

Group Differences in Delinquency: What Is There to Explain?

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Abstract

Race and ethnic difference in delinquency are examined using the National Longitudinal Study of Adolescent Health. We argue that crime theories that attempt to explain race and ethnic differences imply consistent effects for different offenses and common mediating processes. Analyses suggest some degree of group consistency in delinquent behaviors for Mexican Americans, Puerto Ricans, Native Americans, and some Asian groups, but not for African Americans. Black youth have higher rates of violent offenses than White youth, lower rates of substance use, and similar rates of property offending. Some variables are consistent mediators while others are not. Crime theories can account for the low rates of delinquency among Asian Americans while theories of violence and substance use are needed to understand differences between Black and White youth. The findings are inconsistent with the idea that group differences among youth are due to the socioeconomic status of their families or neighborhoods. The race patterns are also inconsistent with the stereotype of high crime rates in Black communities.

Keywords

violence, delinquency, specialization, race, ethnicity

Introduction

Criminologists have a long-standing interest in race and ethnic differences in crime and delinquency. Their explanations of these differences usually focus on why groups with low status have higher crime rates than the groups with high status. Some scholars argue that members of low status groups engage in more crime because their

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opportunities for legitimate goal attainment are blocked, because they experience general strain, or because they are segregated in socially disorganized neighborhoods (e.g., Agnew, 2006; Merton, 1968; Sampson & Wilson, 1995; Shaw & McKay, 1942). Other scholars attribute higher crime rates among subordinate groups to weak informal social controls, ineffective parenting, low self-control, or differential association and membership in deviant subcultures (e.g., Akers, 1998; Cloward & Ohlin, 1960; Cohen, 1955; Gottfredson & Hirschi, 1990).

In this research, we use data from the National Longitudinal Study of Adolescent Health (Add Health) to compare the prevalence of delinquent behaviors among African Americans, Native Americans, and specific Hispanic and Asian groups, to the prevalence of delinquency among the non-Hispanic White majority. We focus on the most common types of delinquency—violent offenses, property offenses, and substance use—and on standard mediating variables.

Our goal is to determine whether a theory of crime or theories of particular types of crime (e.g., violence) can better explain group differences.¹ Thus, we are interested in establishing the proper dependent variable. We are *not* attempting to test specific criminological theories or to make claims about whether one crime theory is better than another. Nor are we attempting to explain individual differences. A crime theory may explain individual differences even if it does not explain group differences.

We begin with a review of research that has examined the issue of group consistency in the commission of different crimes. We then discuss the mediation of these group differences and the implications for theory testing and development. After discussing mediation and suppression, we present our empirical analyses. Finally, in our discussion, we consider the implication of our findings for theories of crime and specific types of crime, and for what has been described as “the majority-minority paradigm” (Sakamoto, Goyette, & Kim, 2009). That paradigm rests on the idea that structural disadvantage explains group differences.

Finding the Right Street

Typically, criminologists use theories of crime (i.e., explanations of law-breaking behavior generally) rather than theories of specific types of crime to understand individual-level criminal or delinquent behavior. When researchers test crime theories, they often use delinquency scales or select one type of crime (usually violent crime) as an indicator of the underlying concept. They assume that individual offenders show some degree of versatility, which many of them do (Gottfredson & Hirschi, 1990). This approach, however, may not be useful to the extent offenders specialize in particular types of crime. Individual specialization implies that different types of offending have different causes and that theory and research should focus on specific types of crime.

When searching for a house, one first finds out what street it’s on (Felson, 2008). Similarly, when attempting to explain human behavior, one should first determine the category of behavior that requires explanation. This inductive approach follows Stinchcombe’s (1968, p. 41) suggestion in his classic work on theory construction (see also Hempel & Oppenheim, 1948). While not a criminologist, he used the study of

delinquency as an example of where researchers may be attempting to explain the wrong outcome; the “explanandum” could be specific types of delinquency. Gottfredson and Hirschi (1990), on the other hand, favored a broader conceptualization of the dependent variable in their general theory of crime. For them, the explanandum is crime and analogous behavior, not specific types of crime. Criminal behavior is also the explanandum for social control theories and social disorganization theory, while the explanandum for strain theory is different in different versions of the theory (e.g., Agnew, 2006; Hirschi, 1969; Sampson & Wilson, 1995). Finally, social learning and rational choice theory can accommodate both specialization and versatility, since they are general theories of human behavior. However, one must discuss specific mechanisms to explain why individuals engage in specific types of crime. For example, one can use social learning theory to explain the intergenerational transmission of violence, but the focus is on the modeling of violence, not crime generally.

Similar principles apply when one is attempting to explain group differences in crime. When crime theories are used to explain group differences, they imply that groups with higher rates of one type of crime should also have higher rates of other types of crime. For example, a minority group with relatively high rates of violent crime should also have relatively high rates of property crime and substance abuse, compared to the majority’s crime rates. On the other hand, if a group has a high rate of substance abuse, but not other crime, then a theory of substance abuse may be needed to explain group differences. In sum, consistent effects imply that a crime theory is needed to explain group differences, while inconsistency implies that we may need more specialized theoretical explanations.

A crime theory also has implications for the examination of variables that mediate group differences. It implies that the processes producing group differences should be similar for different types of crime and that they should help explain why some groups have lower rates of crime than others. The mediation process should be similar for different groups.

Research on Group Consistency

Research based on self-report data generally shows racial inconsistency across delinquent behaviors. A study based on Adolescent Health data found that Blacks have higher rates of violent crime than Whites, but no higher rates of property or drug crime (Felson, Deane, & Armstrong, 2008; see also Beaver et al., 2013; Greenberg, 2008; Raudenbush, Johnson, & Sampson, 2003; Zimring & Hawkins, 1997). The evidence also suggested that the race difference in violence did not involve a general tendency for Blacks to commit more serious crime. While race effects were stronger for armed violence than unarmed violence, they were no stronger for injurious violence versus other violence, for selling versus using drugs, or stealing more than \$50 versus less. Some evidence suggests that Blacks are more likely than Whites to underreport offenses (e.g., Hindelang, Hirschi, & Weis, 1981; Tomaskovic-Devey, Pfaff Wright, Czaja, & Miller, 2006). If that is the case, then Blacks have a higher rate of crime than Whites, but a particularly high rate of violent crime. A theory of crime and a theory of aggression may both be necessary to account for Black–White differences.

Other studies find mixed evidence as to whether race differences are only observed for violence. For example, Hindelang, Hirschi, and Weis (1981) examined self-reported delinquency among adolescents in Seattle in 1978. Similar to Felson et al. (2008), they found that Blacks were more likely than Whites to engage in violence, but not most property or drug crimes.² However, Blacks were also more likely to engage in serious forms of theft. In more recent analyses of the National Youth Survey, Wright and Younts (2009) did not find statistically significant race differences in violent or property crimes, but did find that Blacks had significantly *lower* rates of drug and disorder crimes.

Studies based on official arrest data yield much stronger race differences. Data from the 2007 Uniform Crime Reports suggests that Black youth are much more likely to be arrested for violent crime than White youth, and only somewhat more likely to be arrested for property crime and drug offenses (U.S. Department of Justice, 2008; see also Baglivio, Jackowski, Greenwald, & Howell, 2014; DeLisi, 2011; Sampson & Lauritsen, 1997).³

Only a few studies have examined offending for specific Hispanic and Asian groups. Felson et al. (2008) found that Puerto Ricans have higher rates of violent crimes and minor property crime than non-Hispanic Whites, but not serious property crime or drug crimes. The differences between Whites and other Hispanic groups (Mexicans, Cubans, and Central/South American) were also not statistically significant. McNulty and Bellair (2003) examined Asians and Native Americans in their analysis of Add Health data, but only examined differences in violence. They found that Native Americans had higher rates of violence than Whites, while Asian Americans had lower rates (see also Kaufman, 2005). They did not distinguish between different Asian groups. Finally, Morris, Wood, and Dunaway (2007) found that Native Americans in Oklahoma had higher rates of violence and vandalism than Whites, but not higher rates of property crime.

In sum, there is limited research on group consistency among different racial and ethnic groups. The existing survey research suggests that Blacks probably have higher rates of violence but not crime generally. The research on other groups is more limited and has provided more inconsistent results. In addition, we are not aware of any research that has examined specific Asian groups. It cannot be assumed that Asians (or Hispanics) with different national origins behave similarly. Finally, estimates of group differences in specific offenses in prior research have not adjusted for the severity of offenses. It may be that what appears to be a group difference in some offenses in fact captures between-offense differences in severity. An adequate test of group consistency must address this issue.

Mediation and Suppression of Group Differences

Evidence of group consistency alone may not be sufficient to support a theory of crime. If groups show consistency in offending, but the variables favored by the crime theory only affects some types of delinquency, then the theory will not adequately explain group differences. We again may need to substitute a more specialized theory.

Different crime theories suggest different mechanisms for explaining group differences in offending. Support for a particular theory requires that (1) groups differ on

that mechanism in the theoretically expected directions; (2) the mechanism has similar effects on different offenses; and (3) the mechanism explains a portion of the group differences in offending. If these three conditions are met, the proposed mechanism and theory contribute to our understanding of race/ethnic differences in crime.

