religious involvement has a cumulative effect throughout adolescence and young adulthood that might reduce the risk of later adult drug use (Jang, Bader, and Johnson 2008).

Social scientists have empirically demonstrated that religious adolescents and young adults are less likely to use drugs than are their nonreligious or less religious counterparts. They explain these religious effects in terms of informal social control, prosocial learning, and stress moderators (Baier and Wright 2001; Hawkins et al. 1988; Jang and Johnson 2001, 2003; Johnson, Li, and McCullough 2000; Kandel 1980; Schulenberg and Maggs 2002; Windle, Mun, and Windle 2005). Also, various measures of religiosity (e.g., religious salience and service attendance) have been found to be protective against drug use among college students (Chawla et al. 2007; White et al. 2008).

In addition, sociological research on religion consistently finds that black Americans report higher levels of religiosity than white Americans. This is partly because religious institutions, specifically black churches, continue to have symbolic centrality in African-American communities (Sherkat and Ellison 1999). Given the important role of the black church within African-American community life, Johnson, Jang, and colleagues (2000) examined whether religious involvement has a protective effect against committing crimes for black youths living in disorganized neighborhoods. Using data from the National Youth Survey, they found that religiosity not only had a significant effect on commission of crime, but also moderated criminogenic effects of neighborhood disorder. In sum, there is increasing empirical evidence that religion might well be a key factor in explaining black-white differences in drug use among American youths.

Although previous studies generally support this line of thought, some drug researchers have suggested a need to focus not only on religious practice, beliefs, and behaviors, but also on denominational affiliation. For example, Wallace and colleagues (2003) found that black students not only were more religious (i.e., regularly attended religious services, perceived greater importance of religion in

life), but also were more likely to be affiliated with a theologically conservative denomination. Consequently, we need to examine whether denominational differences among blacks and whites are related to the use of drugs during adolescence and young adulthood. Specifically, we focus on religious denomination during childhood as a measure of religious background and upbringing to examine the influence of denomination on drug use as well as that of religious involvement during adolescence and young adulthood.

HYPOTHESES

In this study, we intend to examine two hypotheses:

> *Hypothesis 1: Black youths use licit and illicit drugs less than white youths during adolescence and young adulthood*.
>
> *Hypothesis 2: Black-white differences in drug use are explained by the race differences in religious upbringing and childhood exposure to parents' drug use as well as by current religiosity and association with drug-using peers*.

Once we have established the race differences in drug use by testing the first hypothesis, we will test the second hypothesis by using four variables—two exposure (to drug users) variables and two religion variables—individually and jointly in different combinations.

METHODS

Data

Data to test our hypotheses come from the National Survey of Children (NSC). The NSC is a three-wave panel study, conducted in 1976 (Wave 1), 1981 (Wave 2), and 1987 (Wave 3), based on a nationally representative sample of children living in households in the forty-eight contiguous states (Zill et al. 1990). Children born between September 1, 1964, and December 31, 1969, were first interviewed when they were 6 to 12 years old (Wave 1) and were reinterviewed when they were 11 to 16 years old (Wave 2) and 17 to 23 years old (Wave 3). A multistage stratified probability sampling design generated a list of 2,193 households containing one or more eligible children. Data were obtained for 2,301 children based on interviews with 2,279 children or, in 22 cases, the parent most knowledgeable about the child (usually the mother) in 1,747 households, resulting in a completion rate of 80 percent.

The second survey was based on reinterviews with a subsample of the initial sample (1,350 of the 1,747 families) because the focus of the 1981 survey was the

effects of marital conflict and disruption on children. The subsample consisted of 716 "disrupted and reconstituted families" and 634 "stable families"; a total of 1,423 children completed the second interview, showing an overall response rate of 82 percent. Finally, a total of 1,151 Wave 3 interviews were completed, yielding a response rate of 82 percent. Because the attrition between the first and third waves was not random, the data were reweighted to reduce biases introduced by selective attrition. In addition, as was mentioned above, an adjustment was made for the subsampling between Waves 1 and 2. The weighted data are thus "representative of the U.S. population of children born between September 1964 and December 1969 and living in the U.S. in 1976" (Moore and Peterson 1989: 10).

Measurement

Our dependent variable—youth's drug use in adolescence and young adulthood—was measured on the basis of Wave 2 and 3 items asking whether and how often the respondent had used alcohol, cigarettes, and/or marijuana or other illicit drugs. (See Appendix A for the items that were used in the study.) An index of drug use was constructed by adding standardized scores of the items for each wave, given high or at least acceptable factor loadings, ranging from .55 to .67, and inter-item reliability (α = .70 and .60).

