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Examining the Contextual Effects of Racial Profiling, and the Long-Term Consequences of Punitive Interventions: Testing Labeling Theory with the National Longitudinal Study of Adolescent to Adult Health Data

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by

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ABSTRACT

Examining the Contextual Effects of Racial Profiling, and the Long-term Consequences of Punitive Interventions: Testing Labeling Theory with the National Longitudinal Study of Adolescent to Adult Health.

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Advisor: Amy Adamczyk

The overrepresentation of minority youth in the juvenile justice system has been well documented. More research has, however, been needed on levels of discrimination, particularly on potential biases in the earliest point of contact, such as police decisions to stop and arrest young people. Further, few studies have examined individual and neighborhood characteristics simultaneously, which has limited the understanding of citizens' experiences with the police. Focusing on potential biases in the juvenile justice system is essential as recent studies indicate that most types of interventions have different negative consequences for the lives of young people, such as increasing the probability of crime in adulthood.

The current study addresses some of the limitations of previous research and uses data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to test several hypotheses related to the probability of having been stopped or arrested by the police in youth, and the long-term impact of punitive interventions by the police and school authorities.

Results generated from the multilevel analyses fail to show that racial and ethnic minorities are more likely than White youth to be stopped by the police. Independent of differences in behavior, Black youth are, however, more likely to be arrested than White adolescents. There

is no significant difference between the probability of police stops or arrest for Hispanic and White youth. The probability of arrest also increases with increased concentrated disadvantage (concentrated poverty, a high proportion of single-parent households, and a high proportion of residents without a high school diploma).

Interventions in adolescence (being arrested or suspended/expelled from high school) do not decrease subsequent crime but instead lead to more crime in adulthood. The findings indicate that this is partly because these interventions have decrease adult SES, particularly interventions by school authorities. The current study also indicates that Black youth and young women are more vulnerable to the negative consequences of interventions than other groups.

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1. INTRODUCTION

Beginning with the acquittal of George Zimmerman in 2013 and the police shooting of Michael Brown the following summer, numerous protests have been organized nationwide by movements such as “Black Lives Matter”. Although killings of unarmed Black men by the police was not unknown before 2013, the number of cases that received immense media coverage called attention to potential racial inequalities in the criminal justice system, a system that purports to treat everyone equitably, weakening its credibility.

There are two general research questions guiding the current study. The first one focuses on why certain groups in society are more likely than others to be labeled or viewed as criminals. The second question focuses on the implications of being labeled as a criminal. The labeling perspective in criminology provides a theoretical framework for both questions. Labeling theories assume that at one time or another, most people engage in some minor law violations (e.g. Lemert, 1972: 42). The difference between a delinquent and non-delinquent may, in part, be an outcome of who gets caught and what happens if they do get caught (e.g. Becker, 1963: 11, 31). Indeed, self-reported data shows that a large proportion of people engage in some illegal behavior during adolescence that is never detected by the police (Empey, Stafford, and Hay 1982).

For several reasons, different groups of people may have a higher or lower probability of being caught by the police. Firstly, the police, and people in general, may have specific ideas of what a delinquent or a criminal looks like. People who fit the stereotypical criminal are viewed more suspiciously than those who do not. Police are more likely to stop and arrest those who they believe look like criminals and people are more likely to report those they think fit the label (Mann, 1993; Tittle and Curran, 1988). Secondly, violations committed by those who fit the stereotypical criminal are more likely viewed as reflecting their essential

characteristics rather than being a youthful mistake, thus being a sign of future problems (Chambliss, 1973; Liska and Tausig, 1979; Rodriguez, 2013).

Research shows that disproportionate proportions of poor minority youth are involved with the juvenile justice system that can only partially be explained by differences in offending (more frequent or more serious offending patterns). This applies to all stages of the system, from being arrested by the police to youths being sentenced to prison (for reviews see Engen, Steen, and Bridges 2002; Huizinga, Thornberry, Knight, and Lovegrove, 2007; Piquero 2008;). This disproportionality seems to be particularly prevalent at the earliest point of contact, such as at the stages of arrest or referral to court (National Research Council, 2013), and for drug-related offenses (Kakade et al., 2012; Lauritsen, 2005).

While there is substantial research that focuses on potential discriminations in the juvenile and criminal justice system, there are still gaps in this literature limiting a full understanding of the mechanisms involved. There is still limited research on the first stage of the process; the police decision to initiate a stop, to detain and arrest or release a young suspect (Piquero, 2008; Bishop, 2005). Focusing on police stops and arrests is important because it is in this first stage of the criminal justice process that police have most discretion (Alpert, MacDonald, and Dunham, 2005; Walker, 1993). It is also in this stage that any preexisting beliefs and attitudes will have the greatest impact.

Another limitation of previous research is that few consider the structural context of the location of the police interaction, such as the neighborhood. Police resources are unevenly distributed to areas within a certain city or a larger area. Following the "broken windows" philosophy, many police departments now use "Zero Tolerance Policing" which encourages police officers to target relatively trivial offenses and other signs of disorder (Lersch and Hart, 2011). Police specifically target the perceived high crime areas, which are usually the most

socioeconomically disadvantaged. Fewer police patrols in wealthy neighborhoods lead to fewer police contacts with youth in those neighborhoods.

In fact, research on "stop and frisk" practices in New York City as well as studies on traffic stops, indicate that although racial minorities are generally more likely to be stopped than White individuals, the location or the environment of the neighborhood, strongly influences police decisions (Evans, Maragh, and Porter, 2014; Fagan, Davis and Carlis, 2012; Parker, MacDonald, Alpert, Smith, and Piquero, 2004). Not only is police presence highly concentrated in certain areas, but police suspicion is also developed within a specific context (Smith, 1986).

Studies also show that frequent contact with the police erodes trust in the criminal justice system and its legitimacy, and influences young people's sense of self-worth (Jones, 2014). For example, being frequently stopped and detained by the police, being constantly viewed with suspicion, may impact young people's perception of themselves. Police are more likely to stop and question adolescents than they are to stop adults (Bishop, 2005), but adolescents may be at an elevated risk of being impacted by such behavior.

Labeling theory holds that juveniles who are, justly or unjustly, processed by the juvenile or criminal justice system will be stigmatized which in turn leads to increased criminal behavior in the future (Bernburg, 2009a; 2009b). Formal punitive sanctions are theorized to lead to increased subsequent problem behavior because of the impact that they have on structural opportunities, such as education and employment (Sampson and Laub, 1997). While prior studies generally support these claims (Bernburg and Krohn 2003; Bernburg, Krohn, and Rivera, 2006; Lopes et al., 2012), more research is still needed, and particularly research focusing on how the effects of punitive interventions are felt differently by different groups.

To address these limitations, the current study will focus on two main topics. Firstly, I will examine potential racial and ethnic biases in police interventions by focusing specifically on the risk of being stopped for questioning by the police and the risk of arrest in adolescence; analyzing the individual and neighborhood-level characteristics simultaneously. This will enable me to go further than most previous studies by testing several cross-level interactions to answer, for example, in what types of areas racial and ethnic minorities are most likely to encounter police interventions.

Secondly, the research focuses on the consequences of punitive interventions, by the police and by school authorities, in adolescence on subsequent behavior. The current study will add important new knowledge to the field by exploring several intervening and moderating mechanisms. Specifically, the study will examine whether punitive interventions (e.g. being expelled from school/arrested by the police) lead to subsequent problem behavior because of its effects on schooling and employment. Finally, the study will test if the effects of punitive interventions are contingent on race and gender. For example, police intervention may exacerbate the stigmatizing effects of being a poor minority but may have less impact on well-off individuals (Sampson and Laub, 1997). Punitive intervention may also have different consequences for young women and young men, but gender has largely been ignored in previous literature (exceptions include McGrath, 2014; Chiricos, Barrick, Bales, and Bontrager, 2007).

The study uses data from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a nationally representative sample of individuals who were in Grades 7 to 12 in the 1994-1995 school year. The adolescents were followed into young adulthood with four in-home interviews until the participants were aged 24-32. Add Health combines longitudinal survey data on respondents' social, economic, and psychological well-being with contextual data on the family, school and the community

providing opportunities to study how social environments and behaviors in adolescence are linked to outcomes in early adulthood (Harris et al., 2009). There are several advantages of using the Add Health data to test the proposed hypotheses. Firstly, the large national representative sample includes participants with diverse backgrounds, in different types of neighborhoods, which is essential when examining the influences of neighborhood context on police contact. Moreover, the longitudinal design allows me to examine changes over time, thus moving beyond just looking at correlations to examine causal relationships. Finally, the Add Health data includes a wide variety of information from the participants themselves and their parents which will enable the control of known covariates of the relevant factors, again strengthening the examination of causal relationships.

The dissertation is divided into 8 sections. The section below begins with a broad overview of the theoretical background for the study (sec.2), followed by separate sections focusing on who gets labeled; the contextual effects of racial profiling (sec.3) and the implications of that label; the long-term impact of punitive interventions (sec.4). These two sections are further divided into detailed theoretical discussion, a review of previous research, and the contribution of the current study to the literature. The proposal also includes a section specifying the hypotheses to be tested (sec.5) and methods used. The results (sec.7) are described in two chapters, describing the contextual effects of racial profiling (sec.7.1.) and describing the long-term impact of punitive interventions (sec.7.2.). Finally, the dissertation results are summarized, and its potential theoretical and policy implications considered in the last section (sec.8).