Mediation is clearest when groups are consistent in their offending and a proposed mediator has a strong effect in the same direction across offenses. If the groups differ on the mediator, then we expect to see at least some mediation of the group differences. However, observing group inconsistency does not necessarily mean that theories of crime are irrelevant. It may be that an unobserved variable suppresses group differences for a particular crime. For example, variables related to opportunity may explain why group differences are not observed for a particular type of crime (Gottfredson & Hirschi, 1990). Motivated offenders may not commit a particular type of offense if they cannot find worthwhile targets or if guardianship is effective for that specific offense (Felson & Boba, 2010). In other words, offenders would commit the crime if they could, but they lack the opportunity. Such a pattern would imply that we need to supplement, not substitute for, the crime theory in question.

Studying consistency in group differences and mediating processes may also help us understand what accounts for group differences and thus inform theory development. For example, suppose we find evidence that Blacks are less likely than Whites to have a strong school commitment and that school commitment is negatively associated with both violent and property offenses. So far, it sounds like school commitment is mediating race differences. However, suppose we also find that race has a total effect on violent offending but not property offending. The same routes are ending in different destinations. The pattern suggests that we need to look for a suppressor effect for property offending, that is, some unobserved factor that offsets the tendency of Blacks to engage in property crime because of their weak school commitment. On the other hand, if we find that a potential mediator is affecting one outcome but not another, then a specialized theory seems to be more adequate. For example, suppose our theory argues that school commitment inhibits delinquency, but evidence suggests school commitment affects violent offending but not property offending. In that case, we may need a theory of violence rather than a theory of crime to explain the group differences. The routes and the destination are different.

Crime theories should also be able to explain why some ethnic groups have *lower* rates of delinquency than Whites. For example, research shows that Asian Americans have higher levels of education than Whites and have achieved parity in the labor market (e.g., Sakamoto et al., 2009). That success has been attributed to structural and cultural factors that led Asian Americans to work hard, to have strong family ties, and to emphasize their children's education (e.g., Hao & Bonstead-Bruns, 1998; Kao, 1995; Kao, Tienda, & Schneider, 1996; Kitano & Sue, 1973; Pong, Hao, & Gardner, 2005; Steinberg, Dornbusch, & Brown, 1992). If Asian Americans have strong bonds to school and family and relatively high socioeconomic status (SES), then they should have relatively low rates of all types of delinquency.

Unfortunately, criminology has not paid much attention to Asian Americans or to specific Asian groups. We seek to address these omissions with the current analyses. It

is just as theoretically important to explain why some groups have low rates of delinquency as it is to explain why some groups have high rates.

Most studies of racial group mediation focus solely on group differences in violence (Farrington, Loeber, & Stouthamer-Loeber, 2003; Haynie & Payne, 2006; Kaufman 2005; McNulty & Bellair, 2003; Sampson, Morenoff, & Raudenbush, 2005).⁴ An exception is Wright and Younts (2009), who studied both positive and negative mediators (or suppressors) of race differences in delinquency using data from the National Youth Survey. They argued that various beliefs and institutions have developed within African American communities that decrease criminal behavior, and that it is important to look at both positive and negative mediators of race differences. They found that some factors, such as single-parent families and lower educational attainment, were associated with an increase in delinquency among Blacks relative to Whites, while other factors, such as increased religiosity and strong family ties, decreased Black delinquency relative to Whites. The direct effects of race were reduced when positive mediators were introduced into equations and increased when negative mediators were introduced. In other words, the former produced race differences and the latter suppressed them. They did not examine whether the variables that mediate group differences are similar for different types of delinquency and for different groups.

Current Study

We examine whether minority groups differ from non-Hispanic Whites in delinquency generally or only in particular types of delinquency. The patterns will address the issue of whether theories of crime can account for group differences. We begin by examining race and ethnic differences in violence and drunkenness using Add Health's in-school sample. This sample includes over 90,000 students from a nationally representative sample of schools, providing adequate statistical power to compare delinquency rates of a large number of Hispanic and Asian groups to non-Hispanic Whites. The delinquency rates of youth whose ancestry is Japanese, Korean, Asian Indian, Vietnamese, and Central/South Americans have, to our knowledge, never been studied. We then examine race and ethnic differences using the in-home sample. An advantage of this data set is that it includes more delinquency items, which permits a better analysis of group consistency. The in-home survey includes questions on violent offenses, property offenses, and various forms of substance use. A limitation of this data set, however, is that only a limited number of ethnic groups have sample sizes sufficient for statistical analyses. We examine two Asian groups (Chinese and Filipino), three Hispanic groups (Mexicans, Puerto Ricans, and Cubans), as well as Native Americans and African Americans.

We base our mediation analysis on the in-home sample due to the limited number of measures in the in-school survey. We examine some standard mediating variables, that is, academic performance, attachment to parents, intact family, religiosity, depression, and school and family measures of SES. Researchers have associated these variables with multiple theories of crime, so our results cannot be viewed as a test of any particular one. For example, the effects of academic performance can be explained by control theory, strain theory, the general theory of crime, as well as other theories. For our

purposes, it does not matter to which theory a variable is most aligned, since we are only interested in whether these variables play a similar role in explaining group differences for different types of crime. Our focus is on the consistency of the effects of standard mediators not whether they are the best set of mediators.

Because some of the Asian and Hispanic groups include recent immigrants, we include two measures of cultural assimilation as mediating variables: whether the adolescent was foreign-born and whether English was the primary language spoken at home. Greenman and Xie (2008), using Add Health data, found that immigration status is an important predictor of delinquency for Chinese, Filipino, Mexican, Puerto Rican, and Cuban youth. For each of these groups, delinquency levels increased between the first and second generations (see also Morenoff & Astor, 2007; Sampson et al., 2005). These studies suggest that assimilation leads ethnic group delinquency to converge with the White majority.

We first establish that there are race and ethnic differences in our potential mediating variables. Mediation and/or suppression can only occur if groups differ on these variables. Then we estimate equations in which we use group membership to predict each of our three offense indices. Potential mediating variables are then added to the equations.⁵ If they have similar associations with the offending outcomes, then it suggests that crime theories have utility in explaining crime even when we do not observe group consistency. We also indicate the extent to which the entire set of variables mediates group differences. In an appendix, we show how much group effects decline with the introduction of specific variables or blocks of variables.

It was suggested earlier that groups may differ in the seriousness rather than the type of crimes they commit. For example, a finding that Blacks commit more violence than Whites, but similar levels of substance use, would support offense inconsistency. However, it may also reflect the fact that violence is a more serious offense than substance use and that Blacks only commit more serious delinquency than Whites. One could then argue that crime theories do not apply to minor delinquency (e.g., underage drinking) since those behaviors are normative among adolescents. Moreover, as most self-reported delinquent behaviors in adolescent surveys are minor, a delinquency scale on such surveys may not reveal group differences.

To adjust our race/ethnic and mediator coefficients for offense severity, we estimate multivariate, multilevel Rasch models of violent, property, and substance use items (Raudenbush et al., 2003). These models assume that less frequently occurring criminal behaviors are more serious. They apply item response theory (IRT) to scales of dichotomous delinquency items and thus account for varying levels of item seriousness (Osgood, McMorris, & Potenza, 2002). They give greater weight to more serious behaviors based on the argument that serious behaviors better capture an individual's propensity to commit a particular type of crime. Moreover, these models allow us to compare race, ethnic, and mediator coefficients both within and across offending categories, while also adjusting for individuals embedded in similar social contexts (i.e., schools).

By using a Rasch model, we go beyond previous research on group differences in specific types of crime. Whereas Felson et al. (2008) assumed differences in

seriousness of offenses, we explicitly model these differences and control for them. We also extend their analyses by examining mediation, by examining Asian groups, and by including an analysis of the large in-school sample.

Data and Method

We explore our hypotheses using data from the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a school-based, nationally representative survey of American adolescents enrolled in Grades 7 through 12 in 1993–1994. The core sample was drawn from 80 high schools stratified by region, urbanicity, size, type, and ethnic composition. For schools not covering Grades 7 through 12, feeder middle schools were also selected, bringing the total number of sampled schools to 132. The in-school survey was administered to all attending students ($N = 90,118$) in one class period in the fall of 1994. For analyses using the in-school sample, we exclude cases not part of the nationally representative sample (8% missing). Of the remaining cases, 14% were missing data on race, ethnicity, or our delinquency outcomes, resulting in a final sample of 70,750 students.⁶

In spring of the same academic year as the in-school survey, approximately 200 students, stratified by grade and gender, were sampled from each of the schools and administered detailed in-home questionnaires ($N \sim 20,000$). This survey repeated most of the in-school items and added more sensitive questions on delinquency, substance use, and other health-related behaviors. Sensitive items were asked using laptop computers and audio-computer-assisted self interviewing (audio-CASI) technology. Add Health's use of computers for eliciting more sensitive information yields higher frequencies of self-reported delinquency than the usual methods (Turner et al., 1998). The in-home survey also included many more measures that can be used in our mediation analyses. For analyses using the in-home sample (Wave 1), we exclude cases that were not part of the nationally representative sample or that were missing data on race or ethnicity and any of the delinquency items, resulting in a final sample of 18,060 students. To maintain statistical power and reduce bias resulting from nonrandom missingness, we impute values for missing data on any remaining independent variables into five data sets using the ICE (imputation by chained equations) commands in Stata 11 with all covariates included in the imputation equations. The amount of covariate missingness was modest, and the variable with the most missing values (school grades) accounted for less than 5% percent of the final sample.

