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Exploring Race Based Differences in Patterns of Life-Course Criminality

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Abstract

A persistent issue facing criminologists is the challenge of developing theoretical models that provide comprehensive explanations of the onset and persistence of criminality. One promising theory to develop over the last 30 years has been life-course theory. Using multivariate analysis of variance the main question posed in this research, do elements of social development shape the trajectory of persistent offending in a race-neutral fashion, or are the dynamics shaping life-course criminality unique for people of color, was examined. The results provide a number of useful insights into the relationship between race, life-course transition factors, and longitudinal patterns of criminality.

INTRODUCTION

A persistent issue facing criminologists is the challenge of developing comprehensive theoretical models that provide equally comprehensive and robust explanations of the onset and persistence of criminality. The dominant criminological perspectives of the twentieth century identified such factors as social structure (Merton 1957), social learning (Sutherland and Cressey 1978), and elements of social control (Hirschi 1969) as being causally linked to the genesis of crime. While significant in scope, most work in these theoretical traditions did not seek to explain criminality as a dynamic product of the life-course involving the impact and interaction of numerous individual- and social-level factors. Particularly relevant among these factors was race, a demographic variable seen to signal significant differences in offending, but one that was rarely explored as a dynamic component of social development (Cross 2003).

Since 2000, research into the relationship between life-course development and crime has emerged as a significant and promising area of criminological inquiry (Moffitt et al. 2001; Laub and Sampson 2003), evolving to include studies that have considered the significance of race in the relationship between the life-course and criminality (Maldonado-Molina et al. 2009; Piquero et al. 2003). Much of this research has emphasized economic elements of individual development and their intersection with race in the origin of criminality (Haynie et al. 2008). An area not explored as thoroughly, however, has been the role of non-economic developmental factors on race-based differences in patterns of life-course criminality.

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This article presents such an analysis, employing data from the National Longitudinal Study of Adolescent Health (Harris et al. 2003) to explore the extent to which various social and demographic factors combine with race to explain patterns of criminality and crime persistence. Specifically, our goal in this research is to assess whether factors described as elements of "emerging adulthood" (Arnett 1998) are statistically related to patterns of life-course criminality, and whether such patterns are further differentiated by race. Given previous research, which has found race to be a significant factor explaining patterns of long-term offending (Blumstein et al. 1986; Elliott 1994), the results of this analysis hold promise for illuminating the specific interplay of factors that explain this phenomenon.

LIFE-COURSE THEORY, CRIMINALITY, AND RACE

One of the most promising theories to develop over the last 30 years has been the life-course theory of informal social control (Guo et al. 2008), which has served as the theoretical foundation for several major studies that have examined the roles of both informal and formal social controls on offending patterns (Laub and Sampson 2003; Moffitt et al. 2001). While research in this tradition has focused on the impact of informal social ties at all stages of the life course (Guo et al. 2008), the recently identified stage known as "emerging adulthood" has presented a challenge to life-course theorists, particularly with regard to the relationship between this developmental stage and the onset and persistence of criminality.

The latter half of the twentieth century was a period of significant social and economic change in the United States, linked, by life-course theorists, to similarly significant changes in patterns of life-course development. For example, as early as the 1960s, demographers began to observe an increasing delay in the timing of marriage, with both men and women delaying marriage or not marrying at all (Espenshade 1985). Similarly, parenthood in the United States has changed, with women having fewer children and delaying the age at which they have first children, particularly for women between the ages of 30 and 34 (Baldwin and Nord 1984; Wilkie 1981).

An additional area of social change affecting life-course development can be described as socioeconomic, and relates to the reality that emerging adults no longer have the prospect of financially supporting a middle-class lifestyle without post–high school education (Arnett 2000; Cote 2000; Cote and Allahar 1995; Okimoto and Stegall 1987). The need for increasing rates of education has been attributed to the shift in the U.S. economy from a manufacturing to a service base (Burtless 1990), which, in turn, has resulted in an "education inflation": an increase in the credentials required to secure a well-paying job (Cote and Allahar 1995). The broad impact of these changes has been a "postponement" of significant life-transitions and an extension of adolescence for many into the twenties and beyond. This, in turn, has extended the period during which weak social bonds contribute to identity exploration, drug and sexual experimentation, and other forms of delinquency and crime (Chassin et al. 2002; Rohrbach et al. 2005; Hirschi 1969).