To measure whether a youth was reared in a conservative religious tradition during childhood, we used a Wave 1 parent survey item asking, "In what religion, if any, are you raising your child(ren)? What denomination is that?" Parent respondents' answers were classified into twenty categories of religious denomination, adapted from Stark and Glock (1968). On the basis of Steensland and colleagues' (2000) classification scheme, we constructed a dummy variable indicating whether the child was reared in an evangelical Protestant religion.

Items of youth's religiosity are available for Waves 2 and 3. In the Wave 2 survey, parents were asked about the frequency of their children's attendance at religious services, whereas children were asked how much they liked or disliked going to church, synagogue, or Sunday school. We constructed a measure of youth's religiosity during adolescence by combining the two. Youth's religiosity in young adulthood was measured by using five items of the youth's Wave 3 survey, including perceived importance of religion and frequency of religious service attendance. The items' factor loadings, ranging from .45 to .79, and inter-item reliability (α = .79) was high.

In the Wave 3 survey, youth respondents were asked three questions regarding whether their parents drank, smoked, and/or used illicit drugs while the youths were growing up, specifically between the ages of about 8 and 14 years. This period of measurement largely overlaps the time of the Wave 1 survey, when the

respondents were 7 to 12 years old; consequently, we use these items as childhood measures. The items of parent's drug use have acceptable inter-item reliability (α = .60) and were loaded on a single factor with loadings of .42, .42, and .56.

To operationalize peer influence on youth's drug use, we used four items that were included in the last survey. Although they are Wave 3 items, two of them concern whether or not the youth respondent's friends pressured the respondent to use alcohol and illegal drugs during their teen years. Not only does this measurement period overlap with the Wave 2 survey time (when the youths were 11 to 16 years old) more than the Wave 3 survey time (when they were 17 to 22 years old), but also the phrase *teen years*, culturally speaking, is more likely to have meant early to middle adolescence (ages 13 to 16 years) than later adolescence (ages 17 to 19 years) to respondents. For these reasons, we use the two items of peer pressure for drug use as tapping the period of adolescence rather than young adulthood. The other two peer items, however, asked the respondents how many of their friends drank any kind of alcohol and/or used illegal drugs when they were 16 years old. While this coincides with the age of the oldest cohort of the Wave 2 sample, the other five cohorts of respondents turned 16 between Waves 2 and 3. Therefore, we use the two items of drug-using peer association as measures of young adulthood.

We constructed variables of social control, self-control, and general strain theory to adjust for the alternative explanations of the effects of religiosity and the two variables of exposure to drug users. On the basis of Hirschi's (1969) social bonding theory, composite measures of the youth respondent's attachment to parent at Waves 2 and 3 were constructed by using six items and three items, respectively, of affective ties and close communications. Both sets of items are loaded on a single factor with high Cronbach's α: .80 and .84, respectively.

Next, we constructed multi-item measures of low self-control (Gottfredson and Hirschi 1990), using Wave 2 items from the parent survey and Wave 3 items based on the youth's self-report. Although inter-item reliability is relatively low, the items tend to tap dimensions of low self-control, such as impulsivity and risk taking, showing generally acceptable factor loadings with one exception at Wave 3: "I think it's funny when older people get upset because young people play loud rock music." Although this item has a low factor loading, we decided to keep the item because it has face validity. Moreover, deletion of the item caused little change to the scale's inter-item reliability. Next, Agnew's (1992) concept of negative emotions is measured by two items of emotional distress at Wave 2, whereas the Wave 3 survey included sixteen items of depression/anxiety and anger/frustration (see Appendix A).

Finally, besides our key demographic variable, race (0 = white, 1 = black), we controlled for sociodemographic characteristics that tend to be correlated with drug use as well as religion and exposure to drug users (Akers 1985; Gottfredson

and Hirschi 1990; Hawkins et al. 1988; Hirschi 1969; Jang and Johnson 2001, 2003; Johnson et al. 2001; Martino, Ellickson, and McCaffrey 2008; Thornberry and Krohn 1997). Included are the child's sex (0 = male, 1 = female), age, region of residence (dummy variables of Northeast, Midwest, and West, with South being the reference category), family size (i.e., number of children living in the household), family socioeconomic status (sum of standardized scores of family income and parent's education), family disruption (0 = parents being married, widowed, or never married; 1 = parents being divorced or separated), and residential mobility (measured in terms of number of moving during the last five years before each survey). While data for the first four variables come from Wave 1, data for the other three variables were constructed for Waves 2 and 3.

