

BLACK MALES, IMPULSIVITY, AND EXTERNALIZING BEHAVIORS: A BLACK CRIMINOLOGY ANALYSIS

ABSTRACT

In this paper, we explored whether the relationship between externalizing behaviors and impulsivity may have racialized dimensions. To do so, we uniquely constructed an unbalanced panel dataset from the PHDCN-LCS, which allowed us to examine the within-individual relationships between being a black male, impulsivity, and externalizing behaviors. Based on the tenets of a Black Criminology, we suggested that because of their exposure to racism, black males may exhibit the greatest volatility—or changes in their level of impulsivity—across time. Additionally, we explored whether the within-individual effect of changes in impulsivity on changes in externalizing behaviors across time may be greater for black males in comparison to black females, white females, and white males. The results revealed that black males exhibited greater changes in their within-individual levels of impulsivity across time and that the within-individual effect of changes in impulsivity on changes in externalizing behaviors was greater for black males than their counterparts. Our analyses suggest that further testing of the tenets of a Black Criminology is warranted.

There is an emerging understanding that theories of crime need to incorporate how racial oppression is related to black offending. This interpretation is included within the larger theoretical framework of a Black Criminology (Cullen, 2019; Gabbidon, 2019; Heimer, 2019; Russell, 1992; Russell-Brown, 2019; Unnever, 2015, 2019; Unnever, Gabbidon, & Chouhy, 2019; Unnever & Owusu-Bempah, 2019; Unnever, Gabbidon, Russell-Brown, & Owusu-Bempah, 2019). The foundational assumption of a Black Criminology is that racial oppression and its innumerable consequences—such as interpersonal racial discrimination—enhance the likelihood that a minority of blacks will engage in problematic behaviors while the majority build a deeper pool of resiliency (Moore, Madison-Colmore, & Smith, 2003; Reddick, Welton, Alsandor, Denyszyn, & Platt, 2011; Sanders, 1997; Swanson, Cunningham, & Spencer, 2003; Unnever, Cullen, Mathers, McClure, & Allison, 2009; Vega, Moore, & Miranda, 2015). A Black Criminology further suggests that the salient causes of crime proposed by the prevailing theories of crime—e.g., strain, social bonds, social disorganization, low self-control, learning theory—may not be equally applicable to fully explaining black offending. Indeed, a Black Criminology suggests that the general theories’ causes of crime may take on “racialized” aspects that produce racialized pathways to offending.

On the other hand, general theories of crime suggest that there is no need to separately study blacks because the causes of crime are universal; they equally explain why whites and any other group offend. Note that the general theories acknowledge that blacks—especially black males—may disproportionately engage in problematic behaviors but posit that any group differences in offending result from the disproportionate exposure groups encounter to universal crime-causing factors (Kaufman, Rebellon, Thaxton, & Agnew, 2008). For example, Gottfredson and Hirschi (1990) argue that the parents of black males are less likely to effectively

monitor them and are less likely to effectively discipline them when engaging in problematic behaviors. Thus, black males are more likely to exhibit less self-control and, therefore, are more likely to engage in crime and analogous behaviors. As a result of this generality assumption, general theories of crime usually consider race to be an exogenous rather than an endogenous factor in their models of offending (Cullen, 2019).

In this paper, we explored whether the relationship between externalizing behaviors and impulsivity may have racialized dimensions. To do so, we uniquely constructed an unbalanced panel dataset from the Project on Human Development in Chicago Neighborhoods Longitudinal Cohort Study (PHDCN-LCS), which allowed us to examine the within-individual relationships between being a black male, impulsivity, and externalizing behaviors. We focused on black males as they uniquely experience a gendered racial oppression (Bonilla-Silva, 1997, 2019; Feagin, 2013). First, we examined whether black males exhibited greater within-individual changes in their impulsivity across three waves of data (approximately six years) than black females, white males, and white females. Second, we investigated whether the effect of within-individual changes in impulsivity on changes in externalizing behaviors across time was greater for black males. A Black Criminology would suggest that, because of their exposure to racism, black males may exhibit the greatest volatility—or changes in their level of impulsivity—across time and that the within-individual effect of impulsivity on externalizing behaviors may be greater for black males in comparison to their counterparts. In short, we assess whether analyses of within-individual impulsivity may need to be race sensitive.

A BLACK CRIMINOLOGY AND IMPULSIVITY

The basic tenet of a Black Criminology is that blacks—especially black males—have been and continue to be systemically racially oppressed while whites—especially white males—

have been and continue to be embedded within a system of white privilege (Bonilla-Silva, 1997, 2019; DiAngelo, 2018; Doane & Bonilla-Silva, 2003; Feagin, 2013; Kimmel & Ferber, 2018). A Black Criminology argues that this system of racial stratification differentially affects blacks and whites. For example, a Black Criminology posits that the everyday awareness of and encounters with systemic racial oppression compels a minority of blacks to engage in problematic behaviors. This occurs because a minority of blacks—especially black males—respond to their racial oppression with anger, hostility, and rage, which increases their likelihood of traversing racialized pathways to offending (Intravia, Wolff, Stewart, & Simons, 2014; Scott & Seal, 2019; Noguera, 2003; Simons, Chen, Stewart, & Brody, 2003; Stewart & Simons, 2006; Unnever, 2016; Unnever & Gabbidon, 2011). In support of a Black Criminology, there is an expanding body of research that shows that perceived and vicarious racial discrimination, even when infrequent, undermines the wellbeing of blacks and enhances their likelihood of offending (Cogburn, Chavous, & Griffin, 2011; Evans, Simons, & Simons, 2016; Herda & McCarthy, 2018; Martin, McCarthy, Conger, Gibbons, Simons, Cutrona, & Brody, 2011; Sellers, Copeland-Linder, Martin, & Lewis, 2006; Unnever, 2016). Put simply, blacks have to cope with the consequences of living within a racially stratified society (Curry, 2017, 2017a).

BLACK MALES

There is also a vast body of research that reveals that black males experience gendered racial oppression (Alexander, 2010; Bonilla-Silva, 1997, 2019; Feagin, 2013). This gendered racial oppression emerged during and supported chattel slavery with black males being depicted as violent rapists (the “black buck”) and persisted through the Jim Crow era and beyond (Alexander, 2010; Curry, 2017, 2017a; Feagin, 2013; Kocić, 2017; Rudrow, 2019). Indeed, the data show that nearly 25% of the blacks who were lynched (4,084 blacks were lynched) by white

mobs, often lead by local members of the criminal justice system, were black men accused of sexual assault (Lynching in America, 2019; Tolnay & Beck, 1995). Today, this racist stereotype of black men has morphed into the gendered stereotype of depicting black men as the super-predator or the *criminalblackman* (Cogburn et al., 2011; Harnois & Ifatunji, 2011; Russell-Brown, 2009, 2019). This gendered master status engulfs young black males with the “stereotype threat” that they are super-predatory criminals (Curry, 2017, 2017a; Piquero, Cullen, Unnever, Piquero, & Gordon, 2010; Steele, 1997; Steele & Aronson, 1995; for a meta-analysis review see, Nguyen, Hannah-Hanh, and Ryan, 2008).

Curry (2017a, p. 25) argues that because of “their marginalization and oppression, Black men have developed a separate historical consciousness of manhood that is quite distinct from that of (white) masculinity...Black males have explained their oppression consistently formulated in terms sensitive to their peculiar sexual oppression—their particular vulnerabilities as Black males who are unemployed, hunted, and discriminated against.” Vega et al. (2015, p. 216) illustrate the awareness that young blacks have of the stereotype of the “criminalblackman” as Thomas, one of the black high school students they qualitatively studied, remarked: “They probably think most Black people don’t do as well as them, they’re a bad influence, they’re thugs, they’re up to no good.” In fact, research shows that blacks become fully consciously aware of racialized stereotypes by the time they are 10 years old (Okeke, Howard, Kurtz-Costes, & Rowley, 2009; Pauker, Ambady, & Apfelbaum, 2010).