Dependent variables. The dependent variables for our analyses are self-reported delinquency items taken from the in-school and the in-home surveys. In the in-school survey, we focused our attention on fighting and drunkenness, as measures of property offending and more serious drug use were not available. Fighting is based on the question, "In the past year, how often have you gotten into a physical fight?" with possible responses *never* (0), *1 or 2 times* (1), *3 to 5 times* (2), *6 or 7 times* (3), or *more than 7 times* (4). Drunkenness is based on the question, "During the past 12 months, how often did you get drunk?" with possible responses *never* (0), *once or twice* (1), *once a month*

or less (2), 2 or 3 days a month (3), once or twice a week (4), 3 to 5 days a week (5), and nearly everyday (6). Responses to both items were right-skewed, with 54% of respondents reporting never having fought and 69% reporting they had never gotten drunk. We analyzed three types of delinquency from the in-home survey. Violence is based on seven items: “In the past 12 months, how often did you (1) get into a serious physical fight, (2) shoot or stab someone? (3) use or threaten to use a weapon to get something from someone, (4) pulled a knife or gun on someone, (5) hurt someone badly enough to need bandages or care from a doctor or nurse, and (6) take part in a fight where a group of your friends was against another group?” Property offenses are also measured from 6 items: “In the past 12 months, how often did you (1) take something from a store without paying for it, (2) go into a house or building to steal something, (3) steal something worth more than US\$50, (4) paint graffiti or signs on someone else’s property or in a public place, (5) deliberately damage property that didn’t belong to you, and (6) steal something worth less than US\$50?” Finally, we measure substance use with 5 items: “In the past month, how many times did you (1) drink alcohol, (2) use cocaine, (3) use inhalants, (4) use marijuana, and (5) use other drugs (LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, prescription medications)?”

Since some of the in-home offending items were dichotomous, some were ordinal, and some were counts, we dichotomized all items based on whether the respondent reported engaging in the behavior or not. The Kuder-Richardson 20 (KR20) scale reliability coefficient is .68 for the violence items, .74 for the property items, and .58 for the substance use items.⁷

Race/Ethnicity. Add Health is useful for examining group differences because it is a large and nationally representative sample, and because it includes detailed information on race and ethnicity. For the in-school survey, respondents were first asked their Hispanic origin, followed by their racial background. They could answer “yes” to multiple racial and ethnic categories. To classify individuals into mutually exclusive categories, we first classified them as Hispanic or non-Hispanic. Those who affirmed Hispanic descent were further categorized as Mexican/Chicano, Cuban, Puerto Rican, Central/South American, or other Hispanic. Non-Hispanic respondents were identified as White, Black, Asian, Native American, or other race. Asian respondents were further subdivided into Chinese, Filipino, Japanese, Asian Indian, Korean, Vietnamese, or other Asian categories. Respondents who chose multiple races or unlisted racial/ethnic backgrounds were placed in “mixed race/ethnicity” and “other race/ethnicity” categories, respectively.

Race/ethnic identification in the in-home survey follows a similar process, but with minor modification. As in the in-school questionnaire, respondents were first asked their Hispanic background and a follow-on question on specific Hispanic origin. They were then asked their racial background.⁸ However, following the race questions, respondents were also asked, “Which [category] best describes your racial background?” This allows us to classify mixed-race respondents into the corresponding subjectively defined and exclusive category. Unfortunately, Asians and Hispanics with mixed descent (e.g., Chinese-Korean or Mexican-Cuban) could not be identified.

We therefore classify these individuals ($N = 261$) as “other/mixed” to keep the race and ethnic categories mutually exclusive. Many of the ethnic categories were under-represented (<1% of the sample), making statistical inference for these groups difficult. We thus focus our efforts on those categories with sufficient size for statistical tests: non-Hispanic White, Black, Chinese, Filipino, Native American, Mexican, Puerto Rican, and Cuban. We also include an “other/mixed race or ethnicity” category that includes respondents who self-identified as other Asian, other Hispanic, Central/South American, or unidentified mixed race/ethnicity.

Mediators

As part of our in-home analyses, we determine whether theoretically relevant individual and contextual characteristics explain observed racial or ethnic differences in offending. We examine the following classes of mediators: cultural assimilation, relationship to parents, SES, academic performance, religiosity, and depression. Column 1 in Appendix A presents individual-level descriptive statistics for our entire in-home sample.

Our measures of assimilation are based on questions as to whether the respondent was foreign-born and whether a foreign language was spoken at home. Note that one could view these as measures of acculturation as well as assimilation. Respondents were coded 1 if they answered no when asked: “Were you born in the United States?” and 0 if they answered yes. They were coded 1 if they mentioned a foreign language when asked “What language is usually spoken at home?” and 0 if they answered “English.” We have two measures associated with family relationships. Intact family indicates whether or not respondents report living with both biological parents.

Parental attachment is the sum of 5 items referencing relationships with mothers and 3 items referencing relationships with fathers ($\alpha = .86$) where students with single parents had only those items for that parent. The 5 items included the following: (1) your mother/father is warm and loving toward you; (2) Your mother encourages you to be independent; (3) When you do something wrong that is important, your mother talks about it with you and helps you understand why it is wrong; (4) You are satisfied with the way your mother/father and you communicate with each other; and (5) Overall, you are satisfied with your relationship with your mother/father. Responses ranged from 1, *strongly disagree*, to 5, *strongly agree*.

Measures of SES include family and school economic characteristics. Family SES is based on parents’ education and income. Parents’ education is constructed from students’ self-reports and is based on the parent with the highest educational attainment. Values range from 0, when neither parent achieved above an eighth-grade education, to 5, when at least one parent achieved a postgraduate education. Parents’ income is a parent-reported measure of yearly family income, in dollars. This value was logged to reduce extreme right skew. We standardized the measures using a z -score transformation and averaged their values to create a SES scale. To create a school-level SES measure, we averaged the z -scores for all respondents in the same school.

Our other measures include academic performance, religiosity, and depression. Academic performance is based on the students' self-reported average grades in the most recent grading period for four courses (English, Math, Science, and History). Responses ranged from 1 (*D or lower*) to 4 (*A*). Religiosity is an index of three items ($\alpha = .86$): (1) "In the past months, how often did you attend religious services?" (2) "How important is religion to you?" and (3) "How often do you pray?" As the scales for these items differ, they were *z*-transformed and averaged to create the religiosity index. Depression was measured by a depression index of nineteen items ($\alpha = .86$) based on the Center for Epidemiological Studies Depression Scale (CES-D; see Meier, 2007). Individual items were recorded on a 0 to 3 ordinal scale and summed, with a sample mean of approximately 11.

Finally, we also include covariates for individual age and gender. Although we suspect these exogenous variables will not differ by race or ethnic category, and therefore will not serve as mediators, they are strongly correlated with offending and included in our analyses to ensure proper model specification and coefficient estimation.

Appendix A presents differences in our independent variables across racial and ethnic groups. For each variable, we indicate whether the group is significantly different from non-Hispanic Whites. As expected, the groups do not differ significantly by age or gender composition (except that Native Americans are more likely than Whites to be male), suggesting that the survey is equally representative of minority and majority boys and girls of secondary school age. Group differences in SES are also in the expected directions. Blacks, Native Americans, and Hispanics are more likely than Whites and Asians to have parents with lower educational attainment and income. Group differences in school orientation are also generally as expected. Chinese youth have higher school grades than Whites and Filipinos, who in turn have higher grades than the other groups.

We also observe differences in parenting. Chinese youth are more likely than White youth to be from intact families, while Blacks, Native Americans, and Puerto Ricans are less likely. Blacks, Puerto Ricans, and Mexicans also report less parental closeness than Whites. The parental attachment of Asians and Whites are generally similar.

Not surprisingly, the results show group differences in immigration. Asians are more likely to be foreign-born than Hispanic groups (all mean differences significant at $p < .05$, except Chinese-Cuban). In addition, Chinese, Mexicans, and Cubans are more likely than Whites to speak a foreign language at home. With regard to religiosity, Blacks, Filipinos, and Mexicans are more religious than Whites, whereas Native Americans are less religious. Finally, Blacks, Filipinos, Mexicans, and Puerto Ricans report higher depression than Whites, Chinese, and Cubans.

Analyses. We conduct two sets of analyses. For the in-school sample, we estimate ordered logistic regression models of our ordinal outcomes in the Stata software package, using MIM (multiply-imputed) commands to analyze multiple imputation data sets. We also use SVY (survey) commands to adjust our regression models for Add Health's complex survey design. The survey-adjusted models address observational dependence occurring in Add Health due to error correlation between respondents attending the

same school. We also apply post-stratification weights to regain nationally representative estimates by correcting for Add Health's oversampling of special populations (e.g., genetic, disabled, and ethnic samples) and survey attrition between the waves (Chen & Chantala, 2014). Post-stratification weighting is particularly important when examining race differences in Add Health, as Blacks from educated families, Cubans, Puerto Ricans, and Chinese adolescents were all oversampled in the original sample.