2. THEORETICAL BACKGROUND

Labeling theories are unique in the sense that their primary focus in not on identifying what biological, psychological or even sociological factors characterize those who commit crime[1]. Instead, these theories are concerned with the creation and enforcement of criminal law, as well as the implications of both. Thus, labeling theories focus on two different, but related, issues that are rooted in different theoretical traditions (Paternoster and Iovanni, 1989). On the one hand, labeling theorists argue that political and economic power impacts *what* and *who* is defined as criminal; a focus that is situated in the conflict perspective (i.e., critical, radical, Marxist theories) (Chambliss, 1973; Quinney, 1974; Turk, 1969). On the other hand, rooted in symbolic interactionism (Cooley, 1998; Goffman, 1963, Matsueda, 1992; Mead, 1934), labeling theorists argue that the experience of being labeled as a criminal leads to increased subsequent criminal behavior.

The conflict perspective consists of a set of interrelated theories that criticize traditional criminology for ignoring the political aspect of crime. Conflict theories emphasize that inequality in power is integral to any understanding of both crime and its control. These theorists question the common assumption that there is a general consensus on what acts should be defined as criminal, or that these acts are necessarily the ones that pose the greatest threat to the wellbeing of society as a whole. Criminal definitions are created by those who have the power to do so (Becker, 1963; Schur, 1980; Tannenbaum, 1938). Behavior that is common to poor people is more likely to be criminalized than harmful behavior committed by those who have money and power, such as corporations selling defective harmful products (Reiman, 1984).

Labeling theorists also point out that the process of identifying and punishing those who have broken the law (or deviated from the norm) is far from flawless. In Becker's words

[1] Or other deviant behavior

(1963: 133), "[e]nforcement is selective, and selective differently among kinds of people, at different times, and in different situations." Thus, it is emphasized that official crime statistics overestimate the differences in crime by class and race. The disproportionally high crime rates by racial minorities and by people with low socioeconomic status is thought to reflect the disproportionate social control directed towards those groups (Schur, 1980). The more radical criminologists argue that the criminal justice system primarily serves the interest of those with power, and is used to control any segment of society that poses threat to the status quo (Blalock, 1967). As stated by Quinney (1974: 21) "supposedly the law protects the rights of each of us and promotes a just existence. But this ideal is negated by the fact that the entire legal system is played according to rules formulated and enforced by a legal establishment that is a part of the capital ruling class".

Another key proposition of the labeling perspective is that efforts at social control may have counterproductive results (Paternoster and Iovanni 1989: 362). Rooted in symbolic interactionism (Cooley, 1998; Mead, 1934), it is argued that self-identity is created in everyday interactions. People's beliefs of what other people think of them forms their self-identity which in turn impacts their behavior (see also Matsueda, 1992). Frank Tannenbaum (1938) noted that begin frequently "tagged" or labeled as a troublemaker might cause young people to adopt the label as a part of their identity which would lead to more delinquent behavior. Often the result is that the "person becomes the thing he is described as being" (Tannenbaum 1938:20).

Edwin Lemert (1972) made a distinction between "primary" and "secondary" deviance and argued that young people participate in minor delinquency for various reasons. Neither the youth himself nor others use the misbehavior to define the person's character. The person feels guilt and has to rationalize the behavior to himself and others. However, stigmatizing societal reaction to the behavior leads to changes in the definition of the person

as a “deviant” or “bad”. Thus, instead of its intended specific deterrence effects, the reaction to delinquency decreases people’s internal restrictions because it has become a part of who they are (Lemert, 1972), the label becomes their “master status” overriding all other statuses (Becker, 1963: 33).

Although early labeling theorists focused as much on the reactions to deviance as on its implications (particularly Becker, 1963; Erikson, 1966), later empirical work on the impact of social status on involvement/treatment in the juvenile and criminal justice system has tended to be guided by conflict theories that take a more radical stance on social control mechanisms (often without mentioning the work of labeling theorists). Research on the long-term impact of involvement in the juvenile/criminal justice system has however been situated in work of early labeling theorists as well as in “neo-labeling” which integrates labeling theories with social bond theory (Sampson and Laub, 1993a; 1997).

According the Schur (1980: 25) the main difference between labeling and more radical part of the conflict perspective, is that labeling theorists allow for more complex processes behind social control mechanisms, recognizing that it is not “imposed and exercised by a single identifiable and cohesive ruling elite” and that there may be “multiplicity of interests at stake”. The radical perspective is also structural in nature, focusing on the structure of society, while “neo-labeling” is individual, focusing on individual experience. Consequently, the following theoretical and empirical discussion has been divided into two separate sections, one focusing on who gets labeled and the other on the implications of being labeled.

3. THE CONTEXTUAL EFFECTS OF RACIAL PROFILING

3.1. Theory

Critical theorists argue that the criminal justice system, like most other institutions in society, is constructed to preserve the current power structure (Quinney, 1974; Turk, 1969). The system is set up to process poor and minority offenders while largely ignoring more powerful offenders (Reiman, 1984). In his groundbreaking study, *The Saints and the Roughnecks*, William J. Chambliss (1973) described different reactions to two groups of boys attending the same high school: white middle-upper class boys and poor boys. While both groups frequently participated in delinquency, the behaviors of the upper-class boys were mostly ignored but the poor boys were constantly in trouble with school officials and the police. Chambliss concluded

> The answer lies in the class structure of American society and the control of legal institutions by those at the top of the class structure. Obviously, no representative of the upper class drew up the operational chart for the police which led them to look in the ghettos and on the street corners-which led them to see the demeanor of lower-class youth as troublesome and that of upper-middle class youth as tolerable. Rather, the procedures simply developed from experience-experience with irate and influential upper middle class parents insisting that their son's vandalism was simply a prank and his drunkenness only a momentary "sowing of wild oats" -experience with cooperative or indifferent, powerless, lower class parents who acquiescent to the laws definition of their son's behavior. (p.30).

Law enforcement agencies will minimize strains on themselves by focusing their attentions on processing those who lack political power and resources to protest. The resources and practices of law enforcement agencies are also highly dependent on political organizations, which represent the most powerful groups in society (Chambliss and Seidman, 1971).

Since the 1980´s most empirical work testing critical theories has focused more on racial disparities in the criminal justice system than on the impact of class or socioeconomic status, although in American society poverty and race are strongly related (Krisberg, 2005). Blalock's (1967) racial threat theory has commonly been used to explain such racial disparities (see also the symbolic threat theory, Tittle and Curran, 1988). The main proposition of racial threat theory is in line with traditional critical theories. White individuals, who generally have more economic and political power than any other racial group, use their resources to encourage state-control over racial minorities to protect their existing power and privileges (i.e. employment, property and prestige).

Racial threat theory is both an individual and community level theory as Blalock (1967) argued that a relatively large and growing minority population in an area will motivate a White majority to pressure local authorities to increase the size and/or aggressiveness of formal crime control (see also Leiber, Johnson, Fox, and Lacks, 2007; Novak and Chamlin, 2012). Consequently, racial threat theory predicts a positive relationship between punitiveness, or social control against minorities, and the relative size of the minority population in a given location. But only up to a certain point. Blalock (1967) suggested a curvilinear relationship between aggressive social control of minorities and the relative size of the minority population. Minorites are presumed to accumulate economic and political mobilization when reaching the size of the White population which could slow the rate to which they are subject to social control compared to Whites (Stolzenberg, D'Alessio and Eitle, 2004).

An alternative explanation to *decreased* social control in areas with a relatively large minority population has also been suggested. The benign neglect hypothesis (Liska and Chamlin, 1984; Myer and Chamlin, 2011) posits that as most crimes are interracial, the police may increasingly perceive crime victims as underserving of their attention in racially

segregated areas with a relatively large minority population (Black, 1973; Klinger, 1997; Andersen, 2015). Moreover, race is related to the concentration of poverty and other disadvantage (Sampson and Laub, 1993b) and in turn lack of collective efficacy and high crime rates (Sampson, Raudenbush and Earls, 1997). As a result of high caseload, the police possibly overlook less serious crimes which would prompt an intervention in more well-off neighborhoods. Research on the relationship between the relative size of the minority population and social control mechanisms has been mixed (Andersen, 2015; Gase et al., 2016; Kirk, 2008;), but very few have properly tested a curvilinear relationship (for exception see Leiber, Peck and Rodriguez, 2016) and none focusing on police interventions against young people.

The stereotype of young African American men as dangerous criminals is deeply embedded in the collective consciousness of Americans (Quillian and Pager, 2001). Grounded in social-psychological research on stereotype formation, the social conditioning perspective puts less emphasis on the relative size of the minority population and argues that "in America people have been conditioned to view racial minorities as criminals" (Smith and Alpert, 2007: 1264). Experimental research on racial priming shows that police officers are not immune to unconscious racial stereotyping (Graham and Lowery, 2004). These stereotypes are rooted in a racialized history and sustained by negative media depictions of Blacks as criminals (Devine & Elliot, 1995). Social-structural factors such as economic and political conflicts may also perpetuate the existence of these stereotypes.

3.2. Empirical Literature

Poor minority youths are overrepresented at every stage of the U.S. juvenile justice system. An abundant amount of research shows that African American youth are more likely than White juveniles to be arrested by the police, to be referred to and to be processed at juvenile court. Among adjudicated delinquents, they are more likely to be sent to secure confinement

and among those detained, Black youth are more likely than White to be transferred to adult facilities (for reviews see Bishop, 2005; Piquero 2008; Huizinga et al., 2007; Engen et al., 2002; Leiber and Peck, 2013). Some studies have found that disproportionate proportions of Hispanic youth are also involved in the juvenile justice system (Huizinga et al., 2007; Tapia, 2010) but less is known about other racial and ethnic groups.