Additionally, scholars report that black males and females may vary in the extent and type of racial discrimination they experience and are differentially affected by these experiences (Brody, Chen, Murry, Ge, Simons, Gibbons, Gerrard, & Cutrona, 2006; Cogburn et al., 2011; Harnois & Ifatunji, 2011). For example, researchers document gender differences within the

school context including black males receiving less preferential or more negative treatment in school settings, harsher disciplinary classroom practices, more negative criticism by teachers, being thought of as less smart because of their race, more social exclusion by teachers and peers, to be absent from advanced-placement and honors courses, and being more likely to be classified as mentally retarded or suffering from a learning disability and placed in special education (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008; Cogburn et al., 2011; Noguera, 2003; Saunders, Davis, Williams, & Williams, 2004).^{1,2}

Studies also reveal that black male adolescents are more likely to exhibit reactive responses to negative racialized experiences—taking on hypermasculine, bravado orientations—particularly to those that occur in public domains (Swanson et al., 2003; Spencer, Fegley, Harpalani, & Seaton, 2004; Unnever & Chouhy, forthcoming). The research further suggests that these behavioral responses to unfair treatment may reinforce gendered stereotypes and further increase the likelihood of disciplinary referrals, academic underachievement, and psychological maladjustment among black males (Thomas & Stevenson, 2009). Additionally, studies reveal that black males are the group most likely to encounter racial discrimination including by the criminal justice system and numerous studies reveal that the more blacks perceive that they are being discriminated against because of their race the more likely they are to engage in problematic behaviors (Isom & Seal, 2019; Unnever & Gabbidon, 2011).

¹ For example, Noguera (2003) found that black males were the least likely to strongly agree (8%) to the question: “My teachers support me and care about my success in their class”; in comparison, to black females (12%), Asian males (24%), Asian females (36%), white males (33%), and white females (44%).

² Curry (2017a, p. 30-31, 133) argues that these gendered patterns of discrimination have consequences: “Black men have received fewer than 40 percent of the associate, professional, and doctoral degrees awarded to Black Americans... Black female professors outnumber Black male professors by a little more than 20,000... an estimated 841,000 Black men and 64,800 Black women were in state or federal prisons and local jails...333 Black Americans had been shot and killed by police. Black men were 222 of those killed” (see also, Smith & Robinson, 2019).

In sum, Unnever and Gabbidon (2011) suggest that black males have to manage the consequences of racist gendered stereotypes and interpersonal discrimination. Indeed, some scholars refer to black males as an “endangered species” (Franklin, 2018; Gibbs, 1987) as they are at the “bottom of the ladder”—the racialized ladder—across a variety of domains—such as, health (black males have the highest probability of dying in the 1st year of life), employment, income, education, homicides, both as victims and perpetrators, (homicide is the leading cause of death among black males age 15 to 24), police killings, and incarceration (Alexander, 2012; Carter, Lau, Johnson, & Kirkinis, 2017; Chetty, Hendren, Jones, & Porter, 2018; Hagan & Foster, 2012; Mincy, Lewis, & Han, 2006; Noguera, 2003; Pager, 2003; Smith & Robinson, 2019). Within these contexts, we examine whether the within-individual relationship between changes in impulsivity and changes in externalizing behaviors may be significantly different for black males than their counterparts.

Note that this research focuses on black males. Beyond our present focus, there is the need for research that, for example, explores other intersections including whether black females might be more or less likely to engage in externalizing behaviors when exhibiting greater impulsivity than their counterparts including black males (Thomas & Stevenson, 2009). However, we discuss factors that may constrain and factors that may exacerbate the likelihood that black females will engage in externalizing behaviors when exhibiting changes in impulsivity. Note also that the research that specifically examines black males is as sparse as studies that focus on impulsivity and offending among black females. Consequently, our literature reviews below draw upon the research that studies blacks without differentiating between black males and black females. We assume that findings that show a difference

between blacks and whites generalize to black males. Clearly, the sparsity of intersectional research warrants further research.

BLACK MALES AND EGO DEPLETION

The strength or ego depletion models suggest that engaging in acts of self-control draws from a limited “reservoir” of self-control that, when depleted, results in a reduced capacity for further self-regulation (Muraven, Buczny, & Law, 2019).³ Baumeister and colleagues termed the state of diminished self-control as ego depletion (Baumeister, 2002; Baumeister, Muraven, & Tice, 2000; Muraven, Baumeister, & Tice, 1999). Research indicates that people are more impulsive, less able to resist temptations, fight urges, or stop a behavior that results in a further loss of self-control when their reservoir of self-control is depleted (Garrison, Finley, & Schmeichel, 2018; Hagger et al., 2010; Staller, Müller, Christiansen, Zaiser, Körner, & Cole, 2019). Additionally, scholars have found that ego depletion decreases the likelihood that individuals are open to dissent because it increases their level of anger (Tsai & Li, 2019). Studies show that self-control is diminished by numerous factors including stereotype threats (Johns, Inzlicht, & Schmader, 2008), physical fatigue (Evans, Boggero, & Segerstrom, 2015), task difficulty (Hagger, Wood, Stiff, & Chatzisarantis, 2010), abusive supervision (Yuan, Xu, & Li, 2018) and interpersonal discrimination (Atherton, Lawson, & Robins, 2020). In addition, researchers have revealed that a stigmatized identity depletes self-control (Johnson, Richeson, & Finkel, 2011). Notably, researchers have found that ego depletion or diminished low self-control predicts problematic behaviors even when controlling for “trait” self-control (Baumeister, 2018; Muraven, Collins, & Neinhaus, 2002; Muraven, Pogarsky, & Shmueli, 2006). Lastly, research

³ Note that the research on ego depletion focuses on whether it influences self-control rather than focusing specifically on impulsivity. However, Gottfredson and Hirschi (1990) recognize that impulsivity captures the “here and now” and “spur of the moment” aspect of low self-control (see also, Forrest, Hay, Widdowson, & Rocque, 2019). Therefore, we assume that the effects of ego depletion generalize to impulsivity.

indicates that individuals can be vicariously depleted of their self-control when they take perspective of others that are resisting their impulses (Egan, Hirt and Karpen, 2012).

Scholars contend that the awareness that black males have of being considered as a *criminalblackman* and being discriminated against because of their race and gender is emotionally depleting; it exhausts their emotional capital (Unnever & Gabbidon, 2011). Henry, a black high school boy, states how being negatively gendered stereotyped is emotionally exhausting: “I would just get tired of having to defend myself and the school from the stupid people that would give us a bad name” (quoted in Reddick et al., 2011, p. 604). Studies also have revealed that exposure to racial prejudice—including racist stereotype threats—depletes the emotional capital of blacks leaving them vulnerable to engaging in impulsive behaviors (Bair & Steele, 2010; Gibbons et al., 2012; Inzlicht, McKay, & Aronson, 2006; Major & O’Brien, 2005; Salvatore & Shelton, 2007).⁴ Major and O’Brien (2005) argue that being stigmatized can directly affect blacks via mechanisms of discrimination, expectancy confirmation, and automatic stereotype activation, and indirectly via threats to personal and social identity. In a series of experiments involving black college students, Inzlicht et al. (2006) found that blacks high in stigma sensitivity (as measured by the Race-Based Rejection Sensitivity Scale) scored lower on a scale measuring their self-control (as measured by the Self-Regulated Learning Scale). These scholars concluded that blacks exposed to racist stereotypes use and deplete their self-control as they attempt to manage their spoiled collective social identity “thus leaving them less able than their nonstigmatized counterparts to engage in self-control for other things” (Inzlicht et al., 2006, p. 263).