To analyze violence, property offending, and substance use in the Add Health in-home sample, we employ a multivariate, multilevel Rasch model. Rasch models are a class of IRT models that apply to dichotomous items (Osgood et al., 2002). As with other IRT methods, the Rasch model benefits by combining a set of survey items into a reliable composite score that makes good use of information from all item responses, regardless of their frequencies. Our Rasch model is formally equivalent to a three-level hierarchical logistic regression (Raudenbush et al., 2003). At the first level are the specific offense items and individual offending "propensities" for the three delinquency scales (i.e., violence, property offending, and substance use). Individuals' delinquency propensities correspond with their placements on linear, interval rulers for each offending category as determined by their category-specific survey responses (Conrad, Riley, Conrad, Chan, & Dennis, 2010). These propensities may then be expressed as a function of contextually and individually varying covariates (Raudenbush et al., 2003). In other words, the multivariate Rasch model enables us to discern if between-individual characteristics (e.g., racial categories and mediating variables at Level 2) or between-context characteristics (e.g., school characteristics at Level 3) differentially predict involvement in the three delinquency types, each of which is measured on a latent continuum based on responses to type-specific items.

Our Rasch models adjust for varying levels of severity between our delinquency items under the assumption of equal discrimination of each item. Predictions of the specific delinquency items depend on the relative frequency, or severity, of the act in question. By adjusting each act's log odds of a "yes" response by its severity, we are able to locate individuals' offending propensities along a continuum with similar metrics across offense types. A standardized metric also allows for correlation estimations between the offense categories and between-person or between-school coefficient comparisons at the second and third levels, respectively. For a formal presentation of the three-level Rasch equation, see Raudenbush, Johnson, and Sampson (2003, p. 194–5). Our equation differs from theirs only in (1) the number of survey items per offense type, (2) the number of offense types, and (3) school, instead of neighborhood cluster, as the third-level social context. We estimated the models in HLM (Hierarchical Linear Modeling) version 6.0, which also accommodates standard error adjustments for our five multiple imputation data sets.

Results

Table 1 presents coefficients and standard errors for group differences in violence and drunkenness using the large in-school sample. The results show that Blacks are inconsistent: They have a higher rate of violence than non-Hispanic Whites but a lower rate

Table 1. Ordered Logistic Regressions of Deviant Behavior by Race/Ethnicity, Add Health In-School Survey (Survey-Adjusted).

Race/Ethnicity	N	Fight		Drunk	
		Coefficient	SE	Coefficient	SE
Non-Hispanic White (reference)	40,502				
Black	10,057	.25**	.07	-.42***	.08
Chinese	543	-.38**	.13	-.86***	.19
Filipino	993	-.24*	.10	-.13	.13
Japanese	243	-.39	.24	-.02	.26
Asian Indian	255	-.10	.12	-.44*	.17
Korean	431	-.07	.12	-.64*	.26
Vietnamese	315	-.49*	.19	-.60**	.22
Other Asian	398	.11	.15	-.14	.15
Native American	693	.44***	.06	.003	.06
Mexican	2,200	.16	.09	.09	.08
Puerto Rican	533	.40**	.15	.003	.11
Cuban	693	.23	.34	-.13	.33
Central/South American	1,040	-.05	.09	-.26	.14
Other Hispanic	504	.13	.09	-.08	.12
Other Race/Ethnicity	1,269	.12*	.05	-.30***	.07
Mixed Race/Ethnicity	10,081	.11*	.05	.31***	.06
Threshold parameter 0-1		.27***	.03	.72***	.07
Threshold parameter 1-2		1.70***	.03	1.48***	.07
Threshold parameter 2-3		2.48***	.04	1.94***	.06
Threshold parameter 3-4		2.82***	.04	2.57***	.06
Threshold parameter 4-5				3.59***	.06
Threshold parameter 5-6				4.18***	.06

Note. SE = standard error.

*** $p < .001$. ** $p < .01$. * $p < .05$ (two-tailed).

of intoxication. Native Americans are also inconsistent: They have a higher rate of violence than Whites, but similar rates of drunkenness. Some Asian American groups, on the other hand, show evidence of consistency. The coefficients for Chinese and Vietnamese Americans are negative, indicating that they have lower rates of both violence and intoxication than Whites. The Filipino, Indian, and Korean Americans are not consistent: The Filipinos engage in less violence but similar drunkenness to Whites, while the Indian and Koreans show the reverse pattern. Finally, Hispanic groups are generally similar to Whites in their rates of both types of delinquency. The only exception is Puerto Ricans, who have significantly higher rates of violence than Whites. We will be better able to examine the issue of consistency in the in-home sample, where we examine effects on three types of delinquency and adjust for offense severity.

Before proceeding to person-level coefficients of our Rasch model using the in-home sample, it is informative to examine the severity estimates for each offense type at Level 1. Table 2 presents item coefficients for our delinquency categories in a

Table 2. Rasch Model Item Severities.

Item	Coefficient	SE
Violent offenses		
Intercept ^a	-.90	.05
Shot or stabbed someone	-4.05	.07
Used or threaten to use a weapon to get something from someone	-3.09	.06
Pulled a knife or gun on someone	-2.92	.06
Hurt someone badly enough to need bandages or care from a doctor or nurse	-.99	.03
Take part in a fight where a group of your friends was against another group	-.87	.04
Property offenses		
Intercept ^b	-1.51	.05
Go into a house or building to steal something	-2.39	.06
Steal something worth more than US\$50	-2.31	.05
Paint graffiti or signs on someone else's property or in a public place	-1.57	.06
Deliberately damage property that didn't belong to you	-.54	.06
Steal something worth less than US\$50	-.33	.03
Substance use offenses		
Intercept ^c	-2.00	.07
Use cocaine past 30 days	-3.34	.10
Use inhalants past 30 days	-3.17	.10
Use other drugs (LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, prescription) past 30 days	-1.99	.08
Use marijuana past 30 days	-.31	.06

Note. SE = standard error.

^aReference item "Get into a serious physical fight."

^bReference item "Take something from a store without paying for it."

^cReference item "Drink alcohol at least monthly."

reduced-form model (i.e., there are no other variables in the equation). A negative coefficient indicates that the behavior is less frequent than the reference behavior, which approximates item severity (Raudenbush et al., 2003). The results are what one would expect. For the violence scale, we see that armed assault, robbery, and threatening with a weapon are far less frequent, and therefore more serious, than assault or fighting with a group. For the property scale, burglary and major theft are more serious than property damage, shoplifting, and minor theft. For the substance use items, cocaine and inhalant use are more serious than marijuana and alcohol use. Finally, the evidence shows that violent offenses are not necessarily more serious than property offenses or substance use. For example, unarmed violence is less serious than burglary and the use of serious drugs.

We are also able to determine correlations between the latent scales and the amount of school-level variation in the reduced-form model. The scale correlations are (1) $r_{\text{violence-property}} = .71$, (2) $r_{\text{violence-substances}} = .60$, and (3) $r_{\text{property-substances}} = .65$. Although strongly related, the correlations are not so high as to make the scales indistinguishable. At the school level, the intraclass correlations (ICC) are (1)

Table 3. Rasch HLM of Deviant Behavior by Race/Ethnicity, Add Health In-Home Survey.

Fixed effects	Violence		Property		Substance Use	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Individual level						
Non-Hispanic White (reference)						
Black	.62***	.07	-.10	.08	-.44***	.09
Chinese	-.44**	.16	-.16	.14	-1.48***	.31
Filipino	-.01	.23	-.03	.13	-1.02***	.26
Native American	.84***	.20	.48*	.22	.26	.26
Mexican	.68***	.10	.33**	.12	.04	.12
Puerto Rican	.71***	.13	.32*	.14	-.07	.16
Cuban	.12	.08	.14	.15	-.01	.13
Other/Mixed	.18*	.09	.11	.11	-.38**	.12
School level						
Intercept	-1.11***	.05	-1.53***	.06	-2.21***	.08
Variance components						
Intraschool variance	2.48***		2.76***		2.23	
Interschool variance	.13***		.21***		.41***	

Note. $N = 18,060$ students, 132 schools.

*** $p < .001$. ** $p < .01$. * $p < .05$ (two-tailed).

$r_{\text{violence}} = .07$, (2) $r_{\text{property}} = .08$, and (3) $r_{\text{substances}} = .16$. Substance use appears to vary more between schools than violence and property offenses.

We now include between-person race and ethnic covariates in the Level-2 equation. This allows us to test whether race and ethnic differences exist across the delinquency categories. Table 3 and Figure 1 show these group differences in offending. The figure helps to visualize comparisons between non-White groups by showing the odds ratios and 95% confidence intervals for each group for all three offending categories, where Whites are assigned an odds ratio of 1.

The evidence regarding group consistency depends on the group. Similar to our results in the larger sample, we do not observe consistent effects for African Americans. Compared to Whites, Blacks have higher rates of violence, lower rates of substance use, and similar rates of property offending. These differences are also significant within the Black category. Blacks are significantly more likely to commit violence than property offenses ($\chi^2 = 78.3, p < .001$), violence than substance use ($\chi^2 = 164.5, p < .001$), and property offending than substance use ($\chi^2 = 12.7, p < .001$). We do observe consistent effects for Native Americans, who have higher rates of violence, property offenses, and substance use than Whites (although substance use differences fail to reach significance). Mexicans and Puerto Ricans show some consistency, but their substance use is similar to Whites.