Analytic Strategy

Henceforth, the periods of childhood, adolescence, and young adulthood are also referred to as Times 1, 2, and 3, respectively. We conducted a series of OLS regression analyses to test whether black youths tend to use drugs, licit and illicit, less than their white counterparts do and, if so, whether any observed race differences in drug use can be explained by black-white differences in religious upbringing (being reared in the evangelical Protestant tradition) and exposure to parent's drug use during youth's childhood (Time 1) and current involvement in religion and association with drug-using friends during adolescence and young adulthood (Times 2 and 3). Specifically, we estimated ten regression models of youth's drug use separately for adolescence and young adulthood. Consistent with prior research, we assumed that the effects of independent variables on the dependent variable were contemporaneous rather than lagged over five years (between Waves 1 and 2) or six years (between Waves 2 and 3) except the time-invariant factors (i.e., race and sex) and variables measured at Time 1 (religious upbringing and exposure to parental drug use as well as age, region of residence, and family size). Thus, for example, youth's drug use at Time 2 was regressed on independent variables at Time 2 except the Time 1 variables.

The ten estimated models include baseline (regressing drug use on the race dummy, being black, and control variables) and full models (regressing drug use on all independent variables) with eight intermediates (one or two explanatory variables added to the baseline model) between the initial model and the final model. Each of the first four intermediate models added one key explanatory variable to the baseline model: evangelical Protestant (Model 1), parent's drug use (Model 2), youth's religiosity (Model 3), and drug-using peers (Model 4). The remaining four intermediate models have two variables added at a time: background variables (evangelical Protestant and parent's drug use, Model 5), current variables (youth's religiosity and peer drug use, Model 6), religion

variables (evangelical Protestant and youth's religiosity, Model 7), and exposure variables (parent's and peer drug use, Model 8). We examine whether the explanatory variable(s) account(s) for black-white differences in drug use in terms of changes in size of the race dummy variable's unstandardized coefficient.

RESULTS

Table 1 reports descriptive statistics and frequency distributions of variables that are included in our analysis. After listwise deletion of missing cases, the final weighted sample (N = 1,083) is 15.2 percent black and 48.9 percent female, and as a result of the NSC's oversampling of blacks, households in the South (35.7 percent) were more likely to be selected than were households in the Northeast (23.5 percent), Midwest (32.2 percent), and West (8.6 percent). Also, the average age of the child respondents at Time 1 was 9.04 years, based on the percentages of respondents who were 6 years old (4.0 percent), 7 years old (18.2 percent), 8 years old (17.7 percent), 9 years old (17.8 percent), 10 years old (17.6 percent), 11 years old (21.0 percent), and 12 years old (3.7 percent), and a majority (84.0 percent) of respondents were living with both biological parents. Most child respondents (91.4 percent) were being reared in some religion, evangelical Protestant being the most common religious tradition (42.1 percent) at the time of the initial survey. The table also shows results from *t*-tests, conducted as a preliminary analysis to examine black-white differences in the variables that we included in our multivariate analysis. Consistent with prior research, black youths tend to be more religious, whether in terms of background or current involvement, and less exposed to parent and peer drug users than white youths were. There is one exception, however, as we find nonsignificant black-white differences in religiosity at Time 2.

Following the steps to test our hypotheses described above, we estimated a series of OLS regression models of youth's drug use separately for Times 2 and 3. Estimated models of drug use at Time 2 provide empirical support for Hypothesis 1 (see Table 2). The significant negative unstandardized coefficient of the race dummy variable (–.91) in the baseline model indicates that black adolescents were less likely to use drugs than were their white peers. The intermediate models, Models 1 through 8, show whether the four explanatory variables explain the observed black-white differences in drug use as they were added, one or two at a time, to the baseline model. We found that three of the four explanatory variables consistently have significant effects on drug use, whereas religious upbringing (being reared in an evangelical Protestant religion) failed to explain drug use.

Table 1: Descriptive Statistics, t-Test Results, and Frequency Distribution of Variables (Weighted)