Disproportionate minority contact (DMC) with the justice system is thus well documented and generally not a contested research finding. There is however less agreement in the literature on the appropriate ways to explain this disproportionality. That is, some researchers attribute DMC mostly to differential involvement in crime (e.g. Beaver et al., 2013; Franklin, 2010), but others to differences in the justice system selection or treatment (e.g. Leiber, Johnson, Fox, and Lacks, 2007). In other words, there are inconsistencies in the conclusions drawn from research measuring potential racial or class biases in the juvenile and criminal justice system.

Although differences in illegal behavior (minorities committing more offenses or more serious offenses) usually only explains a part of the racial disparities, it is far from straightforward what other extra-legal factors constitute appropriate controls (Kochel, Wilson, and Mastrofski, 2011). For example, some researcher control for "risk factors" such as levels of neighborhood and family poverty, family structure, and the suspect demeanor. If the impact of race diminishes or becomes non-significant after these factors are controlled for, some researchers conclude that race does not impact social control mechanisms (see discussion in Krisberg, 2005: ix). Due to the "difficulties of unpacking the complex and interactive concepts of race, ethnicity, social class and culture" in American society (Krisberg, 2005: viii) such practices have however been highly criticized by number of scholars for distorting real biases (Anderson, 1990; 1999; Bishop, 2005, Reisig, McCluskey, Mastrofski and Terrill, 2004). Below I review the relevant research for the current study; research that attempts to

disentangle the effects of crime from the effects of race and disadvantaged status on early stages of juvenile / criminal justice process (i.e. police contact/arrest).

3.2.1. Individual Characteristics and Police Intervention

Huizinga and colleages (2007) measured disproportionate minority contact with the juvenile justice system in three cities, focusing specifically on arrests and court referrals. Using data from the Pittsburgh Youth Study, the Rochester Development Study, and the Seattle Social Development Project, they reported that African American youth had the highest contact with the justice system in all three cities (Pittsburgh, Rochester and Seattle). In Rochester, Hispanics also had higher level of contacts than White juveniles. Their findings showed that Black and Hispanic youths had somewhat higher prevalence rates of self-reported delinquency than Whites, but the differences were not nearly as large as when official data were examined. Moreover, Huizinga and associates found that factors such as family poverty and living in an impoverished neighborhood were more strongly related to being arrested by the police than to self-reported violent and non-violent crime. The measures of impoverishment also substantially reduced the effects of race/ethnicity on arrest and court referral but did not eliminate it.

While the report by Huizinga and colleagues (2007) was extensive and adds important information to the field, all samples included high risk individuals only (samples drawn from high crime neighborhoods) and only the sample from Seattle included females (49%). Hence, lack of comparison groups (for example to racial minorities living in well-off neighborhoods, and to girls and boys) may limit the general conclusions that can be drawn from the study.

Kakade et al. (2012) analyzed data from NLSY97, a more diverse sample of 12 to 17-year-old and found that African American youths were 2.5 times as likely as White to have been arrested multiple times, and 1.6 times as likely to have been arrested once. Self-reported

rate of substance use was however higher among White juveniles, and reported drug selling activities was also more common among White youths. In a model controlling for multiple factors such as drug, and alcohol use and non-drug related illegal behavior, both race and family poverty were still significantly related to the risk of having been arrested multiple times. Living in a high crime area was however not related to single or multiple arrests, but county level unemployment was. Conversely, in an analysis of the Add Health data, (Beaver et al., 2013) race did not significantly impact the probability of arrest when a composite measure of IQ was included in the model. Beaver et al (2013), however, only used a subsample of African American and White males and did not include any measures of disadvantage status.

After reviewing studies on disproportionate minority contact in the juvenile justice system published after 1994, Huizinga and colleagues (2007) concluded that "when variables measuring individual characteristics, offending patterns, and offense characteristics are held constant, the effect of race typically remains statistically significant but typically also becomes smaller in size" (p.5). Engen et al. (2002) also reviewed 65 papers using multivariate analyses and concluded that in the majority of studies race impacted both selection and treatment "above and beyond differences in offending" (p. 213).

It is worth noting that in early reviews of the literature on the impact of socioeconomic status and race on criminal justice system treatment, it was reported that although many studies supported bias hypotheses, there were also many that did not (Paternoster and Iovanni, 1989; Tittle and Curran, 1988). The inconclusive findings of earlier studies may be due to more recent studies using more rigorous methodology, or it may represent a real increase in racial and class disparities in the criminal justice system. In fact, while the rate at which youths are arrested has been steadily decreasing for the past 20 years, the arrest rate for White

youth have been decreasing at a much faster pace than arrest rates for Black youths (Puzzanchera and Kang, 2013).

Further, Stevens and Morash (2015) examined the differences in contact with the juvenile justice system in 1980 and in 2000 and found that not only were boys in 2000 significantly more likely to be charged with a crime than those in 1980, once charged with a crime, they were also more likely to be convicted and placed in a correctional institution than in 1980, net of differences in self-reported delinquency. They also found that these effects were magnified for Black and Hispanic males. Stevens and Morash (2015) concluded that, notwithstanding decrease in self-reported delinquency and arrest, there had been a general trend toward more punitive treatment of boys in the juvenile justice system, especially racial and ethnic minority boys.

Brownfield, Sorenson, and Thompson (2001), using the Seattle youth study, found that Black youths were more likely to be arrested (having official arrest record) than Whites after controlling for self-reported crime, gang membership and social class. Similar results have been found in more recent research that have made an attempt to control for differences in behavior (Hirschfield, Maschi, White, Traub and Loeber, 2006; Tapia, 2010; Godette et al., 2011).

In a somewhat recent meta-analysis (Kochel et al., 2011), it was concluded that the evidence of the relationship between race and the likelihood of arrest was not mixed, that racial minorities had higher probability of arrest than Whites. Kochel and associates (2011) used 27 independent data sets for their meta-analysis from both published and unpublished studies and reported that after controlling for demeanor, offense severity, presence of witnesses, quantity of evidence at the scene, the occurrence or discovery of a new criminal offense during the encounter, the suspect being under the influence of drugs or alcohol, prior

record of the suspect, or requests to arrest by victims did not significantly reduce the strength of the relationship between suspect race and arrest (p. 498).

A considerable amount of research looking at police decisions to stop and question pedestrians comes from studies focusing on New York City "stop and frisk" policies. In recent years, nearly 90 percent of all stops involved non-White individuals, majority of which had not committed any crime at the time of being stopped (82 percent in 2014). Just over 10 percent of all stops result in arrest or summons, and many charges are ultimately dropped (Greenwalt, 2014).

In an analysis of 125,000 pedestrian stops by the NYPD in a 15 month period from 1998 to 1999, Gelman, Fagan, and Kiss (2007) found that Black and Hispanic residents were more often stopped than white residents, accounting for population size and crime rates by each group. Evans et al., (2014) reported that a high proportion of Black and Hispanic residents in a neighborhood was associated with higher rates of stops. They also found that foreign born and owner-occupied housing was negatively associated with rates of police stops. Evans and colleagues (2014) did, however, not control for neighborhood crime rates.

Not accounting for differences with involvement in crime by those stopped compared with those not stopped is a limitation that most studies focusing on "stop and frisk" face. But researcher have noted that stops of Black and Hispanic residents are less likely than those of Whites to lead to arrest, "suggesting that the standards [are] more relaxed for stopping minority group members" (Gelman, et al., 2007: 822). Based on "reasonable suspicion" developed in the Supreme Court decision in Terry vs. Ohio, NYPD officer's decision to stop, question and frisk an individual is highly discretional. In fact, the most commonly given reason for stopping citizens in 2011 was "furtive movement" (Evans, et al., 2014). A high proportion of the NYPD stops are for minor discretions such as trespassing, which is most commonly enforced among poor residents in public housing (Fagan, et al., 2012). While "stop

and frisk" police practices are widely credited as a major contributor to the sharp decline in NYC crime rates (Zimring, 2006), there is still relatively little empirical research supporting that claim (see in Rosenfeld and Fornango, 2012).

Blacks and Hispanics have been found to be more likely than Whites to encounter traffic stops (for reviews see Engel, Calnon, and Bernand, 2002; Smith and Alpert, 2007). Several studies also indicate that racial minorities are more likely to be searched by the police while stopped (Langan, Greenfeld, Smith, Durose and Levin, 2001; Rojek, Rosenfeld, and Decker, 2004; Schafer, Carter, Katz-Bannister, and Wells, 2006) although some studies have not supported this finding (Smith and Petrocelli, 2001; Novak, Paoline III, and Terrill, 2005).

3.2.2. Community Characteristics and Police Intervention

Studies have also gone beyond looking at the race of the driver and looked at the characteristics of the neighborhood (police beats/census tracts). Petrocelli, Piquero, and Smith (2003) found that the area crime rate was the only factor significantly predicting the total number of stops in Richmond Virginia, but the percentage of Black residence predicted how many of those stops ended in a search. Several studies have also reported the interesting finding that although Black drivers are most likely to be stopped and searched in majority White neighborhoods, White motorist are more likely to be stopped and searched than Black drivers in majority Black neighborhoods (Novak and Chamlin, 2012; Parker et al., 2004; Renauer, 2012; Rojek et al., 2004). For example, Parker, et al. (2004) found that in majority White Miami census tracts the arrest rates for African Americans was 9 times higher than the arrest rate for White drivers, but in majority Black neighborhood White arrest rates were somewhat higher than black arrest rates (111 per 10,000 residence compared with 93 for blacks). The same results were found in a recent study of drug arrests in 78 neighborhoods in St. Louis (Gaston, 2019).