⁴ Unfortunately, scholars who have studied the effects of ego depletion among blacks have not examined whether the effects differ across gender. This omission warrants further research.

In addition, Gibbons, O'Hara, Stock, Gerrard, Weng, and Wills' (2012) latent growth curve analysis with 3 waves of data, indicated that experiences with interpersonal discrimination among black youths were associated with reduced self-control, which then predicted increased substance use. Furthermore, Salvatore and Shelton (2007) reported that in one experiment black participants read fictional hiring recommendations that had been purportedly written by a black or white evaluator, that were either clearly prejudiced, ambiguously prejudiced, or apparently non-prejudiced. Salvatore and Shelton (2007) found that ambiguous racism produced the highest level of ego depletion for black participants and attributed this finding to the cognitive effort needed to disentangle the attributional ambiguity inherent in the scenario. Finally, Bair and Steele (2010) examined the effects of exposure to racism in an interracial context on the self-control resources of the targets of prejudice—blacks. They found that black participants experienced self-control depletion in interracial encounters, regardless of whether racism was involved. Bair and Steele (2010) also found that blacks with higher levels of racial centrality—the importance of race to one's self-definition—reported the greatest levels of self-control depletion following an encounter with a white partner who espoused racist views. In sum, these studies suggest that because of the unpredictability of when black males may experience instances of their racial oppression—for example, specific instances of being discriminated against—black male youths may experience greater within-individual changes in their impulse control across time.

BLACK MALES, IMPULSIVITY, AND EXTERNALIZING BEHAVIORS

The prior research indicates that within-individual changes in impulsivity predict increases in problematic behaviors across time (Forrest et al., 2019; Petrich & Sullivan, 2019). Thus, the extant research indicates that engaging in problematic behaviors is related to

impulsivity across groups and within-individuals. We add to this literature by suggesting that the within-individual effect of impulsivity on externalizing behaviors may be greater for black males than their counterparts. We suggest that the within-individual effect should be greater for black males because the cumulative weight of their unpredictable exposure to racism leaves them vulnerable to externally acting out on their impulses (Curry, 2017, 2017a). For example, Rudrow (2019, p. 13) notes that black males are keenly aware of the disproportionate killing of black males by the police and argues that: “Black men are emotionally debilitated by being continuously aware that (their) Black bodies can be harmed or murdered without a moment’s notice.” Additionally, Rudrow (2019, p. 214) contends that black males are continuously “taught and reminded by society that their lives matter less” causing enduring levels of “psychological distress”, “which speaks to structural racism’s oppressive power.”

We suggest that their enduring exposure to racism also exposes them to other crime-producing factors. For example, the research shows that some blacks respond to perceived racial discrimination by becoming angrier (Gibbons, et al., 2012; Unnever, 2016). Anger is often the immediate predecessor to offending (Agnew, 2013; Gottfredson & Hirschi, 1990; Grasmick, Tittle, Bursik, & Arneklev, 1993; Unnever & Gabbidon, 2011). Also, research shows perceptions of racial discrimination knife off bonds that should deter black youths from offending. Bryan, Williams, Kim, Kim, Morrison, and Caldwell (2018) found that teacher discrimination was negatively related to academic achievement for urban Caribbean black and African American adolescents with school bonding and emotional family support mediating the relationship. Additionally, scholars have found that blacks reported weakened bonds with their schools and their teachers the more they perceived racial discrimination and that these weakened bonds increased their likelihood of engaging in externalizing behaviors (Hope, Skoog, & Jagers,

2014; Unnever, Cullen, & Barnes, 2015, 2016; Vega et al., 2015; Wong & Sameroff, 2003). Furthermore, scholars stipulate that the gendered stereotyping of black males as the *criminalblackman* increases their likelihood of escalating into secondary deviance as they internalize and act out the label of being a super predator (De Coster & Lutz, 2018; Unnever & Gabbidon, 2011). Finally, Rowley, Ross, Lozada, Williams, Gale, and Kurtz-Costes (2014) suggest that gendered racist depictions of black males permeate the way in which they are parented. Rowley et al. (2014, p. 302) found that parents adopt “Black boy” narratives that may serve to reify and reinforce negative experiences that result in them having “lower educational attainment expectations for Black boys than for Black girls, even after controlling for their actual achievement.”

Within these layered contexts, we suggest that the cumulative weight of black males’ enduring but unpredictable exposure to racism undermines their motivation (see Ward, Ray, & Fox, 2018) and their “ability and willingness to delay immediate gratification for some larger purposes” (Brezina, Tekin, & Topalli, 2009, p. 96). We further suggest that black males may be less motivated to delay immediate gratification because they perceive that “death seems to always be around the corner” (Rudrow, 2019, p. 11).⁵ In short, we suggest that the cumulative weight of black males’ enduring but unpredictable exposure to racism leaves them particularly

⁵ Research indicates that a youth’s future orientation moderates the relationship between impulsivity and problematic behaviors. For example, research reveals that within-individual changes in the variety of criminal behaviors youths were involved in was reduced by intraindividual increases in positive expectations about the future and the degree to which youths thought and acted in a future-oriented manner (e.g., thinking about the consequences of one’s actions, making plans or to do lists) (Petrich & Sullivan, 2019). Scholars have also found that impulse control had less of an effect on offending when achievement expectations (e.g., likelihood of attending college) were high (Chen & Vazsonyi, 2011; Clinkinbeard, 2014; Mahler, Fine, Frick, Steinberg, & Cauffman, 2018; Mahler, Simmons, Frick, Steinberg, & Cauffman, 2017). Note that these studies did not examine whether the effect of impulsivity or the effect of the youth’s future orientation on problematic behaviors differed across race or whether the three-way interaction term (race X impulsivity X future orientation) on problematic behaviors was significant.

likely to engage in externalizing behaviors when they experience a within-individual heightened state of impulsivity.

PRIOR RESEARCH

We were unable to find any research that specifically focused on the within-individual relationships between black males, impulsivity (or low self-control), and problematic behaviors. However, we did find three studies that examined whether the effect of low self-control on problematic behaviors was racially invariant. These studies analyzed quite disparate datasets and generated inconsistent results. Vazsonyi and Crosswhite (2004) analyzed data from a small rural Alabama public school grade 7 through 12 and reported that the effect of low self-control on deviance did not statistically differ between male and female black youths, with the exceptions of theft and assault. Low self-control did not significantly predict theft and assault for black females while controlling for the other covariates. They also found that for males (blacks and whites), the coefficients did not differ by race except for school misconduct and for females, the regression coefficients differed for three of seven deviance measures (i.e., school misconduct, alcohol use, drug use, and the total deviance score). Vazsonyi and Crosswhite (2004, p. 427) suggest that these differences occurred because “consuming alcohol or drugs as well as misbehaving in school are more common in black youth, and therefore, a much smaller amount of variability can be explained by low self-control.” They offered the same explanation for their findings regarding school misconduct among males. Vazsonyi and Crosswhite (2004) concluded that their results generally support the invariance thesis but also call for more research especially on the relationship between problematic behaviors and low self-control for black females.

Wolfe (2015) analyzed a sample of people aged 60 years and older from interviews conducted in Arizona and Florida and reported that whites and blacks reported similar levels of

low self-control and that the effect of low self-control on offending was invariant across race and ethnicity (Hispanics versus whites and Hispanics versus non-Hispanic Blacks). De Li (2005) analyzed data collected from white, black, and Hispanic inmates incarcerated in five jails in the Philadelphia area and investigated whether they have different levels of low self-control and whether low self-control has the same effect on drug-related problems for each of the three racial groups. De Li (2005) hypothesized that low self-control may have a stronger effect on blacks and Hispanics due to increased opportunities for illegitimate behavior. De Li (2005) found that black inmates had significantly higher levels of self-control than whites and Hispanics (who had similar levels of low self-control to each other). De Li (2005) also reported that the influence of low self-control on drug-related problems did not differ significantly among the three racial/ethnic groups.