All of the coefficients for the Chinese youth are negative, suggesting some consistency. However, the coefficient for property offenses is weaker than the coefficients for violence and substance use and statistically nonsignificant. In addition, Chinese

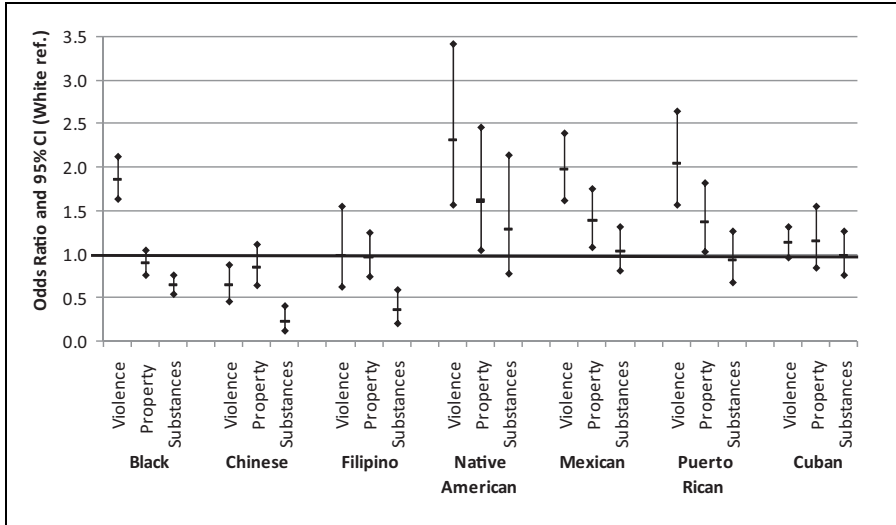


Figure 1. Odds ratios of delinquency by offending type and race/ethnic category.

substance use is particularly low. The Chinese coefficient for substance use is significantly larger than the Chinese coefficient for violence ($\chi^2 = 12.38, p < .001$) and property offending ($\chi^2 = 16.02, p < .001$). Filipinos, on the other hand, are inconsistent: They differ from Whites only in substance use. Finally, we do not observe significant differences between Whites and Cubans. A consequence of this is that mediation analyses will have no import for the Cuban group.

Table 4 presents estimates from the equation including all of our covariates. Many of the variables are predictive of different types of delinquency in the expected direction: Net of other covariates, gender, assimilation, parental attachment, academic performance, religiosity, and depression are related to all three types of offenses in the same direction. These results suggest that the theoretical mechanisms associated with these variables generalize across behaviors.

The measures of SES, on the other hand, are not consistent predictors of delinquency. This is largely due to unexpected effects on nonviolent offending. At both the parent and school level, SES is negatively related to violence, but positively related to property offending and substance use. In addition, the school SES variable explains over 50% of the school-level variance in violence and substance use, and close to this amount of school-level property offending.⁹

Age and intact family are also inconsistent predictors of delinquency. Net of other covariates, age is negatively correlated with violence and property offending, but positively correlated with substance use. Being from an intact family is only related to property offenses, and this association is in the unexpected positive direction.

Finally, we consider the extent to which we can explain group differences with the entire set of mediating variables and with each set of mediators entered separately into the equation (Appendix B). For a global mediation analysis, we compare the group

Table 4. Rasch HLM of Deviant Behavior by Race/Ethnicity, Add Health In-Home Survey.

Fixed Effects	Violence		Property		Substance Use	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Individual level						
Non-Hispanic White (reference)						
Black	.44***	.06	-.21**	.08	-.62***	.08
Chinese	-.17	.15	.16	.12	-1.00**	.30
Filipino	.30	.20	.34**	.12	-.55*	.24
Native American	.51**	.20	.30	.20	.04	.25
Mexican	.50***	.09	.42***	.11	.19*	.09
Puerto Rican	.50***	.12	.25	.16	-.16	.16
Cuban	.22**	.08	.38*	.16	.15	.12
Other/Mixed	.33***	.09	.37***	.10	-.10	.11
Female	-1.09***	.04	-.72***	.04	-.25***	.05
Age	-.12***	.01	-.15***	.02	.24***	.02
Foreign-born	-.40***	.08	-.39***	.07	-.59***	.13
English not primary at home	-.15*	.07	-.35***	.09	-.59***	.10
Parental attachment	-.02***	.00	-.04***	.00	-.04***	.00
Intact family	-.06	.05	.23***	.06	.11	.06
SES	-.12***	.03	.05	.03	.08*	.03
Grades	-.45***	.03	-.30***	.03	-.41***	.04
Religiosity	-.10***	.03	-.15***	.02	-.22***	.03
Depression	.05***	.00	.05***	.00	.05***	.00
School level						
School SES	-.19	.10	.58***	.15	.68***	.14
Intercept	2.46***	.26	2.10***	.30	-4.67***	.33
Variance components						
Intraschool variance	2.06***		2.39***		1.92***	
Interschool variance	.05***		.14***		.09***	

Note. SES = socioeconomic status. $N = 18,060$ students, 132 schools.

*** $p < .001$. ** $p < .01$. * $p < .05$ (two-tailed).

effects with all controls in Table 4 to the group effects without controls in Table 3. Results (not shown) demonstrate that, for the significant main effects in Table 3, our mediators explain up to 40% of the Native American effect on violence, 40% of the Puerto Rican effect on property offending, and 50% of the Chinese effect on substance use. Examining each set of mediators individually (Appendix B), we see that grades are the most effective mediator across all offense/group combinations (e.g., 77% of Chinese violence and 55% of Puerto Rican property offending). Note, however, that the grades coefficient mediates the race effect on violence while suppressing the race effect on substance use (Wright & Younts, 2009).

Discussion

We used a large, nationally representative sample to examine group differences in different types of delinquency. Our empirical contribution is to examine group

differences in specific offenses and the role of potential mediating variables using a sophisticated method that controls for the seriousness of offenses. Our theoretical contribution is to show the implication of consistent and inconsistent effects for different theoretical explanations of group differences in crime. We are *not* attempting to use the mediation analysis to test specific theories of crime. Rather, our purpose is to determine whether explanations of crime generally, or explanations of specific crimes are required to explain group differences. In other words, we want to establish the proper dependent variable.

We argued that the pattern of group differences has important implications for whether a crime theory can explain those differences. Crime theories, that is, theoretical explanations of why people break the law, imply that similar group differences and similar mediating variables should be observed for different types of crime. Exceptions could mean that motivated offenders would commit the crime if they could, but that they lack the opportunity. On the other hand, if effects are not observed for multiple types of crime, we should be skeptical that crime theories can provide an adequate explanation for a group difference. Skepticism should be even greater if we observe sign reversals, that is, effects that are in the opposite direction predicted by the crime theory. Sign reversals are difficult to attribute to measurement problems or differences in opportunity. Inconsistent group effects suggest that we must be more specific in our thinking about the dependent variable—our explanandum. We should either use more specialized theoretical explanations of particular types of crime or propose suppressing mechanisms. We should not ignore exceptions, particularly when there are so many and when the signs of coefficients are in different directions.

Black/White differences. We do not observe consistent effects of race for different offenses. While Black youth are more likely than White youth to engage in violence, they are equally likely to commit property offenses, and they are less likely to use illegal substances.¹⁰ The inconsistent pattern challenges the stereotypical image of the criminality of Black communities. It is also a challenge to the idea that crime theories can explain race differences. In addition, our results suggest that the race pattern is not due to any tendency for African Americans to commit more serious offenses. The Rasch model allowed us to examine race differences controlling for the seriousness of offenses. We acknowledge that use of infrequency as a measure of seriousness is indirect and that it could be affected by opportunity factors as well. However, Felson et al. (2008) found a similar race pattern when making pairwise comparisons of crimes that clearly differed in their seriousness. For example, they compared injurious violence to violence, and selling drugs to using drugs.

It is possible that the patterns we observe are affected by a tendency for Blacks to underreport offenses (e.g., Tomaskovic-Devey et al. 2006). It seems unlikely that such a bias would affect race differences in reporting some offenses but not others, however. Why should Blacks report violence but not drinking or theft? While reporting bias could be stronger for more serious offenses since the social desirability factor could be stronger, the Rasch method controls for seriousness.

On the other hand, perhaps a reporting bias offsets the tendency for Blacks to have higher rates of property offenses and completely reverses effects on substance use. We might then conclude that theories of crime as well as theories of aggression are necessary to explain race differences, but that theories of aggression are more important.

It is also possible that race differences in the tendency of offenders to drop out of school can explain the patterns. Perhaps school authorities are more likely to expel Black students than White students for engaging in violence, but they do not discriminate for nonviolent crimes. Note that the opposite argument could be made just as easily.