This finding has led scholar to hypothesize about "race out of place"; instead of police being biased towards racial minorities they look for what is unusual or out of place when considering what is suspicious behavior (Gaston, 2019; Renauer, 2012; Withrow, 2004). "To police officers, race serves as a marker of where people 'belong,' and racial incongruity as a marker of suspicion" (Fagan and Davies, 2000: 477-478). Research has also found that Black youth perceive significantly more police-based racial discrimination in predominantly White neighborhoods than in majority Black neighborhood (Stewart, Baumer, Brunson, and Simons, 2009).

Using the Seattle Youth study, Sampson (1986) found that median neighborhood income was one of the strongest predictors of having an official police record. That is, net of different types of self-reported delinquency, peer delinquency, gang membership, race and family poverty, those living in a poor neighborhood were much more likely to have official records than those living in other types of neighborhoods. Similar findings were reported in a more recent study by McAra and McVie (2007) using a sample of adolescents in Edinburgh; independent of self-reported crime, drug and alcohol use, mean neighborhood deprivation increased the risk of juveniles being charged with a crime. Family poverty was however not significantly related to police intervention in either study.

Davis and Sorensen (2012) looked at the state level ratio of Black and White involvement in the juvenile justice system. They reported that, net of crime rates by each group, the percentage of Black population was related to higher rates of Blacks in juvenile placement, but only marginally so. Similarly, Sampson and Laub (1993b) found that across U.S. counties in 1985, poverty and racial inequality were significantly related to increased juvenile processing (after arrest). This pattern was especially pronounced for Black drug offenders.

3.2.3. Contextual research and Police Intervention

Less than a handful of studies using multilevel analyses, examining the individual and the neighborhood context simultaneously on police intervention (arrest or stops), were found. This is a serious limitation as race and ethnicity is likely to impact police behavior differently within different ecological context (Fagan and Davis, 2000; Smith, 1986). Contextual research still remains an underdeveloped aspect of empirical research on police discretion (Klinger, 2004).

Focusing on youth arrest specifically, Andersen (2015) found that Black youths were more likely to be arrested than White in all contextual climates. In that study, the relative size of the Black population had no impact on the probability of arrest. The only significant cross-level interaction reported by Andersen (2015) was between Black and % Black, which was negative. Thus, independent of self-reported deviance, Black youths living in predominantly non-Black communities faced the greatest risk of arrest. Andersen (2015), however, used counties to define the community context which may be problematic due to its size. Counties do not capture a real neighborhood context and studies using county- or city-level data are unable to capture differences in police discretion across areas within cities or counties (Myer and Chamlin, 2011).

Also examining self-reported arrest of a nationally presentative sample of young people and using census-blocks to define the community context, Gase et al, (2016) found that Black youth were more likely to be arrested than White youth. The relative size of the White population in the neighborhood decreased the probability of having experienced arrest, but in that study no cross-level interactions were examined. Kirk (2008) however reported that the relative size of the White population in the neighborhood did not significantly impact the probability of youth arrest, but concentrated disadvantage did.

Other studies have focused on the impact of the contextual impact of race on sentencing decisions. Rodriguez (2013) found that, after controlling for case characteristics, prior records, individual level poverty and race, juveniles who lived in areas characterized by structural disadvantage (poverty, unemployment, low education, female headed households) had a higher probability of correctional confinement than their counterparts (p.203). This finding is consistent with Wooldredge's (2007) study on sentencing outcomes in Ohio, where he found evidence that neighborhood disadvantage was a stronger predictor of prison sentences than the defendant's race, which was not significantly related to differences in sentencing.

3.3. The Current Research on the contextual effects of racial profiling

In summary, there is a large body of research that focuses on potential discrimination in the juvenile and criminal justice system. These studies suggest that race and socioeconomic status (living in an impoverished neighborhood) impacts who is selected for criminal justice system sanctions, independent of differences in illegal behavior. There are, however, still relatively few studies focusing on police decisions to stop, detain, and arrest young individuals. Unknown biases in the early stages (i.e. police inventions) may result in misleading results in studies focusing on the later stages of the process (e.g. sentencing) due to more "self-selected" samples (Paternoster and Iovanni, 1989: 369). In other words, if race or socioeconomic status impacts who is stopped and arrested by the police such biases will "ultimately translate into differences in prior record-the variable that usually predicts sentence severity" (Sampson, 1986: 876).

Further, in situations that are legally ambiguous, which many are (Bishop, 2005), police decisions are highly discretional, and largely absent of any outside supervision (Alpert, MacDonald, and Dunham, 2005; Walker, 1993). Hence, any preexisting beliefs about what

dangerous people or places look like may be particularly relevant in this first stage of the process. Although research on racial profiling in traffic stops and on "stop and frisk" practices in NYC do provide valuable insight to this field of studies, more research is needed using a large national sample of individuals who are asked themselves about their interactions with the police.

Most research in this area focuses almost exclusively on comparing Black and White youth resulting in limited knowledge about other racial or ethnic minority groups (Krisberg, 2005; Stewart, et al. 2015; Rodriguez, 2013). The Hispanic population has been growing at a much higher rate than other groups in the United States and now outnumber Blacks making them the largest minority group (Stewart, Martinez, Baumer, and Gertz, 2015). Consequently, the current study will not only examine differences between Black and White youth but also focus on police interventions for Hispanic youth. Specifically, the study will test the hypothesis that, Black and Hispanic youth are more likely to be stopped and arrested by the police than White youth, after controlling for different types of problem behaviors (crime, violence, drug use and low self-control).

There is also limited research focusing on the neighborhood environment in which the individual lives, and few studies specifically examine contextual effects of the neighborhood. The current study attempts to disentangle the impact of suspect race/ethnicity from characteristics of the location, which few studies have been able to do. The current study will examine if 1) the relative size of the Black population, 2) the relative size of the Hispanic population and 3) levels of concentrated disadvantage at the neighborhood level increase the probability of young people being stopped and arrested by the police. It also goes beyond most research in the field and examines if the relationship between the relative size of the minority population and police behavior is non-linear, thus truly testing the proposition of

racial threat theory (as well as the hypothesis of benign neglect) (Liska and Chamlin, 1984; Myer and Chamlin, 2011).

Examining the individual and neighborhood influences on police behavior simultaneously may be particularly important as the formation of suspicion is highly contextual (Smith, 1986). For example, the behavior of young Black men may be viewed differently in majority White neighborhoods than in predominantly Black neighborhoods. In line with the "race out of place" hypothesis (Withrow, 2004), cross-level interaction effects between neighborhood characteristics and the race/ethnicity of the individual will be examined. Hypotheses are formally specified in section 5.

4. THE LONG-TERM IMPACT OF PUNITIVE INTERVENTIONS

4.1. Theory

Identifying potential biases in the criminal justice system is important for labeling theorists because a key proposition of the perspective is that punitive interventions tend to be stigmatizing for the individual involved, which in turn is theorized to lead to increased crime and other deviant behavior (Bernburg 2009b; Paternoster and Iovanni 1989). The mechanisms through which labeling is assumed to increase future criminal behavior are theorized to be both internal and external. Rooted in symbolic interactionism (Cooley, 1998; Mead, 1934), the internal processes involve changes in self-image following stigmatizing social reactions. When individuals, particularly young people, start to view themselves as troublemakers their internal means of control to subsequent delinquency weakens (Lemert, 1972; Tannenbaum, 1938).

Being labeled as a criminal or a troublemaker is believed to impact social relationships with other people, particularly who the labeled persons spends their time with (Bernburg and Krohn, 2006). The stigma associated with the label may, for example, lead peers who are not viewed as troublemakers to be reluctant to be seen with the "stigmatized" person, to avoid guilt by association (Goffman 1963). Peers may also fear and mistrust the labeled person, and parents in the community may prevent their children from spending time with known delinquents (Bernburg and Krohn, 2006). The juvenile may thus start to spend more time with other known delinquents, "where he or she can find social support and acceptance, while at the same time providing rationalization, attitudes, and opportunities that encourage and facilitate further criminal behavior" (Bernburg, 2009b: 192). The label may also influence the relationship between a young person and his or her parents and teachers, as well as have

detrimental impact on future educational and employment opportunities (Sampson and Laub, 1993a; 1997). Weak bonds to conventional society (family, school, and stable employment) are in themselves theorized to be criminogenic (Hirschi, 1969).

The external (i.e. bonds to conventional society) and internal processes are also theorized to be interrelated. Self-image is likely to be impacted by overt negative reactions from others. As argued by Schur (1980: 15), "it is very difficult to maintain a favorable view of yourself if others see you in a negative light and treat you accordingly." In this regard, Link's (1982) description of the effects of labeling for mental patients has been informative. Link (1982) noted that after being formally labeled a "mental patient", the stigma associated with that label has diverse consequences for different aspects of the person's live. The label not only impacts how other people treat the person involved but also, and perhaps more importantly, the labeled person's expectations of how other people will perceive and treat them. "Expecting and fearing rejection, patients may act less confidently, more defensively, or they may simply avoid a threatening contact altogether" (Link, 1982: 204). The expectation of rejection will lead to "internalize negative view of themselves" preventing them from seeking any challenging educational or job opportunities and lead to poor performance when they do (Link, 1982: 204).