Termed "emerging adulthood," life-course researchers have found an empirical link to exist between this phenomenon and high rates of risky and delinquent behaviors usually seen in adolescence. For example, Arnett (1998), Tucker et al. (2005), White et al. (2006), and White and Jackson (2004) all found that dangerous behaviors (e.g., smoking, risky driving, binge drinking, drug use, and unsafe sexual behaviors) are highly prevalent during emerging adulthood. In addition, White et al. (2006) found that the lack of age appropriate, life-course transitions during emerging adulthood were positively related to increased participation in risky and dangerous behaviors. Exploring the role of reduced social controls in the genesis of such behaviors, White and Jackson (2004) noted that moving away from the controls provided by high school and living in the parental home served to increase rates of heavy

drinking and alcohol related problems among those whose transition to adulthood had been delayed. The link between emerging adulthood and more serious forms of criminality was explored by Piquero et al. (2002), who examined the impact of this phenomenon on the criminal activity of male parolees released from the California Youth Authority between the ages of 21 and 28 and found a significant delay in the peak arrest rates of emergent adults until the mid 20s (for both nonviolent and violent offenses), a finding in contrast with the more commonly observed (and accepted) trend of peak offending during the mid to late teen years (Gottfredson and Hirschi 1990).

While compelling in scope and methodology, studies of criminality across the life course have largely overlooked the significance of race as a demographic factor explaining differential patterns of offending. This oversight has been recognized by criminologists (Piquero et al. 2002), and has been explained as a result of the limited racial diversity found in most longitudinal datasets (Laub and Sampson 2003; Piquero et al. 2007). Recent studies (Jennings et al. 2010; Maldonado-Molina et al. 2009) have begun to address this shortcoming. Maldonado-Molina et al. (2009) examined trajectories of delinquency and the relationship of risk and protective factors (e.g., self-esteen, social support), between youths from the Bronx, United States and San Juan, Puerto Rico finding that the Bronx sample had higher rates of delinquency and sensation-seeking behaviors and that the level of exposure to violence influenced offender trajectories. Results from San Juan found lower rates of delinquency, but that the risk factors had largely the same effects across both samples. More recently, Jennings et al. (2010) continued examining Hispanic samples by comparing delinquent trajectories for males and females in the Bronx, United States and San Juan, Puerto Rico. They found that in both samples, despite the fact that males offended at higher rates, risk and protective factors seemed to have similar effects across genders.

Researchers have also recognized the existence of age-specific racial disparities in criminality (Blumstein et al. 1986; Hawkins et al. 1998). For example, Elliott (1994) found that African Americans exhibited significantly higher rates than whites of all forms of offending in patterns that lasted well beyond adolescence. Elliott attributes these race-based differences to differential access to opportunities for social and economic life transitions, suggesting that such barriers serve as impediments to maturation and crime desistence. Moffitt et al. (2001) elaborated this concept by suggesting that life-course persistence in patterns of offending by blacks is due to an economic maturity gap that delays their transition into adulthood and conventional patterns of social behavior.

Exploring this relationship further, Haynie et al. (2008) employed data from the National Longitudinal Study of Adolescent Health (Add Health) to examine whether participation in legitimate employment opportunities and a relative sense of economic well-being explain race differences in criminal offending and crime persistence in young adults (p. 600). Their findings provided several significant insights into the relationships between race and life-course criminality. In addition to the basic observation that, among sample participants, blacks were more likely to offend than whites, Haynie et al. also found that economic and employment factors combined with race as significant predictors of patterns of criminal offending. Most notable, however, was the consistency of their findings with the expectations of Elliott (1994) and Moffitt et al. (2001) that economic prospects and, in particular, the economic maturity gap account for a significant amount of observed race-based differences in persistent criminal (and violent) offending among sample participants (p. 617).

Establishing the significance of economic factors as predictors of differential patterns of crime persistence adds important insight to our understanding of life-course criminality. What has remained largely unaddressed, however, is the extent to which other sociocultural

factors are equally relevant to observed race differences. The importance of this area of inquiry stems from recent social changes that have altered the timing of many life events and the development of related social bonds, which prior studies (e.g., Laub and Sampson 2003) have found to act as "turning points" away from deviance and criminality. Scholars have found a race differential to exist in the operation of these turning points (Baumrind 1972; South and Messner 2000; Taylor et al. 1996), often finding differing levels of social bonding to correlate with participation in crime and deviance (Anderson 1999; McNulty and Bellair 2003).

A relevant theoretical dimension for understanding the role of race in criminality across the life course has developed through the longitudinal research led by Terrie Moffitt. Using longitudinal data from the Dunedin Multidisciplinary Health and Development Study, Moffitt et al. (2001) applied a developmental perspective as the theoretical foundation for the proposal of specific patterns of life-course criminality. "Adolescent-limited" (AL) offenders have relatively conventional patterns of childhood and social development. AL offenders come to antisocial/delinquent behavior during puberty as a result of factors such as role-confusion and weakness of external social controls during this life transition phase. Their antisocial/delinquent behavior consist mainly of minor, non-predatory, status offenses (e.g., public drunkenness and vandalism) that begin in adolescence and desist around age 20 as these individuals enter young adulthood and are assimilated into the adult social world.