Overall, the findings suggest that a theory of aggression is needed to explain the most prominent racial pattern. We have neither evidence nor an interest in making claims as to what particular theory should be used. Perhaps Blacks respond to discrimination with anger and this anger only leads to crimes involving aggression, as suggested by frustration–aggression approaches (e.g., Berkowitz, 1989; Unnever et al., 2009). Perhaps race differences in violence can be attributed to a subculture of violence, an honor culture, or a “code of the streets” in African American communities (Anderson, 1999). Perhaps the spread of violence in African American communities is due to residential segregation, the contagiousness of violence, and the effects of violent adversaries (Fagan, Wilkinson, & Davies, 2007; Felson et al. 2008). We leave it to future research to decide which theory of violence works best.

Our results also suggest that we need to explain why White youth are more likely than Black youth (and other races and ethnicities) to use alcohol and drugs. A theory to explain these patterns is, to our knowledge, not currently available.¹¹ One possibility is that White youth participate in a party subculture that involves extensive alcohol and drug use. Whatever the process involved, the results suggest that future research on race differences in delinquency should emphasize theories of aggression and substance use.

Ethnic differences. These findings highlight the need to think about subgroup heterogeneity when examining racial and ethnic crime differences. There is no reason to expect that all Asian or all Hispanic groups should have the same rates. The experiences and cultures of different ethnic groups are different, even when their ancestry comes from the same continent.

We see clear evidence for consistency among Chinese Americans. The coefficients were all in the same direction and the results were consistent for both samples. However, Chinese youth were particularly unlikely to use illegal substances, so theories of substance use may also help explain their behavior. Vietnamese Americans also showed consistency, but we did not analyze their property offenses. Filipino, Indian, and Korean American youth appear to be narrower in their offending. Filipinos have low rates of violence while Indians and Koreans have low rates of substance use. The results suggest that theories of crime should be useful for explaining group differences, but that there are also exceptions that require explanation. In addition, the fact that we are able to demonstrate consistency for some groups suggests that its absence for other groups (i.e., Blacks) is real and not likely the result of methodological limitations.

We observe mixed evidence regarding group consistency among Puerto Ricans and Mexicans. These groups are more likely than Whites to engage in violence and property offenses, but their rates of substance use are similar. Perhaps crime theories can explain their delinquency, but their tendency to use illegal substances is offset by some other process. The other Hispanic groups are similar to Whites in their offending. Finally, we see evidence of group consistency among Native Americans. However, their rates of drunkenness are similar to Whites in the larger sample.

We acknowledge that we had only mixed success in determining ethnic group consistency for some groups (e.g., Filipinos). The patterns were not always consistent. Perhaps for some groups the pattern was there but we lacked the cell size to detect significant differences. This issue is visible in our confidence intervals in Figure 1. More research is needed to identify exactly how the delinquency of Native Americans and specific Asian and Hispanics groups differs from the delinquency of non-Hispanic Whites.

Mediation. We also addressed the consistency issue by examining mediation processes. We examined whether the role of standard variables associated with crime theories is similar for different types of crime. No one, to our knowledge, has made these comparisons. Our analyses revealed that four group-related variables had consistent effects on different types of delinquency: academic performance, religiosity, depression, and assimilation. Further analyses showed that in some cases these variables were sufficiently strong mediators to reduce race and ethnic coefficients to nonsignificance (see Appendix B).¹² The results suggest that these variables are useful in explaining group differences in crime. In some cases, they may act as suppressors. For example, the greater tendency for Whites to use drugs would be even stronger if it were not for the fact that other factors (e.g., academic performance) lead them in the opposite direction.

Family and school SES effects differ from the above pattern. They are inconsistent predictors and therefore are not likely to be useful in explaining group differences in delinquency. They were negatively related to violence, but positively related to nonviolent delinquency. They may, however, be useful in predicting group differences in violence.

It is possible that the relationship between some of our mediators and delinquency are spurious, given that our data are cross sectional. That should not affect inferences about mediation. In addition, it is difficult to imagine why spuriousness would produce different correlations for different types of delinquency. For example, it seems unlikely that some unmeasured variable can account for why socioeconomic variables are negatively related to violence, but positively related to nonviolent delinquency. Note that cross-sectional data are appropriate for examining group effects since they are clearly exogenous. A longitudinal design with lagged variables underestimates group differences because it only examines group effects on changes in delinquency during the time period between administrations. This may explain why McNulty and Bellair's (2003) results were different from ours.

Future research is needed to examine whether relatively high rates of drinking and drug use among White youth are due to a party culture. In addition, it is possible that

the relatively high rates of violence among Black youth would be even higher were it not for their relatively high levels of sobriety. In analyses not presented, we included drunkenness as a control variable in a logistic regression equation predicting violence in the in-school sample. The race difference in violence became even stronger.

The majority–minority paradigm. The emphasis on economic disadvantage and inequality in understanding criminal behavior reflects the general approach to group differences in the social sciences. According to what Sakamoto et al. (2009) term the majority–minority paradigm, racial and ethnic minorities have lower SES than Whites because they have historically been subjected to discrimination or disadvantaged in some other way. In criminology, the majority–minority paradigm implies that racial and ethnic minorities have higher crime rates than Whites because they have lower social or economic status: They lack legitimate economic opportunity, experience strain, or are segregated in socially disorganized neighborhoods (e.g., Anderson, 1999; Merton, 1968; Sampson & Wilson, 1995). These circumstances cause crime, or produce poverty or subcultural responses that then lead to crime. In one way or another, the studies cited earlier include structural disadvantage as part of their explanation of race differences.

We think that our evidence, along with evidence from earlier studies, suggests that this paradigm requires revision if it is to explain group differences in delinquency. Our results suggest that the link between lower social and economic status and juvenile delinquency is weak at best. African Americans—the most disadvantaged group—do not have high rates of delinquency. They only have high rates of violence. Asian Americans—a group with a history of discrimination—tend to have low rates of delinquency. Recent immigrants—who are also often disadvantaged—also have low rates of delinquency (Vaughn, Salas-Wright, DeLisi, & Maynard, 2014). While these groups have not suffered as much discrimination as African Americans, the majority–minority paradigm implies that all minority groups who have suffered discrimination should have higher delinquency rates than non-Hispanic Whites.

Our evidence regarding the effects of economic status also challenges current versions of the majority–minority thesis. We do not see support for the idea that youth from disadvantaged families are more likely to engage in delinquency than youth from families with better resources; the finding is consistent with a literature dating back to the 1970s (e.g., Tittle, Villemez, & Smith, 1978). In fact, adolescents from poor families are less likely to drink and use drugs. Perhaps they are less able to afford them. However, adolescents from poor families do not commit more property offenses, and the fact that the sign of the coefficient for SES is positive ($b = .05$; see Table 4) argues against measurement error. Poverty appears to be criminogenic only for violent delinquency. Theories that emphasize economic disadvantage cannot easily explain why youth from impoverished families do not show consistency.

Nor do we find support for the idea that attending a school with disadvantaged students leads to delinquency. Youth from disadvantaged schools are less likely to engage in property offending and use illegal substances, and they are similar in their violent offending. One could argue that a contextual measure based on census data

might provide a better measure of neighborhood disadvantage. For the reported analyses, we did not use census data because the school-based Add Health data are cross nested with students' neighborhoods and many students share the same census blocks. In supplementary analyses, however, we created an individual-level measure of "neighborhood disadvantage" based on factor analyses of block-level census characteristics (see Sampson, Raudenbush, & Earls, 1997). When this measure was included in survey-adjusted models, the effects were similar to those we obtained for school disadvantage: Adolescents from disadvantaged census blocks were less likely to engage in property offending and substance use.¹³ The positive effect of neighborhood disadvantage on violence was similarly weak and also statistically insignificant. The finding of a null effect of neighborhood SES on violence is consistent with some studies and inconsistent with others (e.g., Kling, Ludwig, & Katz, 2005; McNulty & Bellair, 2003; Sampson et al., 2005). On the other hand, our results regarding substance use are consistent with a recent study of adolescents from schools in the Seattle metropolitan area from 1998 to 2003 (Snedker, Herting, & Walton, 2009). That study also found that adolescents living in economically disadvantaged neighborhoods have lower rates of alcohol and marijuana use.

We recognize that discrimination has important consequences for minority groups and that social and economic status play a role in some types of crime. We believe, however, that the majority–minority approach needs to be revised to accommodate the delinquency patterns we observe, and that different mechanisms need to be considered. In the case of race differences, our results suggest that mechanisms leading to violence, particularly gun violence, be examined. For example, we suggested that violence is contagious and spreads in racially segregated communities because of adversary effects and the code of the streets. Such explanations emphasize housing discrimination as a driving force and thus are consistent with the majority–minority paradigm.

Conclusion

Our evidence suggests that crime theories can account for the low rates of delinquency among Asian Americans. We observe consistent group differences in different crimes and consistent mediation. We think it is important for future research to study Asian Americans since it sheds light on the issue of why other groups have high crime rates. That is a central criminological concern.

Our evidence suggests that theories of crime are likely to be less successful in explaining differences between Black and White youth. High rates of violent crime and low rates of drinking and drug use among African American youth suggest we need to consider theories of aggression and substance use. However, it may be that theories of crime are also relevant but that we were unable to detect small effects.