Formal punitive interventions to delinquency may, however, also increase further criminal behavior without the label being internalized. In other words, "structural effects of labeling may emerge through social allocations mechanisms that have nothing to do with a redefinition of the self or other social-psychological processes that operate within the individual" (Sampson and Laub, 1997: 9). In the life-course theory of cumulative disadvantage[2], Sampson and Laub (1993a; 1997) proposed an integration between labeling and social control theories. Sampson and Laub argued that time stable criminogenic

[2] They also refer to it as "age-graded theory of informal social control".

tendencies could only partially explain continuity in criminal and antisocial behavior, the other important factor being societal reactions to the behavior. Most delinquency starts early in the life-course, but so do efforts to try to suppress it.

In other words, Sampson and Laub described a snowball effects of punitive interventions leading to increased criminal and other deviant behavior in adulthood through its effects on education and employment. Formal interventions, such as being arrested, are seen as "turning points" in the lives of individuals "knifing off" of future opportunities, such that labeled offenders have fewer options for a conventional life (Sampson and Laub, 1997: 12-13; see also Becker, 1963: 35).

An important theoretical proposition of the labeling perspective, that has received relatively limited attention among researchers, is that labeling is likely to impact different groups differently (Paternoster and Iovanni, 1989). Independent of their actual behavior, some groups are already associated with criminal stereotypes and thus may be more vulnerable to the stigma attached to the label and less able to resist its impact on future opportunities (Bernburg, 2009b). For example, being arrested or suspended from school may validate preexisting beliefs people have about racial minorities, intensifying the harmful effects of labeling. Disadvantage may pile up faster for groups that are already disadvantaged to begin with (Sampson and Laub, 1997: 153).

4.2. Empirical Literature

Early empirical tests of labeling theory provided mixed or limited support for the theory (see in Davies and Tanner, 2003; Huizinga and Henry, 2008). As scholars have since noted, this work was limited in ways that prevented researchers from drawing valid conclusions about the effects of labeling (Paternoster and Iovanni, 1989). The majority of studies testing labeling theory only included individuals who had experienced some form of labeling (all having been

processed by the juvenile/criminal justice system) and tested the impact of differences in severity of sanctions and thus lacked a relevant comparison group to those labeled (Bernburg and Krohn, 2003; Bernburg, 2009b). Paternoster and Iovanni (1989: 385) emphasized that "when one takes for study a group which appears at the end of a long series of discretionary decisions, it is reasonable that the labeling process has run its course by that time". Labeling theory stresses the initial experience of being labeled (Bernburg and Krohn, 2003).

Furthermore, the processes of labeling leading to increased subsequent criminal behavior are theorized to occur over long periods of time. Sampson and Laub (1997) have in fact noted that it is one of the few criminological theories that is truly developmental in nature. It is therefore essential that labeling theory is tested with a longitudinal design, but much of the early tests of labeling effects are based on cross-sectional data or have short follow-up periods (Bernburg and Krohn, 2003).

Recent reviews of empirical research generally find that studies, using longitudinal designs and comparing groups that have no or minimal contact with the juvenile/criminal justice system with those who have been formally processed, support labeling theory (Barrick, 2014, Huizinga and Henry, 2008, Liberman, Kirk, and Kim, 2014; Kavish, Mullins and Soto, 2016; Ward, Krohn, and Gibson, 2014). Moreover, Petrosino, Turpin-Petrosino and Guckenburg (2014) systematically identified 29 experiments that used random or quasi-random assignment and found that overall juvenile justice system processing was associated with increased future crime. Thus, "[i]n criminology … there is a widespread belief that punitive interventions are likely to lead to more, rather than less, offending" (Farrington and Murray 2014: 3).

While there are few studies that support the theory of specific deterrence, that interventions lead to *decreased* future crime, some studies find no difference in subsequent behavior for labeled and non-labeled groups (see in Barrick 2014: 94). Labeling theory does

not, however, propose direct effects of labeling on future criminal behavior, but an indirect one through the mechanisms described above (i.e. education and employment). Until recently, studies generally did not focus on these mediation effects. Thus, "the bulk of [early] studies do not constitute a valid test of labeling theory" (Paternoster and Iovanni 1989: 384).

4.2.1. The intervening mechanisms of education and employment

Sampson and Laub (1993a) were among the first to test if the impact of formal criminal justice interventions was mediated through its effects on employment. Focusing on severe forms of sanctioning, the length of incarceration before age 17, they found that it was associated with later unemployed, which in turn was related to increased adult criminal behavior.

Bernburg and Krohn (2003) tested the proposition that early official intervention increases subsequent delinquent behavior through its effects on conventional structured opportunities. As a part of the Rochester Youth Developmental Study, Bernburg and Krohn (2003) used a sample of 605 males who had been followed for 9 years, from age approximately 13 until they were about 22. Bernburg and Krohn (2003) found that self-reported official intervention, both police contact and involvement with the juvenile justice system, were associated with increased subsequent crime and drug selling, net of serious delinquency and other individual level characteristics. Further, Bernburg and Krohn (2003) found that early official intervention was associated with decreased probability of graduating from high school, which in turned affected employment in early adulthood, both mediating the effects of official intervention on crime.

A more recent study (Lopes et al., 2012), using the same data as Bernburg and Krohn but over a longer time period, found that police contact or arrest in adolescence had a significant impact on unemployment, education, welfare and drug use in adulthood.

Specifically, police contact (arrest before 18) was associated with being unemployed, not completing high school, committing crimes, and using drugs at the ages 21-23, as well as unemployment, receiving welfare and increased drug use at the ages 29 to 31 years. A part of the relationship between early police contact and adult outcomes (e.g. using drugs and being unemployed), where mediated through high school dropout. In other words, individuals who were arrested or had contact with the police before 18, were less likely to complete high school than those who were not, net of number of behavioral and situational characteristics (including self-reported crime and drug use) (see also similar findings in De Li, 1999; Wiley and Esbensen, 2016; Wiley, Slocum and Esbensen, 2014).

Without formally testing full labeling theory, there are also several studies that have found that formal punitive interventions in adolescence is associated with decreased educational and employment opportunities in adulthood. Davies and Tanner (2003), using the NLSY79 data, an ongoing panel study that begun in 1979 when respondents were aged 14-22, focused on punitive interventions by school authorities as well as by the juvenile justice system. Davies and Tanner found that weaker forms of interventions (being suspended from school or being stopped by police) had mixed effects on occupational and income status in adulthood; the relationships were significant in some years but not others. Incarceration, however, had a strong consistent impact on several occupational measures in adulthood. Davies and Tanner (2003) controlled for multiple factors, including family poverty, and structure, race, multiple school measures, local context, and self-reported deviant behavior.

Kirk and Sampson (2013) used propensity score matching to estimate the effects of arrest on school dropout and college enrollment. That is, to prevent spuriousness, they created a propensity score based on 82 different covariates that theoretically confound with both arrest and school attainment, including measures of low self-control, family structure, peers, neighborhood and school. They reported that a much higher proportion of those arrested

dropped out of high school, compared with similar individuals who were not arrested. Also, among similar young adults with high school diplomas or GED certification, those who had not been arrested in adolescence were almost twice as likely to enroll in four-year college than the arrestees. Kirk and Sampson (2013: 54) concluded that "arrest in adolescence hinders the transition to adulthood by undermining pathways to educational attainment" (see also Bushway, 1998; Hirschfield, 2009).

4.2.2. Moderating Processes

Research focused on examining whether the effects of labeling depend on the characteristics of the person involved is still scarce. Labeling theorists have proposed two ways in which the social status of the individual can impact labeling. First, disadvantaged groups are expected to be more likely to be labeled than more advantaged groups, but social status may also influence the impact that some interventions have on future opportunities and behavior. Schur (1980:15), for example, noted that labeling "processes are by no means uniform, absolute, or irreversible. Individuals vary in the resources and techniques they personally can use to avoid or offset stigma". Sampson and Laub (1997) also suggested that because disadvantaged groups tend to have lower bonds to conventional society, such as the school, weakening bonds following a label may be felt more strongly by those groups.

The current study focuses on two characteristics that may be particularly relevant to potential contingencies; race and gender. The stereotype of racial minorities as criminals, particularly young Black men, is deeply embedded in the collective consciousness of Americans (Quillian & Pager, 2001) and thus punitive interventions may be perceived as confirming that stigma (Bernburg and Krohn, 2003). It has, however, also been argued that low social status may weaken the effects of labeling because disadvantaged groups have reduced stakes in maintaining respectable identities (Bernburg 2009b; Barrick 2014).

There have been some inconsistencies on the moderating labeling effects of race. Bernburg and Krohn (2003) reported that the effects of police intervention during adolescence on subsequent crime were stronger among Black youth compared with other racial groups. They also found moderating effects of parental poverty, that police contact had a stronger impact on those from impoverished background. Chiricos et al (2007) used official data and examined if adult felony conviction (vs. probationers who were not found guilty of a felony) impacted conviction two years later. Contrary to Bernburg and Krohn (2003), Chiricos and associates found that the effects were strongest for White offenders. Research has also reported no significant interaction of race and arrest on recidivism (Sherman, Strang, and Woods, 2000).