In sum, we could not find any research that addresses whether black males exhibit greater within-individual changes in impulsivity and whether the effect of within-individual changes in impulsivity on changes in problematic behaviors is greater for black males than others. Our research addresses these omissions by examining the following hypotheses.

HYPOTHESES

Based on the assumptions of a Black Criminology and the prior research, we tentatively posit the following two hypotheses:

1. Black male youths should exhibit the greatest within-individual change in impulsivity across time.
2. The effect of within-individual changes in impulsivity on changes in externalizing behaviors should be greater for black male youths than their counterparts across time while controlling for other time-varying covariates.

DATA

We analyze data from the PHDCN-LCS. The PHDCN-LCS is a longitudinal study that followed cohorts of Chicago children and youths (age 0 [soon after birth], 3, 6, 9, 12, 15, and 18 years-old at wave 1) across three waves of data collection. The principal investigators conducted the interviews for the first wave of data collection between 1995 and 1997. The data collection phase for the third wave took place between 2000 and 2002. The current study uses data from the 9- and 12-year-old cohorts. A multi-stage sampling design was used to select the study subjects. First, 80 neighborhood clusters (NC) were selected from a sampling frame of 343 Chicago NC, stratified by racial/ethnic composition and socioeconomic status. Within each NC, blocks and then households were selected. At the final stage, a list of all eligible children and youths within the household was constructed and one individual was randomly selected to be included in the study. This strategy yielded a combined sample size of 1,649 youths in the 9- and 12-year-old cohorts (at wave 1) across the 80 NC.

We chose these two cohorts for two reasons. First, scholars have found that problematic behaviors escalate during adolescence (Gottfredson & Hirschi, 1990; Laub & Sampson, 1993). Thus, our study focuses on explaining changes in externalizing behavior during a critical period of the life-course. Second, given the PHDCN-LCS design, choosing these cohorts allowed us to maximize the variables that we could include in our analyses.

We uniquely re-constructed the PHDCN-LCS. More specifically, we created an unbalanced panel dataset from the PHDCN-LCS in order to do a within-individual analysis. Within-individual analyses are based on repeated measures of the same individuals across different waves of data. Only a few instruments and a limited set of questions within each instrument met these criteria. We analyzed time-varying and time-stable indicators. Time-

varying indicators were collected at each wave. Time-stable demographic indicators (e.g. race, sex) were collected at wave 1. Thus, all the time-varying variables included in our reconstructed dataset were generated from the same individual being asked the same question during each wave of the data. We only included youths that self-identified as non-Hispanic white and non-Hispanic black.⁶ Thus, our final estimations are based on an unbalanced longitudinal panel dataset that includes 809 youths and 1,864 observations.

DEPENDENT VARIABLES

Our dependent variable, externalizing behaviors (e.g., “disobedient,” “gets in many fights,” “destroys his/her own things”), was derived from the Achenbach’s Child Behavior Checklist (CBCL) questionnaire, which other scholars have used to study the relationship between problematic behaviors and low self-control (Vazsonyi & Jiskrova, 2018). The CBCL is an extensively used and highly validated standardized tool that assesses emotional and behavioral problems in children and youths aged 4 to 18 (e.g. Achenbach, 1991; Achenbach & Rescorla, 2001; Hirschfield, Maschi, White, Traub, & Loeber, 2006; Jouriles & McDonald, 2014; Ma & Grogan-Kaylor, 2017; Miller & Eisenberg, 1988; Riina, Martin, Gardner, & Brooks-Gunn, 2013). Thus, our analyses of the externalizing scale included within the CBCL is appropriate for the age range of the youths included in our data.

The CBCL protocol was one of the few instruments consistently applied to the two cohorts included in our study. The primary caregivers completed the CBCL protocol. Responses to our scale, *Externalize*, were coded 0=“not true,” 1=“somewhat or sometimes true,” and 2=“very true or often true”. We constructed the Externalize scale using the following 19 items: “argues a lot,” “cruelty/bullying/meanness to others,” “demands a lot of attention,”

⁶ We also estimated models that included Hispanics. We present the results from the estimations in the sensitivity analyses section.

“destroys things belonging to others,” “disobedient at home,” “disobedient at school,” “gets in many fights,” “screams a lot,” “sudden changes in mood/feelings,” “teases a lot,” “temper tantrums or hot temper,” “threatens people,” “doesn't feel guilty after misbehaving,” “hangs out w/others who get in trouble,” “lying or cheating,” “prefers being with older kids,” “runs away from home,” “swearing or obscene language,” and “truancy, skips school.” The alpha reliability of the Externalize scale was 0.87. All the scales from the CBCL protocol were constructed by summing across the items that defined each scale. We analyzed the additive externalizing scale because it has been validated using this summative score approach. We discuss the results of a replication analysis in which the scores were constructed using item response theory in the sensitivity analysis section.

KEY INDEPENDENT VARIABLE

Our key independent variable is the youths' level of impulsivity. We generated our measure of impulsivity, *Impulsivity*, from the CBCL questionnaire that was administered across the three waves. We constructed *Impulsivity* by summing across 4 items: “can't concentrate,” “can't sit still,” “impulsive,” and “nervous, tense.” The responses for each question ranged from 0 (not true) to 2 (very true). The alpha reliability of *Impulsivity* was .71. These questions were the only ones within the CBCL questionnaire that were asked across the three waves of the data.⁷

Our measure of impulsivity and our dependent variable, externalizing behaviors, were both constructed from the CBCL questionnaire. Consequently, we conducted a factor analysis with the items from both the externalizing scale and our impulsivity scale to assess whether the items load on two separate factors. All the items of our impulsivity scale loaded on one factor.

⁷ Note also that our measure of impulsivity was generated from the caretaker's checklist, which is consistent with how other scholars measured impulsivity and overcomes potential problems with self-reported scales (for example, see Vazsonyi & Jiskrova, 2018).

One of the 19 items of the externalizing scale (“demands a lot of attention”) loaded on the impulsivity factor. In the sensitivity section, we replicate our analyses removing the one item from the externalizing scale that loaded on the impulsivity scale. The results remained the same.

Recent research reveals that there are within-individual changes in impulsivity and that it has a different trajectory within-individuals than other low self-control elements (Forrest et al., 2019; Hay & Forrest, 2006; Hay, Widdowson, & Young, 2018). Additionally, Forrest et al.’s (2019) within-individual analysis indicated that an individual’s level of impulsivity was not stable across time (see also, Petrich & Sullivan, 2019). Indeed, they report that an individual’s level of impulsivity modestly decreased from age 10 to age 13–14 before it began a steady decline from age 15 to age 30. Atherton et al. (2020) also report that the developmental trajectory of impulse control followed a u-shaped pattern decreasing from age 10 to 14, before increasing from age 14 to 19. Furthermore, Forrest et al. (2019) found changes in impulsivity were related to involvement in crime. They estimated longitudinal models in which repeated measures of crime and impulsivity from age 10 to age 18 were nested within individuals. Their models revealed significant, positive within-individual effects of year-to-year increases in impulsivity on changes in crime and delinquency (see also, Petrich & Sullivan, 2019). Forrest et al. (2019) concluded that impulsivity should be separately modeled from the other dimensions of low self-control.

We included the youth’s race, *Black*, (0=non-Hispanic white; 1=non-Hispanic black) and gender, *Male* (0=female; 1=male) when we included the interaction terms.