By contrast, "life-course persistent" (LCP) offenders commit more serious, predatory crimes and begin offending at an earlier age. Antisocial/delinquent behaviors of young children are aggravated by neuropsychological deficits and social environments characterized by instability, poverty, inadequate or harsh parenting, and weak or disrupted social bonds. As children age, relationships outside the family (e.g., poor relations with peers and teachers) are molded by their experiences in early childhood. Throughout the first 20 years of life there is a cumulative effect of the negative transactions between the individual and his or her environment resulting in a disordered personality characterized by physical aggressiveness and antisocial behaviors that continue through midlife (Moffitt et al. 2001). Numerous studies have found empirical support for this taxonomy (Moffitt and Caspi 1998, 2001; Dean et al. 1996; Moffitt et al. 2002) and it has become a leading exemplar in the field of life-course criminality research.

Moffitt (1994) argued that race is an essential component in her taxonomy as there are higher rates of both types of offending for blacks. She noted that (poor) blacks are more likely to live in impoverished neighborhoods and to have families with weaker social bonds due to increased levels of stress. Further, poor black children attend schools with fewer resources to assist with disabilities found to contribute to underemployment and recidivism among offenders. Because of these factors, black children are more likely to face higher levels of cumulative disadvantage, which can often translate into higher levels of offending.

Moreover, there are greater implications for blacks who participate in both adolescent limited and life-course persistent offending. Moffitt (1994) found that racially segregated, impoverished communities offer greater opportunities for life-course persistent role modeling. In addition, blacks spend more time in the maturity gap than whites because of delayed transitions to adult social roles (Moffitt 1994:39). Increased time spent in the maturity gap may translate into an increased likelihood of being caught in a developmental "snare" (e.g., teenage pregnancy, drug addiction) that may postpone desistance.

More recently, Moffitt et al. (2002) found continuing support for the idea that emerging adulthood influences offending. Using a more recent wave of data from the Dunedin study, researchers found that at age 26, some of the adolescent limited offenders identified earlier

in the study had many legal and personal problems including mental health problems, property offenses, financial problems, and substance dependency. Moffitt discussed how members of the Dunedin cohort may still be experiencing many of these problems in their early 20s because of a "new developmental stage called *emerging adulthood*" (p. 200), concluding that emerging adulthood may have influenced the offending patterns of the Dunedin sample as they matured, as well other young people born after 1970.

The notion of delayed entrance into adult social roles resulting in extending periods of moderate criminal conduct has significant potential for a race-based elaboration of life-course theory. Recent changes in American social culture can be hypothesized to have influenced every racial and ethnic group in society. As noted earlier, the overwhelming majority of research in this tradition has overlooked the relevance of race, while acknowledging that differential patterns of criminality are reflected in longitudinal analyses (Elliott 1994). Studies have established the existence of economic correlates of patterns of persistent offending by people of color (i.e., Haynie et al. 2008). However, no study has explored the extent to which such life-course patterns are affected by elements of socialization and culture; nor have researchers considered whether the impact of such factors is color-blind, or whether the sociocultural correlates of persistent offending vary by race. Such an analysis would not only serve to extend this field of inquiry beyond the impact of economics alone, but would also explore the possible existence of an "emerging adulthood gap" for people of color, a phenomenon that could more comprehensively explain race-based differences in patterns of criminal behavior. We therefore seek to explore the question of whether various elements of social development shape the trajectory of persistent offending in a race-neutral fashion, or whether the dynamics shaping life-course criminality are unique for people of color.

RESEARCH METHODOLOGY

Data for this study have been taken from the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a longitudinal study of adolescents and young adults who were enrolled from 7th through 12th grade during the 1994–1995 academic year (Harris et al. 2003). The purpose of the Add Health study was to create a sample that is nationally representative of adolescents and collect data to measure the impact of social environment including the effects of peers, family, education, religion, and community on adolescent health and general well-being in the United States (Harris et al. 2003). The study was mandated by the U.S. Congress in the National Institute of Health Revitalization Act of 1993.

Add Health data have been collected in three longitudinal "waves." Wave 1 of the data collection occurred between April and December of 1995 and consisted of in-school and in-home self-report interviews of participants ranging in age from 11 through 21. Interview topics included information on employment experience, educational aspirations and expectations, substance use, criminal activities, the ordering of events leading to romantic and sexual partnerships, peer networks, and family composition and relationships (Udry 1998). Wave 2 data were collected approximately one year later and included follow up questions on the topics noted above. Wave 3 of the data was collected between August 2001 and April 2002 when participants were between the ages of 18 and 26 (Udry 2003). The complete Add Health data set is available in two forms: a restricted sample available to researcher by way of special permission and a merged version of all three waves available to the public (this latter version was used for this analysis).

The analytical benefits to be derived from use of this comprehensive, multi-wave longitudinal data set can be seen through the numerous research studies that have used Add

Health to examine relationships between sociobiological maturation and offending (Boutwell and Beaver 2008; Beaver et al. 2010; Guo et al. 2008). In addition, the Add Health data reflect a significant degree of racial diversity among participants, a feature that lends itself well to this research and overcomes criticisms of the racial homogeneity found in many longitudinal data sets (Laub and Sampson 2003).