The majority of previous studies on labeling effects focus on males only. Both official and self-reported measures consistently show that males are much more likely than females to engage in illegal behavior, particularly in the most serious offenses (Lauritsen, 2005). Crime and delinquency are generally viewed as a male phenomenon. Consequently, scholars have proposed that men are not only more likely to be viewed suspiciously than females, but that punitive interventions may have more harmful impact on their future opportunities and subsequent behavior (Ageton and Elliott, 1974; as cited in Chiricos et al, 2007: 550). The opposite has also been suggested. As criminal behavior violates the gender role expectations for females they may be judged more harshly if they do engage in delinquency, particularly in the types of behavior seen as being essentially masculine (Chesney-Lind, 1997; Heimer, 1996). Schur (1984) argued that a deviant or a criminal label would be more harmful to young women than men because there is generally more pressure on women to conform to social norms.

Indeed, in the above cited research by Chiricos and colleges (2007), the effects of adjudication had a stronger impact on subsequent felony reconviction on women than on men.

Likewise, Lanctót, Garnkovish and Giordano (2007) found that institutionalization had more adverse consequences for females than for males, particularly by increasing socioeconomic disadvantage. A research on young people being sentenced to children´s court in Australia found that feeling stigmatized after the hearing was a significant predictor of reoffending for young women, but not for young men (McGrath, 2014).

Furthermore, Davies and Tanner (2003) found that being suspended or expelled from school had a strong, negative impact on later job outcomes for females but no such effects were found for males. Davies and Tanner also tested if the stronger impact on girls could be explained by the school intervention for them occurring after more frequent or more serious offenses than for the boys, but their data did not support that. It has been suggested that precisely because delinquency breaks the role expectations for females, reactions to their misbehavior may be more extreme than in the case of male delinquency (Koita and Triplett, 1998). There is however also research that has indicated that the labeling effects have a larger impact on males than females (Bernburg, 2003; Matsueda, 1996; Ray and Downs, 1986). More research is needed on the conditional effects of gender.

4.3. The Current Research on the long-term impact of punitive interventions

There is now substantial empirical literature that supports the claim that formal punitive interventions tend to lead to increased subsequent crime and deviance, independent of previous criminogenic tendencies. Researchers have also begun to explore in more details why this occurs and added valuable knowledge to the field. That is, several papers, that are reviewed above, have examined the intervening processes that lead to crime amplification. The current study builds on and adds to this body of work.

An important contribution of the current study is to test labeling theory with a large diverse randomly selected sample drawn from most parts of the nation. This enables the comparison of labelled individuals with those who have not been labeled. Much of previous studies have focused on those who have experienced some intervention only. The current research will focus on two types of punitive interventions that are theorized to increase the probability of continued criminal behavior. I will examine if 1) being arrested by the police in adolescence and 2) being expelled or suspended from high school is associated with increased early adulthood and adult crime.

This study examines both the short-term (when the sample is between 18 and 26 years old) and long-term (when the sample is between 24 and 32 years old) effects of these punitive interventions. The current study explores important intervening (socioeconomic status in adulthood) and moderation effects (race and gender), that still have received relatively limited attention in the literature. Formal hypotheses are outlined in the following section.

5. HYPOTHESES

The purpose of the current research is to examine 1) what characteristics, other than criminal and violent behavior, influences police intervention, and 2) the consequences of punitive interventions in late adolescence on adult outcomes. To answer the first question, three main hypotheses are tested (hypotheses shown in the model described in Figure 1). To answer the second question, additional four hypotheses are tested (a model described in Figure 2).

5.1. Contextual Effects of Racial Profiling-Hypotheses

***Hypothesis 1*:** After accounting for differences in problem behavior, minority youth have a higher probability of police intervention than White youth.

H1a &H1b: Black youth are more likely than White youth to have been stopped (***H1a***) and arrested (***H1b***) by the police, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

H1c & H1d: Hispanic youth are more likely than White youth to have been stopped (***H1c***) and arrested (***H1d***) by the police, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

Hypothesis 2: Youth living in neighborhoods (*tracts*) characterized by concentrated disadvantage and high proportion of minorities are more likely to encounter police intervention, than youths living in other types of neighborhoods.

H2a & H2b: Increased neighborhood-level (tracts) concentrated disadvantage is associated with increased probability of youth having been stopped (***H2a***) and arrested (***H2b***) by the police, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

H2c & H2d: Increased proportion of Black residents' in the neighborhood (tracts) is associated with increased probability of youth having been stopped (***H2c***) and arrested (***H2d***) by the police, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

H2e & H2f: Increased proportion of Hispanic residents' in the neighborhood (tracts) is associated with increased probability of youth having been stopped (***H2e***) and arrested (***H2f***) by the police, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

Hypothesis 3: In line with the "race out of place" hypothesis (Withrow, 2004), young racial minorities are, however, expected to have a disproportionate probability of police intervention in majority White, affluent neighborhoods. Thus, the third hypothesis proposes a cross-level interaction effects between neighborhood characteristics and the race/ethnicity of the individual.

H3a & H3b: The probability of Black youth having been stopped (***H3a***) and arrested (***H3b***) by the police, compared to White youth, increases as the concentrated disadvantage decrease in the neighborhood, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

H3c & H3d: The probability of Hispanic youth having been stopped (***H3c***) and arrested (***H3d***) by the police, compared to White youth, increases as the concentrated disadvantage decrease in the neighborhood, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

H3e & H3f: The probability of Black youth having been stopped (***H3e***) and arrested (***H3f***) by the police, compared to White youth increases as the proportion of Black residents decrease in the neighborhood, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

H3g/h: The probability of Hispanic youth having been stopped(***H3g***) and arrested(***H3h***) by the police, compared to White youth increases as the proportion of Hispanic residents decrease in the neighborhood, net of self-reported crime, violence and substance use (as well as other relevant factors such as low self-control).

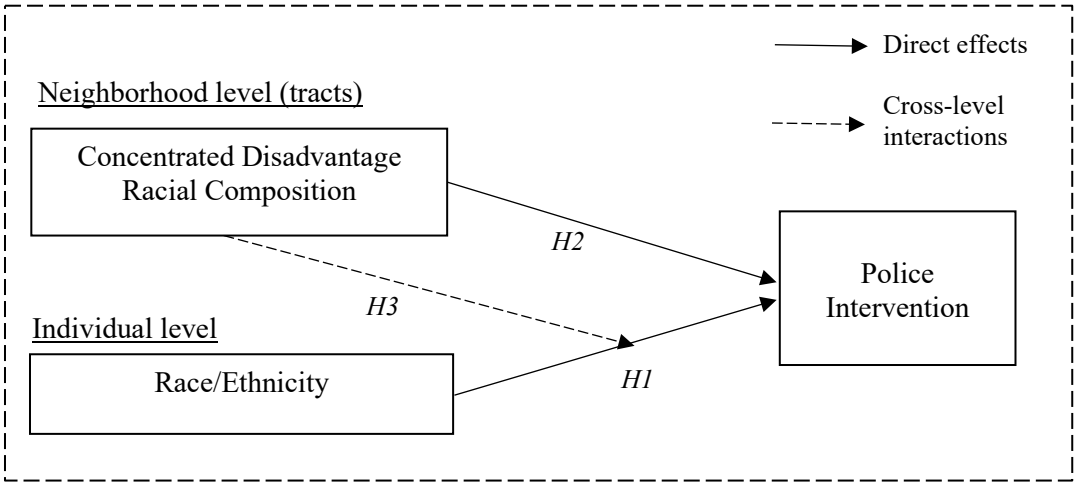

Figure 1. Model Depicting Proposed Contextual Effects of Racial Profiling. Hypotheses 1 through 3

5.2. The Long-Term Punitive Intervention -Hypotheses

Hypothesis 4: Punitive interventions (by school authorities and the police) in adolescence (before turning 19 years old) are associated with (***H4a***) increased crime in early adulthood (ages 18-26), (***H4b***) have negative impact on adulthood socioeconomic status (education, employment and poverty), and (***H4c***) increased probability of adult crime, net of early problem behavior.

Hypothesis 5: Punitive interventions in adolescence are hypothesized to increase probability of adult crime through its effects on adult SES (mediation).

Hypotheses 6, 7 and 8: Finally, the study will test if proposed relationships in *H4* are contingent of the person's race/ethnicity and gender. The effects are hypothesized to be stronger for Black and Hispanic individuals than for White youth. In the absence of extensive prior research and theory concerning gender, a specific direction of the moderating effects of gender is not offered.