CONTROLS

To isolate the effect of impulsivity, we added controls for different youth-related adjustment problems captured through the CBCL protocol that the prior research has found to

predict externalizing behaviors. Research shows that youths are more likely to engage in problematic behaviors as their levels of anxiety and depression increase and as they become more withdrawn (for example, see Blain-Arcaro & Vaillancourt, 2017; Dugré, Dumais, Dellazizzo, & Potvin, 2019; Sörberg, Koupil, Gustafsson, Zammit, Allebeck, & Falkstedt, 2019). Thus, we controlled for changes in *Anxiety and Depression* ($\alpha=.79$), and *Withdrawn problems* ($\alpha=.79$).

We also controlled for changes in the youths' basic *Academic Skills* (using the Wide Range Achievement Test, WRAT, which measures the youths' ability to read words, comprehend sentences, spell, and compute solutions to math problems). In addition, we controlled for changes in *Delinquent peers* (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Haynie & Payne, 2006; Warr, 2002; Unnever & Chouhy, 2019), a factor known to affect involvement in problematic behaviors. We created this measure combining 9 items from the Deviance of Peers Instrument using Item Response Theory (IRT). The items selected asked the youths about their friends' engagement in different types of rule-breaking or delinquent behaviors (e.g., skipped school without excuse, attacked someone with a weapon, used marijuana or pot, lied/disobeyed adults) and the frequency in which they were pressured by their peers to engage in these behaviors. Research indicates that changes in deviant peer associations predicted changes in impulsivity from late childhood to young adulthood (Atherton et al, 2020). We estimated different ordinal models and selected the Rating Scale Model (an extension of the Rasch model for ordinal data) because it provided the better fit to the data. Finally, we controlled for changes in the youths' age (*Age*).

Note that within-individual models estimate a constant term for each individual included in the sample (an individual fixed-effect). This term operates as a control for all the time-

invariant unobservable characteristics of the youth that are associated with impulsivity and different levels of externalizing behavior (Allison, 2009; Greene, 2002). Thus, our within-individual models reduce potential endogeneity problems because they control for the youths' time-invariant characteristics that are associated with externalizing behaviors and impulsivity, such as childhood experiences, neuropsychological deficits, or personality traits (Moffitt, 1997; Van Gelder & De Vries, 2012). Table 1 presents the descriptive statistics of the variables included in the estimations.

-----Insert Table 1 about here-----

STATISTICAL ANALYSES

We conducted four different sets of within-individual estimations in order to test our hypotheses. First, we examined the different levels of variability in impulsivity over time within across groups. We then computed unrestricted random effects models for impulsivity by race, gender, and race and gender, and analyzed the within-individual variance estimates parameters. We conducted these analyses fitting an unrestricted random effects model through generalized structural equation models and adding the group option in STATA 16. We fit models with different constraints (equal within-individual variances across groups, equal between-individual variances across groups, and equal means across groups) and evaluated the fit using the likelihood ratio test. We also evaluated whether the confidence intervals for the within-individual variance estimates of each group overlapped.

Second, we estimated the main effects of within-individual changes in impulsivity on changes in externalizing behaviors controlling for the other time-varying covariates included in our analyses and the individual fixed-effects. We examined whether the within-individual effects of impulsivity varied across gender *and* race. To do so, we estimated a model that

included the two-way interactions terms (*Male X Impulsivity* and *Black X Impulsivity*) and a three-way interaction term, *Male X Black X Impulsivity*. We used the margins postestimation command available in Stata 16 to estimate the within-individual effect of changes in impulsivity on changes in externalizing behaviors by each racial and gender group and plotted the group specific slopes. Note that because fixed effects models do not allow to include time-invariant measures (which are confounded with the fixed effect estimated per individual), we did not include the two-way interaction *Black X Male* in our models. We used the same margins command to conduct pairwise comparisons tests for each pair of groups (e.g., black males vs. white males) and to test whether their slope differences were significant.

We evaluated the appropriateness of using fixed-effect estimations using the Hausman test for each of the models estimated comparing the fixed and random effects models (Greene, 2002). The results indicated that the random-effects models yielded inconsistent estimates of the parameters. Therefore, the fixed-effects models were preferred in all cases because they provided the most efficient unbiased estimates of our parameters.

We dealt with missing data issues using a multiple imputation strategy. Missing data were imputed using chained equations. Unless otherwise noted, we presented the combined results from the estimations performed in the 15 imputed datasets (White, Royston, & Wood, 2011). We followed the multiple imputation and then deletion (MID) strategy suggested by von Hippel (2007) and, after imputing the dataset for all cases, decided to remove from the analysis those observations for which the value on the dependent variable was missing (117 observations). We reported the FMI and RVI for each model in the tables.

RESULTS

Our first hypothesis posits that black males should exhibit the highest level of within-individual change in their impulsivity across waves. Table 2 shows the levels of within- and between-individual impulsivity for each group. The results presented in Table 2 reveal that both the level and the stability of impulsivity varied by gender and race. More specifically, black males had the highest mean level of impulsivity ($\bar{x}=2.43$), followed by white males ($\bar{x}=1.94$), black females ($\bar{x}=1.74$), and white females ($\bar{x}=1.50$). There were also differences in the degree of within and between variability in impulsivity across the groups. The within-individual standard deviation in impulsivity was the highest for black males ($s_W=0.98$), followed by black females ($s_W=0.94$), white males ($s_W=0.76$), and white females ($s_W=0.76$). There were also differences in the between-youth variability in impulsivity. The results show that the greatest between-youth standard deviation was for black males ($s_B = 1.89$).

-----Insert Table 2 about here-----

The variance estimates from the unrestricted random effects models of impulsivity by race and by gender are presented in Table 2. Our analyses of unrestricted random effects models for impulsivity by race showed that the models that allowed the within and between individual variance and the mean across groups provided the best fit for the data (LR test of the unconstrained model vs. the equal variances and mean models=12.84, $p=0.005$). The within-individual estimates of the variance components show that blacks exhibited significantly higher levels of within-individual variation than whites ($s_{\epsilon}^2=1.67$ and 1.29, respectively). Note that the confidence intervals for these estimates do not overlap (upper boundary for whites is 1.507 while the lower boundary for blacks is 1.509). The unrestricted models by gender show that the unconstrained model provides a better fit than different specifications with constrained variables,

and especially with a fully constrained model in which variances and means are equal (LR=34.92, p=0.000). According to these estimations, males exhibited higher levels of within-individual variation than females ($s_{\epsilon}^2=2.51$ and 1.80, respectively), though these differences do not achieve statistical significance (confidence intervals for the within-individual variance component overlap).

Table 3 shows the estimation of the variance component by race and gender group. Aligned with our previous findings, the unrestricted random effect models show that models that do not constrain variances and means to be equal fit the data better than different specifications in which these coefficients are constrained to be equal across groups. The likelihood ratio between the fully constrained and the unconstrained model was 58.06 (p=0.000). According to the estimations from the unrestricted random effects models, black males exhibited the highest within-individual variance of all groups ($s_{\epsilon}^2=1.75$), followed by black females ($s_{\epsilon}^2=1.59$), white males ($s_{\epsilon}^2=1.52$), and white females ($s_{\epsilon}^2=1.01$). However, the confidence intervals overlap for all groups but for black males and white females and for black and white females, indicating that only those differences achieved statistical significance.