Variable	Mean			Standard Deviation			Min.	Max.	*N*
	Total	Black	White	Total	Black	White			
Race (black)	.15			.36			.00	1.00	1,083
Sex (female)	.49	.49	.49	.50	.50	.50	.00	1.00	1,083
Age T1	9.04	9.10	9.03	1.62	1.57	1.63	6.00	12.00	1,083
Family size T1	3.34	4.26	3.18*	1.62	1.95	1.49	1.00	7.00	1,083
Family SES T2	.05	–1.25	.27*	1.63	1.78	1.49	–6.30	4.46	1,077
Family SES T3	.02	–1.07	.21*	1.67	1.66	1.59	–6.34	4.88	1,029
Family disruption T2	.16	.25	.14*	.36	.44	.35	.00	1.00	1,083
Family disruption T3	.16	.30	.14*	.37	.46	.34	.00	1.00	1,083
Residential mobility T2	2.22	2.31	2.21	2.72	2.56	2.75	.00	17.00	1,083
Residential mobility T3	5.09	4.50	5.20*	4.00	3.77	4.03	.00	32.00	1,083
Attachment to parent T2	17.23	17.16	17.24	2.28	2.68	2.20	8.00	20.00	1,060
Attachment to parent T3	8.10	7.25	8.25*	2.20	2.65	2.07	1.00	12.00	1,083
Low self-control T2	4.03	4.06	4.03	1.11	1.19	1.10	2.00	9.00	1,078
Low self-control T3	7.89	7.61	7.94*	1.94	1.98	1.93	5.00	15.00	1,070
Negative emotions T2	3.74	3.86	3.72	1.49	1.59	1.47	1.00	8.00	1,059
Negative emotions T3	27.48	28.69	27.26*	8.60	9.68	8.38	16.00	64.00	1,070
Parent's drug use T1	.00	–.48	.09*	2.05	1.96	2.06	–4.98	8.61	1,070
Drug-using peers T2	–.02	–.33	.03*	1.62	1.71	1.59	–2.20	2.01	1,070
Drug-using peers T3	–.03	–.25	.01*	1.68	1.86	1.65	–2.77	4.52	1,067
Evangelical Protestant T1	.42	.83	.35*	.49	.37	.48	.00	1.00	1,083
Youth's religiosity T2	12.64	13.04	12.57	5.22	4.80	5.29	1.00	20.00	1,047
Youth's religiosity T3	.08	1.84	–.23*	3.67	2.99	3.70	–8.12	8.24	1,070
Youth's drug use T2	–.02	–.64	.09*	2.37	1.98	2.41	–1.96	11.53	1,058
Youth's drug use T3	.01	–1.00	.19*	2.25	2.19	2.22	–3.33	8.32	1,070

Variable	Category	Frequency	Percent	Cumulative Percent
Region of residence T1	Northeast	255	23.5	23.5
	Midwest	349	32.2	55.7
	South	386	35.7	91.4
	West	93	8.6	100.0
		1,083	100.0	
Religion child was reared in T1	Evangelical Protestant	456	42.1	42.1
	Mainline Protestant	248	22.9	65.0
	Catholic	264	24.4	89.4
	Jewish	7	.6	90.0
	Other religion	15	1.4	91.4
	None/No religion	93	8.6	100.0
		1,083	100.0	

Note: T1 = Time 1 (childhood), T2 = Time 2 (adolescence), T3 = Time 3 (young adulthood).
* $p < .05$.

Table 2: Estimated OLS Regression Models of Drug Use During Adolescence (*N* = 1,033): Unstandardized Coefficients and Standard Errors (in Parentheses)

Independent Variable	Baseline Model	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)	Model (8)	Full Model
Black (*B*)	–.91*	–.94*	–.85*	–.88*	–.84*	–.89*	–.81*	–.93*	–.79*	–.84*
	(.20)	(.21)	(.20)	(.20)	(.20)	(.21)	(.20)	(.21)	(.20)	(.206)
Female	–.05	–.05	–.06	.01	.06	–.06	.12	.01	.04	.10
	(.13)	(.13)	(.13)	(.13)	(.13)	(.13)	(.13)	(.13)	(.13)	(.13)
Age	.62*	.62*	.61*	.60*	.58*	.61*	.57*	.60*	.58*	.57*
	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)
Northeast T1	.75*	.80*	.71*	.63*	.64*	.77*	.54*	.71*	.62*	.63*
	(.17)	(.19)	(.17)	(.18)	(.17)	(.19)	(.18)	(.19)	(.17)	(.19)
Midwest T1	.59*	.63*	.55*	.54*	.48*	.60*	.44*	.60*	.46*	.49*
	(.16)	(.17)	(.16)	(.16)	(.16)	(.17)	(.16)	(.17)	(.16)	(.17)
West T1	.62*	.65*	.59*	.53*	.56*	.63*	.48	.58*	.55*	.54*
	(.26)	(.26)	(.26)	(.26)	(.25)	(.26)	(.25)	(.26)	(.25)	(.26)
Family size T1	.12*	.12*	.13*	.13*	.12*	.13*	.13*	.14*	.13*	.14*
	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)
Family SES T2	–.01	.00	–.01	.00	–.02	–.00	–.01	.01	–.02	–.00
	(.04)	(.05)	(.04)	(.04)	(.04)	(.05)	(.04)	(.05)	(.04)	(.05)
Family disruption T2	.48*	.49*	.42*	.40*	.47*	.43*	.40*	.41*	.43*	.39*
	(.19)	(.19)	(.19)	(.19)	(.19)	(.19)	(.19)	(.19)	(.19)	(.19)
Residential mobility T2	.05*	.05*	.04*	.05*	.04*	.04*	.04	.05*	.04	.03
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Attachment to parent T2	–.16*	–.16*	–.15*	–.14*	–.14*	–.15*	–.12*	–.14*	–.13*	–.12*
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)
Low self-control T2	.17*	.17*	.16*	.15*	.15*	.16*	.14*	.15*	.15*	.14*
	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)	(.06)
Negative emotions T2	.11*	.11*	.10*	.12*	.12*	.10*	.12*	.12*	.11*	.12*
	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)
Evangelical Protestant T1		.10				.12		.17		.19
		(.16)				(.16)		(.16)		(.16)
Parent's drug use T1			.11*			.11*			.09*	.07*
			(.03)			(.03)			(.03)	(.03)
Youth's religiosity T2				–.04*			–.04*	–.04*		–.04*
				(.01)			(.01)	(.01)		(.01)
Drug-using peers T2					.22*		.21*		.20*	.20*
					(.04)		(.04)		(.04)	(.04)
Adjusted R^2	.26	.26	.27	.27	.28	.27	.29	.27	.29	.29
Change in B[a]		.03	–.06	–.03	–.07	–.02	–.10	.02	–.11	–.06
% change		–3.30	6.59	3.30	7.69	2.20	10.99	–2.20	12.09	6.59