DEPENDENT MEASURES

The development of dependent measures for this analysis followed an approach used in previous studies of Add Health data (see, for example, Barnes and Beaver 2008) and involved the construction of two distinct sets of offending scales for each wave of data collection. The first set of scales was based on criteria identified by Moffitt as relevant to adolescent limited offending and was mainly restricted to lower level forms of crime and delinquency (Moffitt 1993; Moffitt et al. 2001). This 7-item minor delinquency scale was applied to wave 1 (α =.746) and wave 2 (α =738), and included items related to lower level forms of delinquency and status offenses, including painting graffiti, damaging the property of others, shoplifting, running away from home, stealing something worth less than $50, and being loud and rowdy in public. Self-reported crimes in each category were coded as 0 =never, 1 =one or two times, 2 =three or four times, and 3 = 5 or more times. Thus, individual respondent scores ranged from low of 0 (i.e., no self-reported incidents) to a maximum of 21 (a score of 3 for each of the 7 offense categories). Subsequent scales were coded in the same manner.

The second set of offending scales was based on Moffitt's (1993) assertion that life-course persistent offenders commit a variety of offenses, particularly more serious, victim-oriented and violent offenses. Additional research (Moffitt 2006) found that such offenders are more likely to commit more serious offenses than those whose offending was adolescent limited. Thus, a serious delinquency/crime scale was created for each wave. At wave 1 (α =.711) the following items were included in the scale: hurting someone bad enough that they need bandages or care from a doctor or nurse, stealing a car, stealing something worth more than $50, burglarizing a house or building, threatening to use a weapon to get something from someone, selling marijuana or other drugs, and taking part in a fight where a group of your friends was against another group. At wave 2 (α =.709) some items were removed and additional ones added. The wave 2 scale consisted of the following items stealing a car, stealing something worth more than $50, burglarizing a house or building, threatening to use a weapon to get something from someone, selling marijuana or other drugs, taking part in a fight where a group of your friends was against another group, and were being initiated into a gang. For the wave 3 scale (α =.561),[1] several changes were made. The items added to the wave 3 crime scale included stealing something worth more than $50, burglarizing a house or building, threatening to use a weapon to get something from someone, selling marijuana or other drugs, taking part in a fight involving use of a weapon and carrying a gun to work or school. As with the first set of scales, the response categories for these indices ranged from 0 (no self-reported incidents) to 21, the maximum number of such incidents reported by respondents.

An adolescent limited offending score was not calculated for wave 3 data, based on the hypothesis that such offending would be minimal by those at this stage of the life course. Rather, a low-level/nonviolent offending crime scale was developed at wave 3 (α =.586)[2]

[1]It should be noted that coefficient alpha is one of the most commonly used measures of reliability. Not only is it influenced by the average correlation among items (internal consistency), but also by the number of items in the scale (Nunnally 1978). As a result, it may be difficult to obtain a high alpha, especially in longitudinal data where variables present at one wave may not be present at the next. Psychometricians (e.g., Cronbach 1951, 1970) have warned of this limitation, but it is often overlooked (Welsh 2001). Further, alpha coefficients in the .40–.50 range have generally been considered acceptable for etiological research (Thorndike 1971).

that reflected both the removal of certain of various low level and status offenses and the addition of several nonviolent offenses. The items comprising this scale were based on prior studies that examined offending during wave 3 of the Add Health data (e.g., Beaver et al. 2008). Items in the scale included damaging the property of others, stealing an item worth less than $50, buying, selling, or holding stolen property, using someone else's credit card, bank card, or automatic teller card without their permission or knowledge, and deliberately writing a bad check. The 5 items were subjected to principal components analysis (PCA), which yielded a Kaiser-Meyer-Oklin value of .685 that was significant using Bartlett's test of Sphericity. The analysis revealed the presence of one component with an eigenvalue exceeding 1, explaining 38.94% of the variance.

Individual respondent scores for each of these scales served as the dependent measures against which various independent factors were measured for effect.

INDEPENDENT MEASURES

The first and most theoretically relevant independent variable included in this analysis is race. For all three waves of the Add Health survey, 6,504 participants comprised the total sample. In waves 1 and 2, 1,619 participants identified themselves as "African American." Due to attrition between the second and third waves of data collection, the number of self-identified African Americans included in wave 3 dropped to 1,213. For purposes of this analysis, the number of African Americans at each wave was included as part of a dichotomous race variable used to measure race-based differences in rates of offending.