-----Insert Table 3 about here-----

Our second hypothesis suggests that the within-individual effect of changes in impulsivity on changes in externalizing behaviors should be greatest among black males while controlling for the other time-varying covariates. Table 4 shows the results of the fixed-effects estimations predicting changes in externalizing behaviors. Model 1 shows a significant main effect of within-individual changes in impulsivity on changes in externalizing behaviors. We added the gender and race interactions in Models 2 and 3 and then a three-way interaction in Model 4. Model 2 shows that the within-individual relationship between changes in impulsivity

and changes in externalizing behaviors was gender variant (the *Male X Impulsivity* interaction term was significant, $b=0.29$, $p<0.05$). Changes in impulsivity were associated with larger changes in externalizing behaviors for males than for females. However, Model 3 shows that the within-individual effect of changes in impulsivity on changes in externalizing behaviors was similar for blacks and whites. The *Black X Impulsivity* interaction term was not significant ($b=0.23$, $p=0.18$). The results presented in Model 4 show that the three-way interaction term, *Black X Male X Impulsivity*, was statistically significant ($b=0.74$, $p<0.05$). Note that the *Male X Self-control* term reversed its coefficient and became non-significant ($b=-0.25$, $p=0.42$) and the race two-way interaction term (*Male X Impulsivity*) remained non-significant after we included the three-way interaction term (*Black X Male X Impulsivity*) in the model.

-----Insert Table 4 about here-----

To explore these issues further, we estimated the within-individual effect of changes in impulsivity for each of the gender/race group using the margins postestimation command after estimating our full model (Model 4). Table 5 presents the impulsivity coefficients for white females, black females, white males, and black males. The relationship between within-individual changes in impulsivity and changes in externalizing behavior was significant for all groups. However, the results indicated substantial differences in the strength of the associations between changes in impulsivity and changes in externalizing behaviors across the groups. The point estimates of the impulsivity slopes were the highest for black males ($b=1.13$, $p<0.05$), followed by white females ($b=0.81$, $p<0.05$), black females ($b=0.64$, $p<0.05$), and white males ($b=0.56$, $p<0.05$). We graphed these slopes in Figure 1.

-----Insert Table 5 and Figure 1 about here-----

To examine these results even further, we tested whether the slopes were significantly different across groups doing pairwise tests comparisons of their coefficients (presented in Table 5).⁸ These tests revealed a significant difference between the slope coefficients for black males and white males ($b_{bm}-b_{wm}=0.53$, $p<0.05$). No significant differences were detected between black females and white females ($b_{bm}-b_{wm}=-0.20$, $p=0.175$). Additionally, the within race comparisons revealed that the difference between black males and black females was significant ($b_{bm}-b_{bf}=0.47$, $p<0.05$) with the effect being greater for black males. The difference in the slope between white males and white females was non-significant ($b_{wm}-b_{wf}=-0.25$, $p=0.41$).

-----Insert Table 6 about here-----

SENSITIVITY ANALYSES

To check the robustness of our results, we estimated the same models included in the tables using Full Information Maximum Likelihood (FIML) and listwise deletion. The listwise deletion estimations yielded results consistent with the original estimations. In the FIML estimation, the three-way interaction remained significant but, in the model in which all interactions were included, the impulsivity coefficient was marginally significant ($b=0.94$, $p=0.06$). We could not test whether the effects of impulsivity by race and gender groups changed because the margins command is unavailable when analyzing FIML estimations.

Additionally, we included Hispanics in the model and re-estimated the fixed-effects. We defined three different ethnic/racial groups (non-Hispanic whites, non-Hispanic blacks, and Hispanics) and six different gender and ethnic/racial groups. In these estimations, the main effects of within-individual changes in impulsivity remained significant. Consistent with our previous results, in the full model, the gender and impulsivity interaction and the two two-way

⁸ We generated the pairwise comparison results from the first imputation. The results were substantially the same across the rest of the imputed datasets.

interactions of race included in the model (*Black X Impulsivity* and *Hispanic X Impulsivity*) did not achieve statistical significance while the *Male X Black X Impulsivity* three-way interaction term remained significant. Note that the *Male X Hispanic X Impulsivity* interaction term was not significant. With Hispanics included, the point estimates of the slope coefficients remained similar. The largest association between within-individual changes in impulsivity and changes in externalizing behaviors was again observed for black males, followed by white females, Hispanic males, black females, Hispanic females, and white males. The slope coefficients were significant for all groups. Pairwise comparisons detected significant differences between black males and every other gender and race group but white females. Thus, there were significant differences in the slope coefficient between black and Hispanic males ($b_{bm}-b_{hm}=0.45$, $p<0.05$), black males and white males ($b_{bm}-b_{wm}=0.58$, $p<0.05$), black males and black females ($b_{bm}-b_{bf}=0.47$, $p<0.05$), and black males and Hispanic females ($b_{bm}-b_{hf}=0.55$, $p<0.05$). None of the other pairwise comparisons revealed significant differences between groups.

We also evaluated the robustness of our results by fitting different types of models. First, we re-estimated our models excluding control variables that could potentially be endogenous to our models. Thus, we estimated a model without the peer delinquency measure and the academic achievement measure. The results remained substantially the same. We also estimated models in which we removed the controls for other CBCL scales—withdrawn and anxiety/depression. In this case, the slope difference between black males and black females was only marginally significant ($0.05<p<0.10$) but all the other results remained the same. Additionally, we created an externalizing behavior scale deleting the one item that loaded on our impulsivity scale. The *Black X Male X Impulsivity* was only marginally significant in this model ($p=0.67$) but the slope differences of impulsivity across groups remained unchanged

Furthermore, we examined the potential confounding effect of neighborhood disadvantage. We first re-estimated the equation presented in Table 5 Model 4 including a time-varying neighborhood-level variable, *concentrated poverty*, obtained from the 1995 PHDCN Community Survey. Note that this measure had limited within-individual variability because it only changed if a youth moved into a new neighborhood that differed from their previous neighborhood (25.8 percent of youths changed neighborhoods at least once). We re-estimated the models and added an interaction between impulsivity and concentrated disadvantage. In all cases, the slope differences in impulsivity between black males and black females and black males and white males remained significant (the interaction term *Black X Male X Impulsivity* was marginally significant ($p=0.94$ and $p=0.90$, respectively). Additionally, we included neighborhood disadvantage at wave 1 as a time-invariant variable and generated an interaction term between it and our time-varying impulsivity measure (*Disadvantage X Impulsivity*). In this case, both the *Black X Male X Impulsivity* interaction and the slope differences in impulsivity between black males and black females and black males and white males were significant.

We replicated our original analysis with measures constructed using item response theory, instead of summative scales. We estimated rating scale models and graded response models for externalizing behaviors, impulsivity, depression/anxiety, and withdrawn scores. The results of the fixed effects models using these alternative measures remained substantially similar.

Finally, we explored the measurement invariance of our impulsivity scale by fitting graded response models by group. We fitted a constrained model in which all parameters were the same across models and then models in which we allowed the parameters of one of the items to vary across groups. In all cases, the unconstrained models fit the data better. Analyzing the

sources of the differential item functioning across groups goes beyond the scope of the current work. However, these results suggest that measures are likely not invariant across groups and that further research should aim at unravelling the differential measurement properties of the scales by group.

DISCUSSION

There is an emerging consensus that race “is a core organizing construct that operates to generate the patterns, sources, and consequences of crime” (Peterson, 2012, p. 309, see also, Heimer, 2019). This evolving awareness includes how the racial oppression of blacks is related to their offending—the perspective of a Black Criminology—as well as how white privilege (“whiteness”) produces distinct patterns of crime (Doane & Bonilla-Silva, 2003; Russell, 1992; Russell-Brown, 2019; Sohoni & Rorie, 2019; Unnever, 2015; Unnever et al., 2019; Unnever & Owusu-Bempah, 2019; Unnever et al., 2019). In this paper, we extend this emphasis by suggesting that the gendered racial oppression of black males may have generated distinct patterns, sources, and consequences of engaging in externalizing behaviors. More specifically, we focused on the relationships between being a black male youth, impulsivity, and externalizing behaviors (Unnever, 2016). We hypothesized that black males should exhibit greater within-individual volatility in their impulsivity and that the within-individual effect of changes in impulsivity on changes in externalizing behaviors across time should be greater for black males than for their counterparts—black females, white females, and white males while controlling for other time-varying measures.