The results suggest that it is important to pay attention to the behavioral outcomes that require explanation. We recognize that failure to find significant effects for some crimes in some studies is to be expected, given measurement problems. Sign reversals, on the other hand, are a more serious challenge. They suggest that we need to pay careful attention to the dependent variable when examining group differences.

Appendix A

Descriptive Statistics by Race/Ethnicity, Add Health In-home Survey (Survey-adjusted)

Variable	Full Sample		Non-Hispanic White		Black	Chinese		Filipino		Native American		Mexican		Puerto Rican		Cuban		Other /Mixed		
	Mean (%)	SD	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	Mean (%)	
Female	.50		.50		.51	.43	.48	.37*	.50	.48	.52	.49								
Age	15.50	1.82	15.44		15.68	15.44	15.83	15.09	15.48	15.37	15.46	15.78								
Foreign-born	.06		.01		.02	.43*	.55*	.02	.22*	.09*	.33*	.43*								
English not primary at Home	.07		.01		.01	.57*	.27*	.03	.45*	.22*	.64*	.47*								
Parental attachment	28.78	8.32	29.51		25.90*	30.61	30.32	28.02	28.42*	26.77*	28.24	28.55*								
Intact family	.54		.59		.29*	.86*	.68*	.38*	.56	.34*	.54	.58								
SES	-.04	.79	.05		-.18*	.25	.34*	-.22*	-.55*	-.30*	-.43*	-.06								
Grades	2.80	.78	2.87		2.57*	3.41*	2.97	2.48*	2.63*	2.46*	2.54*	2.83								
Religiosity	-.02	.89	-.09		.20*	-.37	.38*	-.47*	.11*	-.09	-.09	.08*								
Depression	10.94	7.55	10.32		12.16*	10.68	12.95*	12.65*	12.71*	12.86*	10.47	11.92*								
N	18,060		9,674		3,831	280	538	144	1,496	501	441	1,155								

Note. SES = socioeconomic status.

* $p < .05$ (two-tailed) survey-adjusted Wald test compared to non-Hispanic Whites.

Appendix B

Race/Ethnic Mediation by Blocked Variables, Add Health in-Home Survey

Race/Ethnicity	Violence		Property		Substance Use	
	Coefficient	%Δ	Coefficient	%Δ	Coefficient	%Δ
Black						
Without controls	.62***		ns		-.44***	
Assimilation ^a	.62***	.00			-.45***	.03
Parenting ^b	.51***	-.18			-.58***	.31
SES ^c	.59***	-.05			-.44***	.00
Grades	.46***	-.27			-.59***	.34
Religiosity	.70***	.12			-.34***	-.24
Depression	.54***	-.13			-.54***	.22
Chinese						
Without controls	-.44**		ns		-1.48***	
Assimilation ^a	-.17	-.62			-1.00***	-.33
Parenting ^b	-.38*	-.14			-1.45***	-.02
SES ^c	-.47**	.07			-1.48***	.00
Grades	-.10	-.77			-1.23***	-.17
Religiosity	-.49**	.11			-1.55***	.05
Depression	-.52**	.19			-1.59***	.07
Filipino						
Without controls	ns		ns		-1.02***	
Assimilation ^a					-.55*	-.46
Parenting ^b					-1.00***	-.03
SES ^c					-1.00***	-.02
Grades					-.91***	-.11
Religiosity					-.83**	-.19
Depression					-1.16**	.14
Native American						
Without controls	.84***		.48*		ns	
Assimilation ^a	.86***	.02	.51*	.06		
Parenting ^b	.83***	-.02	.53*	.10		
SES ^c	.80***	-.04	.48*	.01		
Grades	.63**	-.25	.32	-.34		
Religiosity	.81***	-.04	.45*	-.06		
Depression	.71**	-.16	.34	-.29		
Mexican						
Without controls	.68***		.33**		ns	
Assimilation ^a	.83***	.22	.58***	.75		
Parenting ^b	.65***	-.04	.30**	-.10		
SES ^c	.49***	-.28	.31**	-.05		
Grades	.47***	-.30	.17	-.49		
Religiosity	.75***	.10	.40**	.20		
Depression	.56***	-.18	.21	-.37		

(continued)

Appendix B. (continued)

Race/Ethnicity	Violence		Property		Substance Use	
	Coefficient	%Δ	Coefficient	%Δ	Coefficient	%Δ
Puerto Rican						
Without controls	.71***		.32*		<i>ns</i>	
Assimilation ^a	.76***	.06	.39*	.21		
Parenting ^b	.65***	-.09	.30*	-.08		
SES ^c	.63***	-.11	.32*	-.01		
Grades	.48***	-.32	.15	-.55		
Religiosity	.76***	.06	.37*	.14		
Depression	.61***	-.14	.22	-.32		

Note. SES = socioeconomic status; *ns* = nonsignificant.

^aForeign-born and English not primary at home variables.

^bParental attachment and intact family variables.

^cIndividual-level and school-level SES variables.

*** $p < .001$. ** $p < .01$. * $p < .05$ (two-tailed).

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Notes

1. By theory of crime, we mean a theory that attempts to explain all types of crime and delinquency.
2. A study of 12-year-olds participating in the 1997 National Longitudinal Survey of Youth found that non-Whites have higher rates of property crime, lower rates of drug use, and similar rates of assault (Hawkins, Laub, Lauritsen, & Cotghern, 2000). However, they grouped all non-Whites together.

3. Data from the National Crime Victimization Survey show strong race differences in violent offending but does not include information on the race of nonviolent offenders (e.g., Bureau of Justice Statistics, 2005).
4. Studies of racial invariance—statistical interactions between race and other variables—are not discussed here because they do not address the issue of why groups have different crime rates.
5. Haynie and Payne (2006) found some evidence that various characteristics of friendship networks mediate the relationship between race and changes in violence over time. We preferred not to control for peer effects because we view the association with delinquent friends as endogeneous. Delinquent youth are more likely to choose delinquent friends and youth with criminogenic characteristics are likely to engage in delinquency and choose delinquent friends. In addition, since friends are often from the same group, controlling for the delinquency of friends would lead us to underestimate group differences. Finally, the network measures have large numbers of missing data, which may be particularly problematic for an examination of underrepresented race and ethnic categories.
6. In the school sample, Whites have less missing data than all other groups except the Chinese. Since missing data frequency does not vary by crime, it cannot explain the consistency patterns. In the home sample, there is not much missing data for any group.
7. The relatively low reliability of the substance use index brings its validity into question and may also indicate a violation of the additivity assumption of our Rasch models (Raudenbush et al., 2003). An examination of the index's inter-item correlation matrix identified two underlying factors; (1) marijuana and alcohol consumption and (2) cocaine, inhalants, and other drug use. To ensure results from the combined index are representative of race and ethnic differences, we estimated models with the two factors separately. The pattern of race and ethnic differences is virtually identical in both cases (although larger when looking at the second factor of less frequent drug offenses). Results are available from the authors upon request. We chose to focus on the combined drug index for its parsimony and face validity as an index of polydrug use.
8. There is limited evidence of racial heterogeneity within the Hispanic ethnic category. Ninety-six percent of Hispanics identified as White or other race, and the remaining 4% identified as Black. To ensure Hispanic coefficients were not driven by Hispanic-Blacks, we reestimated the models without the latter group and found no significant differences in the race and ethnic estimates.
9. In analyses not presented, we examined whether the relationship between SES and crime reflected the effect of being from an underclass background. In our equations, we added either a term indicating whether the respondent's family was on welfare or an exponential term. The results suggested evidence of curvilinearity for violence, but not for the other offenses. Adolescents from underclass families were particularly likely to engage in violence.
10. O'Malley, Johnston, Bachman, Schulenberg, and Kumar (2006) find that predominantly White schools have higher rates of drug use than predominately Black schools. In analyses not presented, we computed rates of different types of crime from the Denver Youth Study, a study based on youth from high-risk neighborhoods. The results showed that Blacks had higher rates of violence than Whites, similar property crime rates, and lower rates of

marijuana and other drug use. Rates of alcohol use were also lower, but the difference was not statistically significant.

11. Perhaps the different effects for violent crime and substance use are not surprising given that the former involves intentional harm doing while the latter is a victimless crime.
12. Note, however, that Mexican Americans would have even higher rates of violence and property crime were it not for low assimilation status relative to Whites.
13. One could argue that there is less to steal in low income neighborhoods. However, that explanation cannot account for the effect on substance use.