Assessing the significance of an "emerging adulthood" effect on patterns of criminality required the creation of a series of life-course transition indices comprised of relevant sociocultural variables and applied to each wave of Add Health data. Replicating the methodology employed in prior studies (e.g., Haynie et al., 2008, Barnes and Bootwell 2008; Beaver et al. 2010), indices at each wave were constructed to include factors found in previous studies to measure either life-course turning points (e.g., marriage) or social bonds (e.g., school attachment) and were tailored to correspond to the life stages reflected at each wave. At wave 1, the life-course transition index included variables reflecting levels of parental attachment, school attachment (Barnes and Beaver 2008) and attendance at religious services (Arnett 1998). Given that wave 2 data were collected only one year after wave 1, the life-course transition index of variables remained the same. Wave 3 data, by contrast, were collected 5 years after wave 2, when participants were between the ages of 18 and 26. Thus, the index was amended to include highest grade completed (Cote 2000), current employment status, and rate of religious service attendance (Laub and Sampson 2001)—an array of life-course transition indicators more appropriate for the age range reflected in this wave of the study.[3]

RESULTS

Using multivariate analysis of variance to explore the main question posed in this research, we were able to calculate mean rates of offending for both African-American and non-African-American participants in each wave of the survey.[4] At wave 1 of the study, rates of adolescent limited offending were compared for variance by race, with African Americans (n =1,592) reporting a mean offense rate of 2.36 incidents, compared with the higher non-African-American reported rate of 2.79 incidents (n = 4,810), a statistically significant

[2]Ibid.
[3]Variables applied to each wave: attendance at religious services, current employment status, highest grade completed, parental attachment style, race, and school attachment style.
[4]See Table 1 for a listing of all mean differences on offense scales by race for waves 1–3.

difference [F =21.21 (1, 6401); p <.001]. When measuring rates of life-course persistent offending at wave 1, however, the findings were reversed, with African Americans (n =1,598) reporting a significantly higher rate of LCP offending (mean =1.10) than non–African Americans (n =4,813; mean =.913) [F =11.13 (1, 6410); p =.001].

These race-based differences in offending were then evaluated in terms of the interactive effects of the life-course transition index of variables applied at wave 1. For adolescent limited offenders, reported levels of parental attachment [F =66.27 (1, 3724); p <.001], school attachment [F =12.17 (1, 3724); p <.001] and race [F =9.16 (1, 3724); p <.01] were all significantly related to differences in offending rates; frequency of religious service attendance was not [F =2.06 (1, 3724); p >.05]. The connection between race and reported levels of school attachment was shown to be the only significant interaction among these variables [F =4.59 (1, 3724); p <.05], with those in both racial categories who reported higher levels of school attachment having significantly lower levels of AL offending, although rates for African Americans in both groups were significantly lower than those of their non-African-American counterparts.

An application of these same life-course transition variables to life-course persistent offenders at wave 1 showed that race [F =8.55 (1, 3729); p <.01], parental attachment [F =8.57 (91, 3729); p <.01] and school attachment [F =19.43 (1, 3729); p <.001] were all significantly related to observed differences in rates of offending. As with AL offenders at wave 1, frequency of religious service attendance was not significantly related to LCP offense rate differences. Interactively, race, parental attachment and school attachment combined to provide a significant level of explanation of offense rate disparities within this group [F =4.94 (1, 3729); p <.05], with non–African Americans with high levels of parental and school attachment having the lowest rates of LCP offending. While high levels of both factors resulted in lower levels of LCP offending for African Americans as well, consistent with the bivariate results mentioned above, offense rates for this group were significantly higher than rates for non–African Americans. The observed significant relationships between these factors have an added theoretical value in that they may reflect the dynamics of socialization that establish race-specific behavioral patterns of offending that are sustained throughout the life-course. This observation is discussed more thoroughly in the conclusion.

At wave 2 of data collection, race remained a significant factor explaining offense rate differences. For AL offenders, non–African Americans (n =3,638) reported an average offense rate of 2.23 offenses, while the reported average rate for African Americans at wave 2 (n =1,132) was 1.92 offenses [F =13.68 (1, 4769); p <.001]. Life-course persistent offense rates at wave 2, while less than reported AL rates, still exhibited significant race-based differences, with non–African Americans (n =3,649) reporting a mean offense rate of .704, compared with an African American (n =1,131) mean rate of .821 offenses [F = 3.87 (1, 4779); p <.05]. It should be noted that at waves 1 and 2, African Americans exhibited significantly lower rates of adolescent limited offending than non–African Americans, but significantly higher rates of life-course persistent crime.

Given that only one year elapsed between data collection waves 1 and 2, the same array of life-course transition variables applied in the previous analysis was applied to data from participants in wave 2, producing somewhat similar results. For wave 2 AL offenders, the singular effects of race [F =5.03 (1, 2727); p <.05], parental attachment [F =39.43 (1, 2727); p <.001] and school attachment [F =7.73 (1, 2727); p <.01] were all shown to be significantly related to observed differences in offense rates, while the impact of frequency of religious service attendance was not statistically significant [F =3.01 (1, 2727); p >.05]. Likewise, the interaction between race, parental, and school attachment was significantly

related to observed differences in AL offense rates [F =3.97 (1, 2727); p <.05], with African Americans who expressed high levels of both forms of attachment reporting the lowest rates of AL offending and non–African Americans with low rates of attachment reporting the highest.