This emphasis on black males is consistent with the data that show that black males are at the bottom of the racial stratification system (Alexander, 2010; Carter et al., 2017; Chetty et al., 2018; Hagan & Foster, 2012; Mincy et al., 2006; Noguera, 2003; Pager, 2003; Smith &

Robinson, 2019). Scholars suggest that black males occupy the bottom rungs because gendered discriminatory practices and gendered pejorative stereotypes of black males—such as, the *criminalblackman*—are institutionalized within the racial stratification system (Burriss & Whitney, 2015). Curry (2017, 2017a) suggests that this gendered systemic oppression of black males renders them vulnerable. We add that the unpredictable nature of their gendered racial oppression, leaves them vulnerable to experiencing greater volatility in their impulsivity and to engaging in externalizing behaviors when experiencing impulsivity. Based on the strength and ego depletion models of self-control, we suggest that black males deplete their emotional capital as they ward off the erratic effects of interpersonal discrimination (including vicariously experienced) and the “stereotype threats” of being pejoratively stereotyped. For the majority of black males, this exposure to gendered racial oppression only strengthens their resiliency to “prove them wrong” (Moore et al., 2003; Reddick et al., 2011; Sanders, 1997; Swanson et al., 2003; Vega et al., 2015). However, we suggest that being continuously immersed in a “sea of hostility” that has accumulated over centuries causes a minority of black males to experience oscillating levels of impulsivity and to engage in externalizing behaviors when feeling heightened states of impulsivity (Noble, 2006, p. 91). In short, we suggest that black males are the group most likely to externally act out their impulsivity.

On the other hand, the foundational assumption of the general theories of crime contends that there is no need to separately study black males (or any group) because the causes of crime are universal. As a result of this assumption, general theories of crime usually consider race to be an exogenous rather than an endogenous factor in their models of offending (Cullen, 2019). Considering race to be an exogenous factor—a factor to be controlled for—also negates, or at least relegates to the periphery, that the enduring racial oppression of black males may be related

to their engaging in problematic behaviors (Russell-Brown, 2019). In relation to our focus, general theorists would argue that the effect of impulsivity on problematic behaviors should be similar across groups and we assumed that they would also argue that the within-individual effect of changes in impulsivity on changes in externalizing behaviors should also be equal across groups of youths.

Our results show greater support for the Black Criminology perspective than the general theories' assumption that causes of externalizing behaviors are universal. We found significant differences in the within and between youth changes in impulsivity across race and gender groups. Our point estimates of the variance components show that black males exhibited greater within-individual changes in impulsivity across time than black females, white males, and white females. In addition, the results revealed that the within-individual effect of changes in impulsivity on changes in externalizing behaviors across time was greater for black males than their counterparts. More specifically, we found that black males were the youths most likely to increase their externalizing behaviors when they experienced an increase in their level of impulsivity across time. Note that we generated these results while controlling for changes in the youths' age, levels of anxiety and depression, withdrawn problems, the degree to which they associated with delinquent peers, and their ability to read words, comprehend sentences, spell, and compute solutions to math problems. In addition, our fixed effects within-individual models controlled for the youths' time-invariant characteristics that are associated with their externalizing behaviors and their impulsivity, such as childhood experiences, neuropsychological deficits, or personality traits (Moffitt, 1997; Van Gelder & De Vries, 2012). Taken together,

these results suggest that the relationships between being a black male, impulsivity, and externalizing behaviors may be unique.⁹

Note that we focused on black male youths. However, scholars may find it profitable to develop multiracial intersectional frameworks that elucidate why black females exhibited less within-individual volatility in their impulsivity across time than black males and why the within-individual effect of changes in impulsivity on changes in externalizing behaviors was greater for black males than black females, white males, and white females (Cogburn et al., 2011; Lowery, 2019; Potter, 2015). In general, there is a dearth of research that specifically focuses on black women and offending. Indeed, Jones, Ortiz, and Renner (2019, p. 7) argue that there is an “invisibility of Black women” in criminology research. Consequently, we suggest that future research may wish to reference that black males are significantly more likely than black females to report both “major-life” racial discrimination (e.g., for unfair reasons, have you been fired?, for unfair reasons, have you not been hired for a job?, and, have you been unfairly stopped by the police?) and “everyday’ discrimination” (e.g., people act as if they think you are dishonest, people act as if they are afraid of you, and, you are treated with less respect than other people) (Harnois & Ifatunji, 2011). Additionally, scholars may reference that racial stereotypes are gendered with whites associating black males with crime and being more hostile and angrier than black females. On the other hand, whites stereotyped black women as “single mothers” or as “matriarchs” who were more dependent on welfare (“welfare queens”) than black males (Jones et al., 2019; Shih, 2002; Timberlake & Estes, 2007). In other words, we suggest that it is not a matter of whether black males experience greater racial oppression than black females but that

⁹ Note that the research shows that an individual’s capacity to self-regulate can be restored following an initial act of depletion by positive moods, self-affirmations, motivation, and goal activation. Additionally, research shows that an individual’s capacity to self-regulate can be restored vicariously when they imagine a restorative experience from another person’s perspective (Egan et al., 2012).

the racial oppression of each group is qualitatively different. Therefore, this gendered racial oppression may generate different vulnerabilities in specific domains. Our study shows that black males are especially vulnerable to changes in impulsivity and that those changes are more likely to translate into problematic externalizing behaviors.

Moreover, scholars might wish to consider factors that may uniquely inhibit black females from externally acting out when exhibiting impulsivity. For example, research shows that black females are more likely to be involved in the “black church” than black males and black females uniquely feel pressure to embrace the stereotype of being the “strong black female” (SBW), which emphasizes being able to handle “everything” (Abrams, Hill, & Maxwell, 2019, p. 511) including “standing up for oneself, exhibiting self-reliance, and taking care of others” (Watson & Hunter, 2015, p. 425; see also, Buckley, 2018; Davis & Afifi, 2019). In sum, further research is needed that recognizes that (1) racial stereotypes are gendered “causing discrimination against black men and black women to take different forms”, (2) the contexts within which black men (e.g., the criminal justice system) and black women (e.g., social welfare offices, domestic settings, participation with children’s schools and healthcare) face discrimination are frequently different and “consequently the discrimination they face can take qualitatively different forms”, (3) some factors may differently inhibit black females than black males from externally acting out when exhibiting impulsivity (e.g., religious salience), and (4) black women are frequently treated differently from white men and white women (Harnois & Ifatunji, 2011, p. 1023). In short, there is the need for further research on black females that focuses “on their unique characteristics and lived experiences” and how they may affect their experiences with impulsivity and engaging in problematic behaviors (Jones et al., 2019, p. 7).

We tentatively present our results because of the limitations of the PHHDC-LCS. First, the unbalanced panel dataset that we constructed from the PHDCN-LCS included a limited number of youths within each of the four gender/race groups we included in our analyses. The numbers of youths within each group coupled with the estimation models we used—fixed effects—limited the power of our tests because they tend to produce estimations with large standard errors. This may have been particularly the case for white females (n=108). Thus, future research needs to replicate our results with datasets that include a greater number of youths, especially white females. Second, future research should focus on unravelling the temporal ordering between changes in impulsivity and changes in externalizing behavior and disentangling potential reciprocal effects between them. The PHDCN data only include information from three waves, collected across a relatively large period. This design makes it difficult to assess the temporal ordering of our variables. Our results show a significant association between contemporaneous changes in impulsivity and changes in externalizing behaviors. Further studies using longitudinal data with shorter intervals and a larger number of waves would be better suited to address whether changes in impulsivity precede changes in externalizing behaviors. Future research may wish to explore other likely reciprocal effects that we were not able to measure because of the limitations of the PHDCN-LCS. For example, it is possible that changes in impulsivity could affect parental behavior which in turn could affect the individual's level of impulsivity (Atherton et al., 2020).