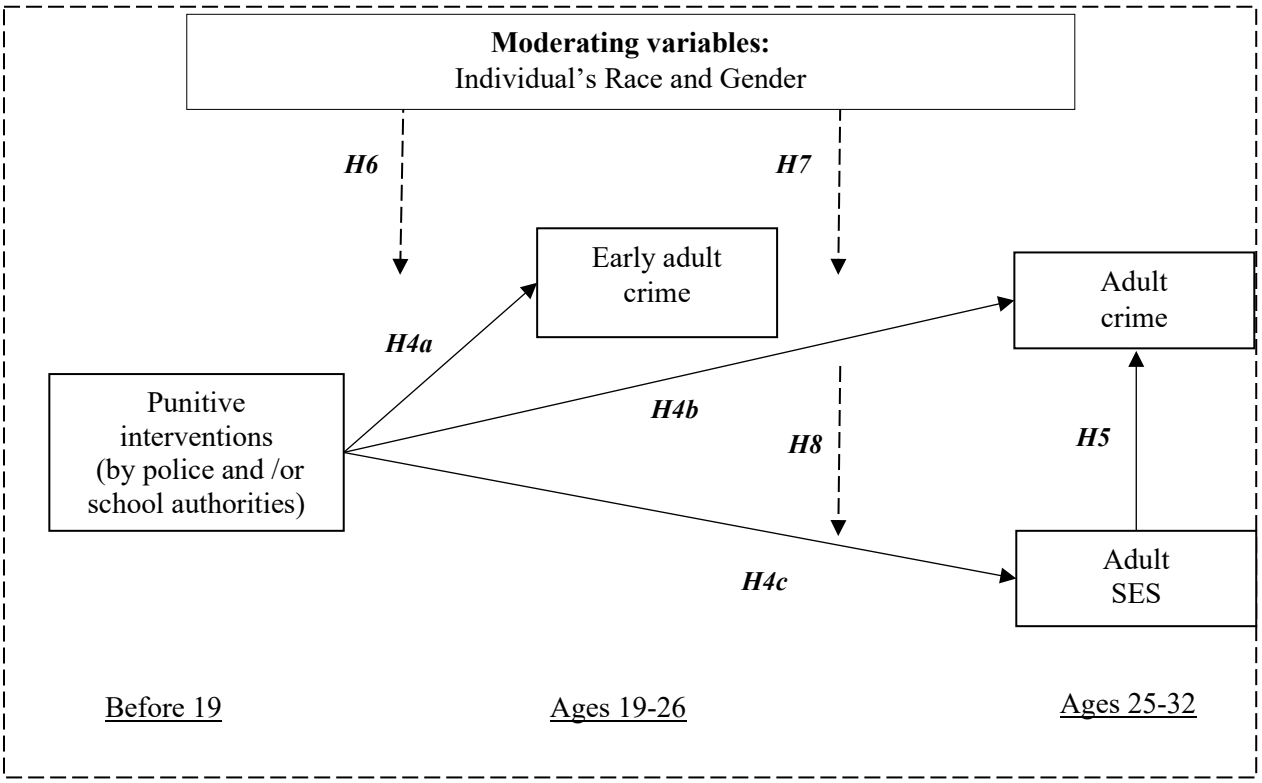

Figure 2. A Model Depicting the Proposed Long-term Effects of Punitive Interventions on Adult Behavior. Hypotheses 4 through 8[3].

[3] Participants received questions about involvement in the criminal justice system (questions about police intervention) for the first time in wave 3. They were also asked how old they were when the police contact occurred (asked about age at first time, and age at each time if they had more than one contact with the police). This will allow me to measure police intervention retrospectively for individuals with early police contact.

6. METHODS

6.1. Data

The study uses the Add Health data; a four-wave panel study. The first wave was collected from September 1994 to April1995, when participants were in grades 7 through 12, using a clustered sampling design consisting of students nested within schools. Participating schools were in all regions of the country, in urban, suburban and rural areas and included mostly public schools but also some catholic and other private schools. A final sample included 90,118 students in 144 middle, junior high, and high schools that completed a 45-minute questionnaire. From the original sample, adolescents were sampled to participate in detailed in-home interviews. There was an oversample of black adolescents with college-educated parents, as well as Cuban, Puerto Rican and Chinese adolescents. The response rate for the in-home interview sample was 79 percent, producing a sample size of 20,745 adolescents. Over 85 percent of participating adolescents' parents completed a 30-minute interview (Harris et al., 2009; 2013). The current study uses the in-home sample only.

The participants in the in-home survey were followed up and re-interviewed in 1996 (Wave 2), in 2001-2002 (Wave 3), and in 2008-2009 (Wave 4) (see Table 1). Adolescents who had graduated from high school in 1996 (at the time of Wave 2 interviews) did not participate in Wave 2 data collection. Add Health completed interviews on 15,170 respondents at Wave 3, resulting in 76% response rate and 15,701 at Wave 4 resulting in about 80% response rate[4], which is higher than in most other national longitudinal studies (e.g. NFSH, MIDUS, NFSG, LA FANS and NLSY79). The loss of participants following the first wave was not randomly distributed between participants. A detailed assessment by researchers at the Carolina Population Center (the Add Health researchers at the University of

[4] Response rate was calculated after subtracting those who were deceased and otherwise ineligible for follow up (e.g. on active military duty).

Carolina at Chapel Hill) reveals that attrition rates differed by gender, race, immigrant status and parental education and socioeconomic status at Wave 1. Females, white, native-born respondents had a higher response rate at Waves 3 and 4. Response rate also increased with increased parental education and socioeconomic status. The Add Health researchers also analyzed biases in estimates on number of variables due to attrition and concluded that after including the final sampling weights it was small and that the following samples adequately represented the same population as in Wave 1 (Harris, 2013; Chantala, Kalsbeek and Andraca, 2005)[5].

To maintain confidentiality, no paper questionnaires were used. Data were recorded on laptop computers. For less sensitive material, the interviewer read the questions and entered the respondent's answers. For more sensitive material, the respondent entered his or her own answers in privacy. The average length of an interview was 90 minutes in all four Waves. Most interviews were conducted in respondents' homes (for more details see Harris et al., 2009)

Table 1. Longitudinal Description-In Home Interview Sample

Time	Participants age range	N
Wave 1 1994-1995	Adolescents in grades 7-12	20,745
	Parents	17,670
Wave 2 1996	Adolescents in grades 8-12	14,738
Wave 3 2001-2002	Young adults ages 18-26	15,197
Wave 4 2007-2008	Adults ages 24-32	15,701

[5] In the above cited examination, the researchers examined biases in estimates on delinquency, violence and substance use. The results were that biases in these measures are between 0.5 and 1 percentage point, with the response rate in Waves 3 and 4 decreasing with increased rates of these behaviors in Wave 1. These types of biases can potentially have implications for the analyses of the long-term consequences of punitive interventions. However, these biases are small and would lead to more conservative conclusions drawn from the findings presented below (i.e. biases of these types make it harder to reject a null hypothesis of no effects association between interventions and subsequent criminal behavior).

The Add Health dataset also includes information about the communities in which respondents live at each wave. This information is gathered from a variety of sources, such as the US Census, the Centers for Disease Control and Prevention, the National Center for Health Statistics, and the Federal Bureau of Investigation. Information about contextual variables is available in the Add Health dataset at the block group, tract, county, and state level.

A neighborhood is conceptualized as a relatively small, homogenous area within a larger area (such as a city or a county) where people spend a substantial part of their free time (Sampson, Morenoff, and Gannon-Rowley, 2002). Hence, census *tracts* are used to define neighborhood boundaries (the level 2 unit) when testing hypotheses 2 and 3. A census tract is a small, relatively permanent statistical subdivision of a county or equivalent entity. The average population size of census tracts is about 4,000, ranging from 1,200 to 8,000 people. It usually covers a contiguous area; the size varies depending on the density of the settlement. Census tracts are in fact designed to be "relatively homogenous units with respect to population characteristics, economic status, and living conditions at the time of establishment" (Census, 2015). Using census tracts to define neighborhood boundaries is consistent with many prior community studies (Warner and Rountree, 1997; Bellair, 2000; Sampson and Raudenbush, 1999; Silver, 2000; Ross, 2000).

6.2. Measures testing hypotheses 1 through 3: The contextual effects of Racial Profiling

Dependent variables

The dependent variable comes from Waves 3 and 4 when participants were between 18 and 26 years old, and 24 and 32, respectively. This study focuses on two types of *police interventions* 1) having been stopped and detained by the police, and 2) having been taken

into custody or arrested by the police. In Wave 3 participants were asked: "How many times have you been stopped or detained by the police for questioning about your activities? Don't count minor traffic violations" and "Have you ever been arrested or taken into custody by the police?" In Wave 4, participants were only asked if they had ever been arrested by the police. Respondents were then asked how old they were when this occurred (the first time it occurred). As the current research focuses on experiences in youth, only police interventions occurring before respondents turned 21 were included. By Wave 3, 16 percent of the weighted sample had experienced being stopped and detained by the police at least once before turning 21 (see table 2 for descriptive statistics of all measures). By Wave 4, 17 percent of the weighted sample had experience being arrested by the police before 21[6] [7].

Independent Variables

Race and ethnicity are measured by using the interviewer's observation of the participant's race as well as a survey question where respondents were asked if they are of Hispanic or Latino origin. From these two survey items, four dummy variables were created using White participants as the reference group: 1) African Americans, 2) Non-White Hispanics, 3) Asian Americans, and 4) other racial groups. In the current study, the primary focus is on comparing Black and Hispanic adolescents with White youth, but dummy

[6] It may seem counterintuitive that a higher percentage of participants had experienced being arrested or taken into custody by the police than being stopped for questioning by the police. The measure for police stops comes from wave 3 only when some respondents had not reached 21. The measure of arrest is derived from waves 3 as well as from wave 4 when the youngest respondents were 24 years old. Thus, fewer respondents will have had the chance of experiencing police stops by wave 3 than arrest by wave 4 because of younger age in wave 3. Ideally, the two outcomes would come from the same waves, but Add Health did not include survey questions about police stops in wave 4. This difference will however not bias any of the relationships being tested.

[7] Self-report measures of police interventions are potentially affected by the participant recall or underreporting and thus may have some limitations. These measures are still considered the most valid and reliable measures of both delinquency and contact with the justice system (Thornberry and Krohn, 2000). Morris and Slocum (2010) found that retrospective self-report data on the prevalence and frequency of arrest provided accurate measures as well as for the timing of recent arrests.

variables for Asian and Other racial/ethnic groups are also included in order to be able to utilize the whole sample and still keep White as a reference group.