Analysis of life-course persistent offenders at wave 2 presented a result inconsistent with previous findings. Recall that a race-based differential in LCP offending was shown to be significant in the bivariate comparison discussed above. However, when race was combined with life-course transition variables in a more complex analytical model, it no longer retained singular statistical significance [F =.581 (1, 2728); p >.05]. Parental attachment [F =6.80 (1, 2728); p <.01] and school attachment [F =8.19 (1, 2728); p <.01] retained their significance, suggesting that for life-course persistent offenders at wave 2, levels of parental and school attachment—and not race—were significant factors explaining differential rates of LCP offending. This conclusion was supported by the significant interactive effects of these two variables on wave 2 LCP offending rates [F =4.62 (1, 2728); p <.05], the only significant interaction observed in this phase of the analysis. Thus, those expressing higher levels of parental and school attachment at wave 2 reported the lowest levels of LCP offending, regardless of race.

Given that the ages of participants in wave 3 of the study ranged from 18 through 26, the behaviors included in the adolescent limited scales applied to waves 1 and 2 were no longer an accurate reflection of minor criminality at this stage of the life-course. Therefore, the minor offending scale for wave 3 was amended to include criminality that is more reflective of age-appropriate, less serious/nonviolent criminality.

Analysis of the relevance of race on patterns of offending in wave 3 revealed results in significant contrast to those observed in previous waves. For less serious/nonviolent offenses, race was not shown to have a significant, singular effect on offense patterns [F =1.97 (1, 4810); p >.05], with non–African Americans (n =3,620) reporting a slightly lower average rate of less serious offending (mean =.388) than African Americans (n =1,191; mean =.445). Similarly, life-course persistent offending in wave 3 did not reflect significant differences based on the race of participants alone [F =2.49 (1, 4798); p >.05]. Moreover, the mean LCP offense rates for both groups were almost identical to those observed for the less serious/nonviolent offenders.

The significance of race at wave 3 changed, however, when the analysis was expanded to include the effects of life-course transition variables (i.e., highest grade completed, employment status, and frequency of religious service attendance). Using the full analytic model to evaluate offending by less serious/nonviolent offenders produced significant results for differences based on race [F =11.39 (1, 4495); p = .001], employment status [F =17.54 (1, 4495); p <.001] and frequency of religious service attendance [F =34.35 (1, 4495); p <.001], with this latter factor having the strongest effect. Highest grade completed did not have a singularly significant effect on rates of less serious offending [F =3.17 (1, 4495); p >.05]. When interactions between these variables were considered, significant effects were found between race and employment status [F =4.89 (1, 4495); p <.05], race and frequency of religious service attendance [F =5.16 (1, 4495); p <.05] and employment status and frequency of religious service attendance [F =6.20 (1, 4495); p <.05]. An overall evaluation of mean scores based on these results suggests that the lowest rates of less serious/nonviolent offending were reported by those non–African Americans with higher levels of education who were employed and regularly attended religious services, while the highest rates of less serious/nonviolent offending were found among less-educated, unemployed African Americans who rarely attended religious services. It should be noted, however, that a three-way interaction of race, employment status and frequency of religious

service attendance was not found to be significant among less serious/ nonviolent offenders in this wave of the study [F =.692 (1, 4495); p >.05].

The analysis of the effects of these variables on life-course persistent offense patterns yielded results somewhat similar to those of the multivariate analysis of less serious/ nonviolent offenders described earlier. In this instance, however, all the independent factors were found to be singularly significant (i.e., race [F = 10.67 (1, 4483); p =.001], highest grade attended [F =11.27 (1, 4483); p =.001], employment status [F =25.41 (1, 4483); p <. 001] and frequency of religious service attendance [F =28.64 (1, 4483); p <.001]). In addition, LCP offense rates at wave 3 were found to be significantly affected by a two-way interaction between race and employment status [F =15.69 (1, 4483); p <.001] and by the three-way interaction of race, highest grade attended and frequency of religious service attendance [F =6.55 (1, 4483); p <.05]. Thus, the lowest rates of LCP offending in wave 3 were reported by those non–African Americans with higher levels of education who were employed and regularly attended religious services, while the highest rates of LCP offending were found among less-educated, unemployed African Americans who rarely attended religious services.[5]

DISCUSSION

The results presented above provide a number of useful insights into the relationship between race, life-course transition factors, and longitudinal patterns of criminality. First, with regard to the broader issue of whether patterns of life-course criminality are impacted by race, this analysis has shown that they are. At each wave of data collection race was shown to be a factor distinguishing differential patterns of criminality. For adolescent limited offenders at wave 1, significant differences were observed in offense rates, with non–African Americans exhibiting higher levels of offending than African Americans. The sociocultural factor of strong attachment to parents was related to lower AL offending for both groups, while strong attachments to school translated into significantly lower rates of offending for African Americans in wave 1. These findings are consistent with the significant body of research that has credited strong ties to conventional social institutions as insulation against delinquency (Hirschi 1969; Gottfredson and Hirschi 1990). It is noteworthy, however, that this effect was stronger for African Americans at this life-course juncture than for others in the study.