Third, further research should aim at obtaining more complete measures of impulsivity and explore whether there is measurement invariance across groups. The number of questions that were consistently asked across the three waves of the PHDCN-LCS was limited. The CBCL protocol was one of the few instruments that were administered to the 9 and 12 year-old cohorts

from waves 1 and 3. This protocol was administered to the individuals' primary caregivers. We used information from the CBCL to construct both our measures of impulsivity and externalizing behaviors. Note that the externalizing measures have been validated in numerous studies while the impulsivity measure was constructed specifically for this study. Even though its reliability is acceptable, scholars may wish to replicate our findings with more complete measures and with different samples. This is especially relevant given that primary caregivers provided the information we used to construct both the dependent and the independent variables. Thus, we cannot rule out potential endogeneity due to shared error variance, even though other variables from the CBCL were also included as controls in the model. Note, however, that fixed effects models are deemed to be specifically well-suited to mitigate the problem of common method variance, given that they control for the individual-level time-invariant unobservables that may be causing such bias (Jakobsen & Jensen, 2015). Further research should also aim at exploring measurement invariance across groups. Future research may also wish to control for individual genetic or biological differences, which were not measured in the PHDCN-LCS.

Fourth, the PHDCN-LCS represents one city, Chicago; consequently, future research may wish to explore whether our findings generalize to other urban areas and to other geographical spaces such as the suburbs (e.g., more blacks live in the suburbs than in cities) (Semuels, 2016). Fourth, it may be instructive to attempt to reproduce our findings with more contemporary data to examine whether "period effects" such as the mass incarceration of blacks, the "Obama effect", or the "Trump effect" may influence the results we found (Alexander, 2010; Hagan & Foster, 2012; Marx, Ko, & Friedman, 2009; Pager, 2003; Pimentel, 2019; Unnever, Gabbidon, & Higgins, 2011). Finally, we examined the age-appropriate relationship between externalizing behaviors and impulsivity because our analyses were limited to youths. Scholars

may wish to replicate our results across later stages of the life course when individuals are more likely to commit crimes that are more serious including violent crimes.

In closing, our analyses suggest that further testing of the tenets of a Black Criminology is warranted. At its core, a Black Criminology assumes that the racial oppression of blacks is related to why a minority of blacks engage in problematic behaviors. This core assumption suggests that race and racism might be considered as key organizing endogenous constructs that operate to generate the patterns, sources, and consequences of crime (Peterson, 2012; Peterson, Krivo, & Russell-Brown, 2018). Our results also suggest that scholars may need to be “race and gender sensitive” as to whether their analyses replicate across both race and gender paying particular attention to the unique gendered racial oppression of black males (Agnew, 2013). Indeed, a Black Criminology embraces the potential of intersectional analyses that recognize that race, gender, class, and gender identity work together to produce structures of oppression and opportunity that should produce unique patterns of offending (Harnois & Ifatunji, 2011; Potter, 2015; Russell-Brown, 2019; Thomas, Hacker, & Hoxha, 2011).

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Table 1. Descriptive Statistics

	Obs.	Mean	Std. Dev.	Min	Max
Externalizing Behaviors	1868	7.54	6.25	0	37
Impulsivity	1864	1.98	1.94	0	8
Age	1868	12.56	2.42	8.06	18.61
Delinquent Peers	1868	0.05	0.85	-0.99	2.95
Withdrawn	1783	2.49	2.70	0	15
Anxiety/Depression	1795	3.90	4.01	0	23
Academic Achievement	1868	37.16	8.71	1	56
Male	1868	0.50		0	1
Black	1868	0.71		0	1

Table 2. Between and Within Descriptive Statistics of Impulsivity By Race and Gender Groups

	All	White females	Black females	White males	Black males
Mean	1.98	1.50	1.74	1.94	2.43
Sd (between)	1.75	1.80	1.52	1.74	1.89
Sd (within)	0.94	0.76	0.95	0.95	0.98
Observations	1864	251	682	287	644
Individuals	809	108	296	117	288

Table 3. Within and Between Level Variance Estimates of Impulsivity by Race and by Gender

	Between			Within		
	Variance Estimate	Confidence Interval		Variance Estimate	Confidence Interval	
Blacks	2.13	1.80	2.50	1.67	1.51	1.85
Whites	2.45	1.95	3.11	1.29	1.10	1.51
Females	1.80	1.48	2.18	1.44	1.28	1.62
Males	2.51	2.07	3.02	1.68	1.49	1.90

Table 4. Within and Between Level Variance Estimates of Impulsivity by Race and Gender Group

	Between			Within		
	Variance Estimate	Confidence Interval		Variance Estimate	Confidence Interval	
White females	2.66	1.93	3.67	1.01	0.80	1.28
White males	2.21	1.56	3.11	1.52	1.22	1.88
Black females	1.48	1.16	1.91	1.59	1.38	1.83
Black males	2.56	2.04	3.21	1.75	1.52	2.03

Table 5. Fixed Effects Estimations of Externalizing Behaviors

	Model (1)		Model (2)		Model (3)		Model (4)	
Impulsivity	0.826*	(9.78)	0.663*	(5.65)	0.663*	(4.28)	0.820*	(3.27)
Age	0.011	(0.17)	0.012	(0.20)	0.015	(0.25)	0.018	(0.30)
Delinquent Peers	0.288*	(2.12)	0.289*	(2.12)	0.288*	(2.11)	0.276*	(2.03)
Withdrawn	0.469*	(7.25)	0.470*	(7.30)	0.466*	(7.21)	0.469*	(7.30)
Anxiety/Depression	0.364*	(8.17)	0.368*	(8.26)	0.365*	(8.19)	0.367*	(8.27)
Academic Achievement	0.030	(1.29)	0.030	(1.30)	0.029	(1.25)	0.029	(1.25)
Impulsivity X Male			0.293*	(1.98)			-0.253	(-0.82)
Impulsivity X Black					0.217	(1.26)	-0.192	(-0.70)
Impulsivity X Male X Black							0.741*	(2.11)
Constant	2.049*	(3.01)	1.993*	(2.93)	2.033*	(2.99)	1.940*	(2.86)
Var (ϵ)	8.81		8.79		8.80		8.74	
Var (μ)	15.16		14.98		14.89		14.62	
ICC	0.63		0.63		0.63		0.63	
FMI	0.094		0.092		0.093		0.091	
RVI	0.032		0.029		0.030		0.026	
Observations	1868		1868		1868		1868	
Individuals	809		809		809		809	

t statistics in parentheses

⁺ $p < 0.10$, * $p < 0.05$

Table 6. Effects of Impulsivity on Externalizing Behaviors by Race and Gender Group

	b	Std. Error	T	P> t
White females	0.820	0.251	3.27	0.001
Black females	0.629	0.128	4.94	0.000
White males	0.567	0.190	2.99	0.003
Black males	1.116	0.125	8.95	0.000

Table 7. Pairwise Comparisons of the Effects of Impulsivity on Externalizing Behaviors by Race and Gender Group*

	b ₁ -b ₂	Std. Error	Z	P> z
Black Females vs. white females	-0.196	0.274	-0.71	0.175
White males vs. white females	-0.253	0.308	-0.82	0.412
Black males vs. white females	0.278	0.274	1.02	0.309
White males vs. black females	-0.057	0.221	-0.26	0.796
Black males vs. black females	0.474	0.168	2.83	0.005
Black males vs. white males	0.531	0.219	2.42	0.015

*Results shown are from first imputation only.

Figure 1. Predicted Level of Externalizing Behaviors by Impulsivity by Race and Gender Group