References

- Agnew, R. (2006). *Pressured into crime: An overview of general strain theory*. New York, NY: Oxford University Press.
- Akers, R. L. (1998). *Social learning and social structure: A general theory of crime and deviance*. Boston, MA: Northeastern University Press.
- Anderson, E. (1999). *Code of the street*. New York, NY: W.W. Norton.
- Baglivio, M. T., Jackowski, K., Greenwald, M. A., & Howell, J. C. (2014). Serious, violent, and chronic Juvenile offenders: A statewide analysis of prevalence and prediction of subsequent recidivism using risk and protective factors. *Criminology and Public Policy*, 13, 83–116.
- Beaver, K. M., DeLisi, M., Wright, J. P., Boutwell, B. B., Barnes, J. C., & Vaughn, M. G. (2013). No evidence of racial discrimination in criminal justice processing: Results from the National Longitudinal Study of Adolescent Health. *Personality and Individual Differences*, 55, 29–34.
- Berkowitz, L. (1989). The frustration-aggression hypothesis: An examination and reformulation. *Psychological Bulletin*, 106, 59–73.
- Bureau of Justice Statistics. (2005). Criminal victimization in the United States: Statistical tables index. Retrieved from www.ojp.usdoj.gov/bjs/abstract/cvus/region_of921.htm
- Chen, P., & Chantala, K. (2014). *Guidelines for analyzing add health data*. Retrieved from <http://www.cpc.unc.edu/projects/addhealth/data/guides/wt-guidelines.pdf>
- Cloward, R. A., & Ohlin, L. E. (1960). *Delinquency and opportunity: A theory of delinquent gangs*. Glencoe, IL: The Free Press of Glencoe.
- Cohen, A. (1955). *Delinquent boys*. New York, NY: Free Press.
- Conrad, K. J., Riley, B. B., Conrad, K. M., Chan, Y., & Dennis, M. L. (2010). Validation of the Crime and Violence Scale (CVS) against the Rasch Measurement Model including differences by gender, race, and age. *Evaluation Review*, 34, 83–115.
- DeLisi, M. (2011). Where is the evidence for racial profiling? *Journal of Criminal Justice*, 39, 461–462.
- Fagan, J., Wilkinson, D. L., & Davies, G. (2007). *Social contagion of violence*. In D. Flannery, A. Vazsonyi, & I. Waldmen (Eds.), *Cambridge handbook of violent behavior*. Cambridge University Press, Columbia Public Law Research Paper No. 06-126. Available at SSRN: <http://ssrn.com/abstract=935104>
- Farrington, D. P., Loeber, R., & Stouthamer-Loeber, M. (2003). *How can the relationship between race and violence be explained?* In D. F. Hawkins (Ed.), *Violent crime: Assessing race and ethnic differences* (pp. 213–237). New York, NY: Cambridge University Press.
- Felson, M., & Boba, R. (2010). *Crime and everyday life* (4th ed.). Thousand Oaks, CA: Sage.

- Felson, R. B. (2008). Barking up the right tree. *The Criminologist*, September/October, 1–6.
- Felson, R. B., Deane, G., & Armstrong, D. P. (2008). Do theories of crime or violence explain race differences in delinquency? *Social Science Research*, 37, 624–641.
- Gottfredson, M., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.
- Greenberg, D. F. (2008). Age, sex, and racial distributions of crime. In E. Goode (Ed.), *Out of control: Assessing the general theory of crime* (pp. 61–76). Stanford, CA: Stanford University Press.
- Greenman, E., & Xie, Y. (2008). Is assimilation theory dead? The effect of assimilation on adolescent well-being. *Social Science Research*, 37, 109–137.
- Hao, L., & Bonstead-Bruns, M. (1998). Parent-child differences in educational expectations and the academic achievement of immigrant and native students. *Sociology of Education*, 71, 175–198.
- Hawkins, D. F., Laub, J. H., Lauritsen, J. L., & Cotghern, L. (2000). *Race, ethnicity and serious and violent juvenile offending*. *Juvenile Justice Bulletin*. Washington, DC: U.S. Dept of Justice.
- Haynie, D. L., & Payne, D. C. (2006). Race, friendship networks, and violent delinquency. *Criminology*, 44, 775–806.
- Hempel, C. G., & Oppenheim, P. (1948). Studies in the logic of explanation. *Philosophy of Science*, 15, 135–175.
- Hindelang, M., Hirschi, T., & Weis, J. (1981). *Measuring delinquency*. Beverly Hills, CA: Sage.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Kao, G. (1995). Asian-Americans as model minorities? A look at their academic performance. *American Journal of Education*, 103, 121–59.
- Kao, G., Tienda, M., & Schneider, B. (1996). Racial and ethnic variation in academic performance. *Research in Sociology of Education and Socialization*, 11, 263–297.
- Kaufman, J. M. (2005). Explaining the race/ethnicity-violence relationship: Neighborhood context and social psychological processes. *Justice Quarterly*, 22, 224–251.
- Kitano, H. L., & Sue, S. (1973). The model minorities. *Journal of Social Issues*, 29, 1–9.
- Kling, J. R., Ludwig, J., & Katz, L. F. (2005). Neighborhood effects on crime for female and male youth: Evidence from a randomized housing voucher experiment. *Quarterly Journal of Economics*, 120, 87–129.
- McNulty, T. L., & Bellair, P. E. (2003). Explaining racial and ethnic differences in serious adolescent violent behavior. *Criminology*, 41, 709–748.
- Meier, A. (2007). Adolescent first sex and subsequent mental health. *American Journal of Sociology*, 112, 1811–1847.
- Merton, R. K. (1968). *Social theory and social structure*. New York, NY: Free Press.
- Morenoff, J. D., & Astor, A. (2007). Immigrant assimilation and crime: Generational differences in youth violence in Chicago. In R. Martínez, & A. Valenzuela (Eds.), *Immigration and crime: Race, ethnicity and violence* (pp. 36–63). New York: New York University Press.
- Morris, G. D., Wood, P. B., & Dunaway, R. G. (2007). Testing the cultural invariance of parenting and self-control as predictors of American Indian delinquency. *Western Criminology Review*, 8, 32–47.

- O'Malley, P. M., Johnston, L. D., Bachman, J. G., Schulenberg, J. E., & Kumar, R. (2006). How substance use differs among American secondary schools. *Prevention Science, 7*, 409–420.
- Osgood, D. W., McMorris, B. J., & Potenza, M. T. (2002). Analyzing multiple-item measures of crime and deviance I: Item response theory scaling. *Journal of Quantitative Criminology, 18*, 267–296.
- Pong, S., Hao, L., & Gardner, E. (2005). The roles of parenting styles and social capital in the school performance of immigrant Asian and Hispanic adolescents. *Social Science Quarterly, 86*, 928–50.
- Raudenbush, S. W., Johnson, C., & Sampson, R. J. (2003). A multivariate, multilevel Rasch Model with application to self-reported criminal behavior. *Sociological Methodology, 33*, 169–211.
- Sakamoto, A., Goyette, K. A., & Kim, C. H. (2009). Socioeconomic attainments of Asian Americans. *Annual Review of Sociology, 35*, 255–276.
- Sampson, R. J., & Lauritsen, J. L. (1997). Racial and ethnic disparities in crime and criminal justice in the United States. In *Crime and Justice, Ethnicity, crime and immigration: Comparative and cross-national perspectives, 21*, 311–374.
- Sampson, R. J., Morenoff, J. D., & Raudenbush, S. (2005). Social anatomy of racial and ethnic disparities in violence. *American Journal of Public Health, 95*, 224–232.
- Sampson, R. J., & Wilson, W. J. (1995). *Toward a theory of race, crime, and urban inequality*. In J. Hagan & R. D. Peterson (Eds.), *Crime and inequality* (pp. 37–56). Stanford, CA: Stanford University Press.
- Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency in urban areas*. Chicago, IL: University of Chicago Press.
- Snedker, K. A., Herting, J. R., & Walton, E. (2009). Contextual effects and adolescent substance use: Exploring the role of neighborhoods. *Social Science Quarterly, 90*, 1272–1297.
- Steinberg, L., Dornbusch, S. M., & Brown, B. B. (1992). Ethnic differences in adolescent achievement: An ecological perspective. *American Psychologist, 47*, 723–729.
- Stinchcombe, A. L. (1968). *Constructing social theories*. Chicago, IL: University of Chicago Press.
- Tittle, C. R., Villemez, W. J., & Smith, D. A. (1978). The myth of social class and criminality: An empirical assessment of the empirical evidence. *American Sociological Review, 43*, 643–656.
- Tomaskovic-Devey, Donald, Cynthia Pfaff Wright, Ronald Czaja, & Kirk Miller. (2006). Self-reports of police speeding stops by race: Results from the North Carolina Reverse Record Check Survey. *Journal of Quantitative Criminology, 22*, 279–297.
- Turner, C. F., Ku, L., Rogers, S. M., Lindberg, L. D., Pleck, J. H., & Sonenstein, F. L. (1998). Adolescent sexual behavior, drug use, and violence: Increased reporting with computer survey technology. *Science, 280*, 867–873.
- Unnever, J. D., Cullen, F. T., Mathers, S. A., McClure, T. E., & Allison, M. C. (2009). Racial discrimination and Hirschi's criminological classic: A chapter in the sociology of knowledge. *Justice Quarterly, 26*, 377–409.
- U.S. Department of Justice. (2008). *Crime in the United States*. Retrieved from http://www2.fbi.gov/ucr/cius2008/offenses/violent_crime/index.html

- Vaughn, M. G., Salas-Wright, C. P., DeLisi, M., & Maynard, B. R. (2014). The immigrant paradox: Immigrants are less antisocial than native-born Americans. *Social Psychiatry and Psychiatric Epidemiology*, *49*, 1129–1137.
- Wright, B. R. E., & Younts, C. W. (2009). Reconsidering the relationship between race and crime positive and negative predictors of crime among African American youth. *Journal of Research in Crime and Delinquency*, *46*, 327–352.
- Zimring, F. E., & Hawkins, G. (1997). *Crime is not the problem*. New York, NY: Oxford University Press.

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