Note: T1 = Time 1 (childhood), T2 = Time 2 (adolescence), T3 = Time 3 (young adulthood).
[a] Change in the unstandardized coefficient of the race dummy variable (*B*), which measures black-white difference in drug use. A negative value indicates a decrease in the coefficient, that is, added variable(s) explaining the difference.
* $p < .05$.

When all the explanatory variables were used simultaneously, black-white differences in drug use decreased by only 6.59 percent, from –.91 to –.84 (see the full model), while a larger reduction in the size of the unstandardized coefficient is observed in Model 8 (12.09 percent). We conducted supplementary analyses by repeating the above set of model estimations separately for drinking, smoking, and use of illicit drugs (not presented in the table). Although we found significant black-white differences in drinking, smoking, and illicit drug use (supporting Hypothesis 1), the four key variables generally failed to explain race differences, whether individually or jointly (results available upon request).

Table 3 presents results from estimating the same set of OLS regression models of youth's drug use at Time 3. Our first hypothesis received empirical support (–1.34; see the baseline model), but in comparison to the results for adolescence, we find even more support for Hypothesis 2. As Table 3 shows, all four explanatory variables have significant effects on the dependent variable in the intermediate and full models, explaining the black-white differences in drug use during young adulthood. In the final model, the four variables taken together substantially explain black-white differences in drug use during young adulthood. Specifically, the black-white difference coefficient decreased 34.33 percent, from –1.34 to –.88.

In addition, as was expected, current measures of young adulthood (i.e., religious involvement and association with drug-using friends at Time 3) explained black-white differences more than previous measures of childhood backgrounds did (i.e., reared evangelical Protestant and exposure to drug-using parents at Time 1); specifically, there is a 29.10 percent (Model 6) versus 15.67 percent (Model 5) reduction in the race difference coefficient. This is also found to be true, to a lesser extent, of the Time 2 model, in which there is a 10.99 percent (Model 6) versus 2.20 percent (Model 5) reduction (see Table 2). Although it is not shown in the table, we re-estimated the Time 3 models separately for use of alcohol, tobacco, and illicit drugs. As was the case with the Time 2 counterparts, results supported Hypothesis 1 for all the three sub-measures of drug use. However, Hypothesis 2 received empirical support mostly for alcohol use. Stated differently, religion and exposure factors together tend to partly account for why black youths drink alcohol less often than white youths do during young adulthood, though these factors do not explain black-white differences in the use of tobacco products and illegal substances as much as they explain the differences in alcohol use.