Significant race-based differences were also observed in patterns of life-course persistent offending at wave 1. Although lower in frequency, mean rates of LCP offending were higher for African Americans, in contrast with the pattern of wave 1 AL delinquency. Regardless of race, those with stronger levels of school and parental attachments reported lower levels of LCP offending overall; however, these two factors had a combined effect on non–African Americans only, giving them the lowest reported levels of LCP offending of any group in any category. Here, again, traditional social controls seem to provide a normative barrier to higher rates of more serious forms of delinquency and crime, although this effect seems to be stronger for non–African Americans in this wave of the study.

At wave 2, although only a year had passed for the participants, the relationships between life-course transition indicators, race and patterns of offending had changed significantly. Higher reported levels of school attachment served to limit offending overall, regardless of race and, for the adolescent limited scale, non–African Americans continued to report higher rates of AL offenses. However, the array of life-course transition variables that were associated with lower rates of offending for African Americans had expanded at this wave to

[5]See Table 2 for complete results of all multivariate analyses for waves 1–3.

reflect an interactive effect between race, parental attachment, and religious service attendance. Thus, African Americans who expressed strong attachments to parents and attended religious services on a frequent basis were the least likely to engage in AL offending at wave 2. Moreover, this effect was unique for participants of color, as religious service attendance alone was not significantly related to overall offending.

For more serious offending at wave 2, modestly significant race-based differences in offending disappeared when other factors were added to the model, with those expressing higher levels of parental and school attachments reporting the lowest levels of LCP offending, regardless of race. This finding is noteworthy, as it suggests that race can become less important as a distinguishing factor in offending as individuals age and engage in more serious forms of criminality, a result consistent with previous research in this area (Piquero et al. 2003).

Analysis of less serious/nonviolent offending at wave 3 showed that the aging of this cohort had the effect of shaping offense patterns to more closely resemble those of life-course persistent offenders, that is, lower average offending rates overall and African Americans having the highest reported rates. While race alone did not have a significant effect (as was the case with LCP offenders in wave 2), when considered in combination with current employment status and religious service attendance, significant racial differences in less serious/nonviolent offending were observed. Within each racial group, those who were currently employed and reported regular religious service attendance had lower rates of less serious/nonviolent criminality, although this effect was more pronounced for non–African Americans, whose rates of reported offending were significantly lower. This result supports the hypothesis that delayed life transitions can translate into significant, age-specific patterns of offending, as well as to the fact that race serves as a distinguishing factor affecting the dynamics and outcomes of such delayed transitions. In other words, it could be argued that emerging adulthood has an influenced on race based offending patterns. With regard to life-course persistent offending at wave 3, our analysis showed that employment status, level of education, and religious service attendance all impacted offending, with those who were employed and had higher levels of education and frequency of attendance reporting lower levels of LCP offending. Race remained significant here as well, as non–African Americans had the lowest rates of reported offending, while unemployed blacks with lower levels of education and infrequent religious service attendance had the highest.

There are several implications of this study for both criminal justice policy and theory. Regarding policy, the results reveal that blacks are particularly susceptible to engaging in life-course persistent behaviors at an earlier age. As such, preventative efforts targeting black youth are essential in preventing early and continued involvement in more serious forms of offending. Furthermore, school and parental attachment were found to be related to rates of offending for both groups at earlier stages of the life course. This suggests that interventions that incorporate family involvement, promote family bonding, and strengthen attachments to school may be effective at preventing at forms of offending

Regarding the impact of wave 3 results, religious participation was found to reduce the likelihood of all forms of offending, reinforcing the conclusion that faith-based interventions, as effective social control agents, can play a significant role in preventing criminality in general. Likewise, the preventive significance of both employment and education reinforces the support for initiatives in both areas as safeguards against the onset and persistence of criminality.

Turning to theory, the results of this study supported the findings of prior research regarding the role of social bonds and attachments in reducing offending across the life course. Most

importantly, our findings have identified race as a significant theoretical factor to be incorporated into explanations of life-course criminality. More than simply playing a role, however, these results suggest that race-based differences in relationships between factors at early stages may serve to create unique life-course trajectories for each group that structure both social opportunities and patterns of future offending. Thus, while the data available for this study precluded such an analysis, a significant avenue of future research would involve an examination of the full Add Health data set to discern the predictive significance of these early factors on both emerging adulthood and subsequent waves of criminality. Such analyses would advance Moffitt's (1994) proposal regarding the potential importance of race in studying offending over the life course.

CONCLUSION

It should be noted (once again) that the data on which this study was based, while rich, nevertheless presented significant limitations for our analysis and conclusions. As a longitudinal endeavor, the Add Health study is praiseworthy in its ability to have maintained significant consistency in participant involvement across three waves of data collection. However, given that offending rates, lifestyle indicators and transition milestones are based exclusively on self-reports, we join other users of the Add Health data in noting the possible limitations on the overall validity of our findings presented by the use of participant provided information (Haynie et al. 2008). Also, given the nature of offense data in general and the fact that a significant majority of participants in the Add Health study were non-offenders, the statistical distributions of reported offense rates were heavily skewed toward the lower ends of each scale.