Finally, we examined whether the key variables' limited explanation of black-white differences in drug use during adolescence were the result of interactions involving religiosity, given that (1) we found religiosity to be the key factor in explaining race differences in drug use during young adulthood and (2) religious effects on drug use are likely to be stronger among blacks than among whites

Table 3: Estimated OLS Regression Models of Drug Use during Young Adulthood (*N* = 1,013): Unstandardized Coefficients and Standard Errors (in Parentheses)

Independent Variable	Baseline Model	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)	Model (8)	Full Model
Black (*B*)	–1.34*	–1.22*	–1.24*	–1.05*	–1.18*	–1.13*	–.95*	–.97*	–1.12*	–.88*
	(.19)	(.20)	(.19)	(.19)	(.18)	(.20)	(.18)	(.20)	(.18)	(.19)
Female	–.68*	–.68*	–.68*	–.52*	–.54*	–.69*	–.43*	–.53*	–.56*	–.45*
	(.13)	(.13)	(.13)	(.12)	(.12)	(.12)	(.12)	(.12)	(.12)	(.12)
Age	.26*	.26*	.24*	.23*	.24*	.24*	.21*	.23*	.23*	.21*
	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)
Northeast T1	.38*	.23	.32	.02	.19	.17	–.10	–.07	.15	–.14
	(.17)	(.19)	(.17)	(.17)	(.16)	(.18)	(.16)	(.19)	(.16)	(.18)
Midwest T1	.64*	.53*	.56*	.33*	.55*	.45*	.30	.26	.49*	.24
	(.16)	(.17)	(.15)	(.16)	(.15)	(.16)	(.15)	(.16)	(.15)	(.16)
West T1	.64*	.55*	.61*	.42	.55*	.52*	.37	.36	.53*	.34
	(.25)	(.26)	(.25)	(.25)	(.24)	(.25)	(.24)	(.25)	(.24)	(.24)
Family size T1	.00	–.00	.02	.04	–.01	.02	.03	.04	.01	.04
	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)
Family SES T3	.06	.05	.05	.09*	.05	.04	.08*	.08*	.04	.06
	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)
Family disruption T3	.40*	.39*	.35*	.29*	.37*	.34*	.28*	.28*	.33*	.26
	(.18)	(.18)	(.17)	(.17)	(.17)	(.17)	(.16)	(.17)	(.16)	(.16)
Residential mobility T3	.06*	.06*	.05*	.05*	.04*	.05*	.03*	.05*	.03*	.03
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Attachment to parent T3	–.11*	–.11*	–.09*	–.06*	–.08*	–.09*	–.04	–.06*	–.07*	–.04
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)
Low self-control T3	.24*	.24*	.24*	.20*	.21*	.24*	.18*	.20*	.21*	.18*
	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)	(.03)
Negative emotions T3	.03*	.04*	.03*	.04*	.02*	.03*	.03*	.04*	.02*	.03*
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Evangelical Protestant T1		–.30*				–.29*		–.19		–.08
		(.16)				(.16)		(.15)		(.15)
Parent's drug use T1			.19*			.19*			.14*	.12*
			(.03)			(.03)			(.03)	(.03)
Youth's religiosity T3				–.15*			–.13*	–.15*		–.12*
				(.02)			(.02)	(.02)		(.02)
Drug-using peers T3					.37*		.34*		.35*	.32*
					(.04)		(.04)		(.04)	(.04)
Adjusted R^2	.23	.23	.26	.28	.30	.26	.33	.28	.32	.34
Change in *Ba*[a]		–.12	–.10	–.29	–.16	–.21	–.39	–.37	–.22	–.46
% change		8.96	7.46	21.64	11.94	15.67	29.10	27.61	16.42	34.33

Note: T1 = Time 1 (childhood), T2 = Time 2 (adolescence), T3 = Time 3 (young adulthood).

[a] Change in the unstandardized coefficient of the race dummy variable (*B*), which measures black-white difference in drug use. A negative value indicates a decrease in the coefficient, that is, added variable(s) explaining the difference.

* $p < .05$.

(Sherkat and Ellison 1999). We therefore constructed a multiplicative term involving race and religiosity, black × religiosity, the religiosity variable being centered by using its mean to avoid any potential collinearity problem.

When we added the interaction term to the full model of youth's drug use at Time 2, it was found to be positive and significant with a one-tailed test, indicating that black-white differences in drug use were more likely to be observed among nonreligious or less-religious adolescents. However, when we estimated the interactions for youth's drug use at Time 3, the multiplicative term was not significant with a one-tailed test. Taken together, these results suggest that religiosity's explanatory ability might have been restricted to some extent because black-white differences in drug use were observed mostly for nonreligious or less-religious adolescents, among whom, by definition, there must have been little or no variation in religiosity, thereby failing to significantly explain the race differences during adolescence. On the other hand, black-white differences in drug use during young adulthood were not limited to nonreligious or less-religious youths; therefore, religiosity contributed significantly to the explanation of the differences between black and white young adults.

SUMMARY AND CONCLUSION

The research literature suggests that African-American youths commit crime, especially more serious offenses, at higher rates than white youths do. Conversely, prior research indicates that white youths engage in higher rates of drug use than black youths do, regardless of the type of drugs (i.e., licit and illicit) or measures of drug use. The present study not only confirmed but also extends the previous findings—that black youths were less likely to drink alcohol, smoke cigarettes, and use illegal substances than were white youths—by examining black-white differences in drug use in young adulthood as well as adolescence.

Previous studies of black-white differences in drug use rarely examine a significant span of time. Therefore, we analyzed panel data that span childhood through young adulthood to explain black-white differences in drug use separately for adolescence and young adulthood, using measures of childhood as well as adolescence and young adulthood. We found that black-white differences in drug use during young adulthood were partly explained by our explanatory variables. That is, black young adults were found to use drugs less than their white counterparts did because black young adults were (1) less likely to have been reared by parents who smoke, drink, or use illicit drugs; (2) less likely to have drug-using friends; (3) more likely to have had a religious upbringing; (4) more likely to be religiously active. On the other hand, those variables provided only limited explanation of black-white differences in drug use during adolescence.

Several key limitations of the present study need to be recognized for improved research in the future. First, although we employed childhood factors to explain black-white differences in drug use during adolescence and young adulthood, the measures that were available in our data were limited not only because religious upbringing was a single-item measure, but also because the variable of exposure to parent's drug use during childhood was constructed on the basis of the youth's retrospective report. Therefore, replication of our findings with prospective data is needed. Second, while our explanatory factors together explained almost 35 percent of black-white differences in drug use during young adulthood, they left more than half of the race differences unexplained. Therefore, future research should consider additional explanations of black-white differences in drug use. Finally, the NSC data are not recent, though they are nationally representative of children born between 1964 and 1969 (Zill et al. 1990), allowing us to make inferences about the underlying population. Therefore, concern about the generalizability of our findings to explain black-white differences in drug use at the present time is legitimate.

Despite these limitations and data constraints, we believe that this study makes a contribution to the explanation of black-white differences in drug use by analyzing longitudinal data that span the period from childhood through young adulthood. Although it was beyond the scope of this article, future research needs to examine further why black youths are advantaged in terms of protective and risk factors for drug use but are disadvantaged in terms of the same factors for nondrug crime in comparison to white youths.

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Appendix A: Items Used for Analysis

Variable	Description of Item (Response Categories)	Factor Loading (α)	
		Wave 2	Wave 3
Youth's drug use T2	"Have you used … in the last two weeks?" (0 = Never tried, 1 = No, 2 = Yes)		(.70)
	… alcohol, other than just a sip		.67
	… cigarettes		.66
	… marijuana or other drugs, such as LSD, coke, uppers or downers		.66
Youth's drug use T3	"During the past 12 months, did you use …? (0 = Never used, 1 = Not at all, 2 = Less often, 3 = Monthly, 4 = Weekly, 5 = Daily)		(.60)
	… alcohol, other than just a sip		.59
	… tobacco, i.e., cigarettes, cigars, a pipe, snuff or chewing tobacco even once		.55
	… marijuana (or hashish), cocaine, coke, crack, snow, or other nonprescription drugs or intoxicants such as LSD, uppers or downers		.61
Youth's religiosity T2	"In the past year, about how often (has/have) the child(ren) attended religious services, including Sunday School or other religious class?" (1 = Not at all, 2 = A few times a year or less, 3 = Two or three times a month, 4 = About once a week, 5 = More than once a week)	.√	
	"How do you feel about going to church, synagogue, or Sunday School?" (1 = Hate, 2 = Don't like, 3 = Not sure, 4 = Like, 5 = Love)	.√	
Youth's religiosity T3	"Do you attend religious services or activities?" (1 = Never, 2 = A few times a year, 3 = A t least once a month, 4 = About once a week)		(.79) .75
	"About how often have you participated in any church activities, such as a group for young adults or a choir?" (1 = Never, 2 = A few times a year, 3 = Monthly, 4 = Weekly, 5 = Daily)		.57
	"How often do you pray, if ever, either before a meal or at any other time?" (1 = Never, 2 = Almost never, 3 = Occasionally, 4 = At least once a week, 5 = About once a day, 6 = Several times a day)		.79
	"How important is your religion to you?" (1 = Not very important, 2 = Fairly important, 3 = Very important)		.75
	"Some people say that the Scriptures are the actual word of God and are to be taken literally, word for word? Do you …?" (1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree)		.45