We conclude by noting that, despite these caveats, this study has provided useful insights into the complex and interactive nature of the relationships between criminality, race, and life-course development. Our research has shown that, rather than being a color-blind phenomenon, life-course patterns of both minor and more serious forms of offending reflect a significant racial dimension. It has also illustrated the effects of various life-course transition factors on offending, including parental and school attachments, educational attainment, employment, and religious involvement. These factors, whether individually or interactively, play a role in shaping the patterns and types of offending at each stage of the life-course and, in many cases, do so differently for different racial groups. While preliminary in scope, these findings provide an important guidepost for future researchers seeking a more comprehensive understanding of the specific dynamics of the nexus between race, crime, and development.

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TABLE 1

Mean Differences on Offense Scales by Race Waves 1–3

Wave 1 Adolescent Limited Offending ×Race*	**Mean**	**Std. deviation**	**N**
Non–African American	2.79	3.30	4,810
African American	2.36	2.85	1,592
Total	2.68	3.19	6,402
**F* =21.21 (1, 6401); *p* <.001			
*Wave 1 Life-Course Persistent Offending ×Race**	*Mean*	*Std. deviation*	*N*
Non–African American	.913	1.92	4,813
African American	1.10	2.17	1,598
Total	.960	1.99	6,411
**F* =11.12 (1, 6410); *p* =.001			
*Wave 2 Adolescent Limited Offending ×Race**	*Mean*	*Std. deviation*	*N*
Non–African American	2.29	2.97	3,638
African American	1.92	2.66	1,132
Total	2.20	2.90	4,770
**F* =13.68 (1, 4769); *p* <.001			
*Wave 2 Life-Course Persistent Offending ×Race**	*Mean*	*Std. deviation*	*N*
Non–African American	.704	1.71	3,649
African American	.821	1.89	1,131
Total	.732	1.76	4,780
**F* =3.87 (1, 4779); *p* <.05			
*Wave 3 Low Level Offending ×Race**	*Mean*	*Std. deviation*	*N*
Non–African American	.388	1.16	3,620
African American	.445	1.34	1,191
Total	.402	1.21	4,811
**F* =1.97 (1, 4810); *p* >.05			
*Wave 3 Life-Course Persistent Offending ×Race**	*Mean*	*Std. deviation*	*N*
Non–African American	.383	1.14	3,618
African American	.446	1.38	1,181
Total	.398	1.21	4,799
**F* =2.49 (1, 4798); *p* >.05.			

TABLE 2

Multivariate Results: Significant Effects Waves 1–3

Variables=Interactions	**F**	**DF**	**Sig**
Wave 1 Adolescent Limited Offending Significant Effects			
Race	9.16	1,3724	.002
Parental Attachment	66.27	1,3724	.000
School Attachment	12.17	1,3724	.000
Race ×School Attachment	4.59	1,3724	.032
Variables=Interactions	*F*	*DF*	*Sig*
Wave 1 Life Course Persistent Offending Significant Effects			
Race	8.55	1,3729	.003
Parental Attachment	8.57	1,3729	.003
School Attachment	19.43	1,3729	.000
Race ×School Attachment ×Parental Attachment	4.94	1,3749	.026
Variables=Interactions	*F*	*DF*	*Sig*
Wave 2 Adolescent Limited Offending Significant Effects			
Race	5.03	1,2727	.025
Parental Attachment	39.43	1,2727	.000
School Attachment	7.73	1,2727	.000
Race × Parental Attachment ×Religious Attendance	3.97	1,2727	.046
Variables=Interactions	*F*	*DF*	*Sig*
Wave 2 Life Course Persistent Offending Significant Effects			
Parental Attachment	6.80	1,2728	.009
School Attachment	8.19	1,2728	.004
Parental Attachment ×School Attachment	4.62	1,2728	.032
Variables=Interactions	*F*	*DF*	*Sig*
Wave 3 Low Level Offending Significant Effects			
Race	11.39	1,4495	.001
Employment Status	17.54	1,4495	.000
Religious Attendance	34.35	1,4495	.000
Race ×Employment Status	4.89	1,4495	.027
Race ×Religious Attendance	5.16	1,4495	.023
Variables=Interactions	*F*	*DF*	*Sig*
Wave 3 Life Course Persistent Offending Significant Effects			
Race	10.67	1,4483	.001
Employment Status	25.41	1,4483	.000
Religious Attendance	28.64	1,4483	.000

Variables=Interactions	F	DF	Sig
Highest Grade Completed	11.27	1,4483	.001
Race ×Employment Status	15.69	1,4483	.000
Race ×Highest Grade Completed ×Religious Attendance	6.55	1,4483	.011