Parent's drug use T1	"While you were … between the ages of about 8 and 14, did your father/mother …"		(.60)
	… drink? (1 = Not drink at all, 2 = Just drink occasionally, 3 = Drink moderately, 4 = Drink heavily on occasion, 5 = Drink heavily and fairly regularly, 6 = Get drunk fairly regularly)		.56
	… smoke? (1 = No, 2 = Yes, only on rare occasions, 3 = Yes, a light smoker, 4 = Yes, a moderate smoker, 5 = Yes, a heavy smoker)		.42
	… ever use illegal drugs, to your knowledge, such as marijuana, LSD, or cocaine? (1 = No, 2 = Yes)		.42
Drug-using peers T2	"(Are/Were) the following true (= 2) or false (= 1) during your teen years?"		
	My friends discouraged me from using alcohol (reverse-coded)	. √	
	My friends encouraged me to try illegal drugs	. √	
Drug-using peers T3	"When you were 16, how many of your friends …?" (1 = None, 2 = Some, 3 = Half, 4 = Most, 5 = All)		
	Drank beer, wine or another kind of alcohol		. √
	Used illegal drugs		. √
Attachment to parents T2, T3	"How close do you feel to your (mother/father)?" (1 = Not very close, 2 = Fairly close, 3 = Quite close, 4 = Extremely close)	(.80) .56	(.84) .87
	"How much do you want to be like the kind of person s/he is when you are an adult?" (1 = Not at all, 2 = Just a little, 3 = Quite a bit, 4 = A lot)	.47	.71
	"For each of the following statements about parents, tell me if it sounds very much like (= 3), somewhat like (= 2), not at all like (= 1) your (mother/father)."		
	(Mother/Father) trusts you to behave even when s/he isn't around.	.56	
	(Mother/Father) encourages you always to do your best.	.64	
	(Mother/Father) lets you know s/he appreciates what you try to accomplish.	.77	
	(Mother/Father) loves you and is interested in you.	.78	
	"How well can you and your (mother/father) share ideas or talk about things that really matter?" (1 = Not very well, 2 = Fairly well, 3 = Quite well, 4 = Extremely well)	.81	
Low self-control T2	"Tell me whether each statement has been often true (= 3), sometimes true (= 2), or not true (= 1) of (your child) during the past three months."		(.52)
	Bullies, or is cruel or mean to others		.59
	Does not seem to feel sorry after (he/she) misbehaves		.48
	Is impulsive, or acts without thinking		.47

Low self-control T3	"Please tell me whether each statement is definitely true of you (=3), somewhat true of you (= 2), or not true of you (= 1)."		(.52)
	I would do almost anything on a dare.		.53
	I like to test myself every now and then by doing something a little risky.		.58
	I often act on the spur of the moment without stopping to think.		.38
	I often try to get my own way regardless of what others may want.		.37
	I think it's funny when older people get upset because young people play loud music.		.28
Negative emotions T2	"Do you have days when you are …?" (1 = Hardly ever, 2 = Occasionally, 3 = Fairly often, 4 = Very often)		
	… nervous, tense, or on edge	.√	
	… unhappy, sad, or depressed	.√	
Negative emotions T3	"Please tell me whether you felt [as described below] most of time (= 4), often (= 3), sometimes (= 2), or never (= 1) during the past four weeks."		(.91)
	I felt sad.		.72
	I was bothered by things that usually don't bother me.		.66
	I did not feel like eating; my appetite was poor.		.44
	I felt that I could not shake off the blues, even with help from my family/friends.		.77
	I had trouble keeping my mind on what I was doing.		.66
	I felt depressed.		.80
	I felt that everything I did was an effort.		.44
	I felt fearful.		.52
	My sleep was restless.		.57
	I talked less than usual.		.62
	I felt lonely.		.72
	I could not get along.		.65
	I was nervous, tense, or on edge.		.65
	I felt angry, frustrated, or bitter.		.62
	I felt like punching someone out.		.48
	I felt that nobody really cared about me.		.61
Family SES T2, T3	Total family income before taxes in 1975 (1 = Under $3K, 2 = $3K-$3,999, 3 = $4K-$4,999, 4 = $5K-$5,999, 5 = $6K–$7,999, 6 = $8K–$9,999, 7 = $10K–$11,999, 8 = $12K–$14,999, 9 = $15K–$19,999, 10 = $20K–$24,999, 11 = $25K–$$29,999, 12 = $30K–$34,999, 13 = $35K and over)	.√	.√
	Highest grade/year (mother/father) finished and got credit for in regular school	.√	√
	(0 = No formal schooling, 1–16 = 1–16 years, 17 = 17 years or over.		

Note: T1 = Time 1 (childhood), T2 = Time 2 (adolescence), T3 = Time 3 (young adulthood).