This research follows the lead of previous neighborhood studies (e.g. Sampson, Raudenbush, and Earls 1997) and used factor analysis to create a summary index to capture the *concentrated disadvantage in a neighborhood*; 1) proportion households receiving public assistance income in 1999, 2) proportion families with incomes less than $15K in 1999, 3) proportion 25 years and over with less than high school diploma, and 4) proportion households with female householder with own children under 18 in. The contribution of each item to the index was weighted by its factor loading score. Cronbach's alpha for the 4 items was 0.79.

Two variables were used to measure the racial composition in a neighborhood, *proportion Black residents*, and *proportion Hispanic non-White residents*. The relative size of minority (particularly Black) population in a geographical area is the most common variable used as an indicator of racial threat (Stolzenberg, et al., 2004). Unless otherwise states, all tract level measures refer to the year 2000.

Control variables

To isolate the impact of race/ethnicity and the structural context of the location on police intervention, I control for self-reported delinquency, violence, drug use as well as a measure of low self-control, age, and gender. On the neighborhood level, I control for population density, urban or rural setting and the average crime and violence in the neighborhood. The dependent variable used in the study is police intervention in adolescence (or before turning 21), thus all control variables were derived from Wave 1, or when possible by using the average score from Wave 1 and Wave 2.

Self-reported *delinquency* is measured with an average score of 8 survey items. The respondents were asked how often in the past 12 months they had done any of the following: 1) painted graffiti or signs on someone else's property or in a public place, 2) deliberately damaged property that didn't belong to them, 3) taken something from a store without paying for it, 4) driven a car without its owner's permission, 5) stolen something worth more than $50, 6) gone into a house or building to steal something, 7) sold marijuana or other drugs, 8) stolen something worth less than $50. The response categories ranged from 0 (never) to 3 (5 or more times). I use the average score from Wave 1 and Wave 2. Cronbach's alpha for the items was 0.79 in Wave 1, and 0.78 in Wave 2. As most adolescents do not commit crimes, the original measure was highly skewed (skewness = 2.68 and kurtosis = 9.78) and thus all analyses were conducted using the natural log of delinquency (after the log transformation: skewness = 0.65 and kurtosis = -0.43).

Likewise, self-reported *violence* is measured with the average score of 8 survey items, where participants were asked how often in the past 12 months they had done any of the following: 1) gotten into a physical fight, 2) hurt someone badly enough that he or she needed bandages or care from a doctor or a nurse, 3) use or threaten to use a weapon to get something from someone, 4) taken part in a fight where a group of your friends was against another group, 5) pulled a knife or gun on someone, 6) shot or stabbed someone, 7) carried a weapon, such as a gun, knife, or club-to school, 8) gotten into a serious physical fight. The average score from Wave 1 and Wave 2 is used, the Cronbach's alpha for the items in Wave 1 was 0.78 and 0.77 in Wave 2. I also use the log transformation of violence in all analyses below (raw score skewness = 2.87, kurtosis = 11.20, logged violence skewness = .889, kurtosis = -0.26) [8].

[8] A constant of 0.1 was added to all values before taking the natural log of the measure: ln(Delinquency + 0.1).

I use two measures for drug use. The average lifetime *marijuana use* is measured with the average score from Wave 1 and Wave 2, using the survey item "during your life, how many times have you used marijuana?". While about 90 percent of the sample had used marijuana fewer than 20 times, the answers ranged from 0 to over 900 times. After combining several of the answer (e.g. 21 to 50 times, 51 to 100 times, etc.), the measure was still positively skewed and thus I use the log transformation in all statistical analyses. Participants were also asked how many times they had ever used cocaine, tried inhalants (such as glue or solvents), or tried any other type of illegal drug ("such as LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, or pills without a doctor's prescription?"). Very few respondents had ever tried any of these illegal drugs and thus I created a dichotomous variable coded "1" for those who had used any of *other illegal drugs* and "0" if not.

According to Gottfredson and Hirschi (1990), effective parenting (monitoring and appropriately punishing misbehavior) in childhood installs self-control in individuals that will be stable throughout the lifetime. Adolescents with low self-control "will tend to be impulsive, insensitive, physical, risk-taking, short-sighted, and nonverbal" and thus they will not only be more likely to engage in crime but also more likely to attract the attention of authorities (p. 90).

Consequently, I control for low self-control. Similarly to previous studies (Beaver, Wright, DeLisi, and Vaughn, 2008), I created a factor score by using 21 survey items based on responses from both the participants themselves as well as from their parents, all survey items come from Wave 1. The items include questions about if the participants had problems with 1) getting along with other people (parents, teachers and other students), 2) with getting their homework finished, 3) keeping their mind focused, 4) with paying attention in school, 5) if they have a bad temper, 6) if they usually get out of their way to avoid having to deal with problems in life, 7) as well as several questions about their decision making processes. These

items have a relatively high Cronbach's alpha ($\alpha = 0.70$). A factor score was created with factor analysis (principal component analysis) where the contribution of each item to the index is weighted by its factor loading score. A factor score is standardized with a mean of approximately 0, and a standard deviation of approximately 1.

Additionally, I control for the respondent's biological sex with a dummy variable coded "1" for *males* and "0" for females, as well as the respondent's *age* at the time of Wave 1 interview. Young males may be at elevated risk of drawing the attention of the police.

I created a composite measure of *rates crime and violence* at the tract level from the home-interviews conducted at Waves 1 and 2. This was done to prevent using a potentially biased measure of official rates of crimes at the neighborhood level. One of my main hypotheses is that independent of actual crimes committed, minorities and people living in disadvantaged neighborhoods have a higher probability of being arrested by the police and thus be included in official statistics on crimes. I also control for *population density*-persons per square km, and if the neighborhood is in an *urban area.* Just over 60% of the neighborhoods in the sample are in an urban area. The measures for *proportion Black residents*, *proportion Hispanic non-white residents* and population density were all highly skewed, and thus I use the log transformation for those measures in all statistical analyses[9].

6.3. Measures Testing Hypotheses 4 through 8: The Long-Term Impact of Punitive Interventions.

Punitive interventions

The research examines punitive interventions by school authorities as well as by the police. In Waves 1 and 2 (when the sample was in 7th to 12th grade), respondents were asked

[9] A constant of 0.1 was added to all values before taking the natural log of the measure.

if they had ever been expelled or suspended in school. A combined measure of *school intervention* from both waves shows that about 31 percent of the sample had been either expelled or suspended. *Police intervention* is operationalized as having been taken into custody or arrested by the police before turning 19 years old (while still in high school). While being stopped by the police may influence youth's self-image and self-worth (Jones, 2014), the main intervening process being tested in the current research is educational and job opportunities (i.e. adult SES). Questions about police intervention were only included at Waves 3 and 4, but respondents were asked how old they were when this occurred and thus, I am able to include a measure of police intervention in adolescence or before participants turned 19 years old.

Dependent/intervening variables

There are three dependent variables tested in the current study (see models in figure 2). I combined 12 survey items on violent and non-violent offending from Wave 3 to create a measure of *early adult crime* (ages 18 through 26). The respondents were asked how often in the past 12 months they had done any of the following: 1) deliberately damaged property that didn't belong to them, 2) stolen something worth more than $50, 3) gone into a house or building to steal something, 4) used or threatened to use a weapon to get something from someone, 5) sold marijuana or other drugs, 6) stolen something worth less than $50, 7) taken part in a physical fight where a group of your friends was against another group, 8) bought, sold, or held stolen property, 9) used someone else´s credit card, bank card, or automatic teller card without their permission or knowledge, 10) deliberately written a bad check, 11) used a weapon in a fight, 12) carried a handgun at school or work. The response categories ranged from 0 (never) to 3 (5 or more times). Cronbach's alpha for the 12 items was 0.72.

As most young adults do not commit crimes, the measure was highly skewed (skewness = 5.5 and kurtosis = 44.5). About 73% of the sample responded "never" on all 12 survey items. Notwithstanding different kinds of transformations of the measure (e.g. logarithmic and square root transformation), the OLS assumption of normally distributed error term was not met. In line with previous research in criminology (e.g. Demuth and Brown, 2004; Kavish et al., 2016), a count variable[10] from the combined measure was created and analyzed using negative binomial regression to test the relationships (described in more details below).

In Wave 4 the participants were between 24 and 32 years old. At that time they received the same survey questions about criminal offending as in Wave 3 except instead of questions about using a weapon in a fight (item 11 above) and bringing a weapon to school (item 12 above) they were asked if they had 11) gotten into a serious physical fight, 12) hurt someone badly enough in a physical fight that he or she needed care from a doctor or a nurse, and 13) used their [favorite drug]. The response categories were the same, ranging from 0 (never) to 3 (5 or more times). Cronbach's alpha for the 13 items was 0.74. Just under 84% of the sample had not committed any of the criminal behavior in the previous 12 months when asked in Wave 4. A dichotomous variable was created for *adult crime* were those who answered "never" on all 13 survey items received a "0" and others received a "1".

Adult SES is both a dependent variable (in table 11) as well as an intervening variable (in table 12). The measure was created by combining household income, highest educational attainment and subjective poverty. All survey items come from Wave 4. Participants were asked, "what is the highest level of education that you have achieved to date?" Categories ranged from 1 (8^{th} grade) to 11 (completed a doctoral degree). To measure income, participants received the following questions "thinking about your income and the income of

[10] To create the count variable I used the following syntax: recode early.adult.crime (0=0) (0.01 thru 0.091 = 1) (0.092 thru 0.182 = 2) (0.183 thru 0.339 = 3) (0.34 thru hi = 4) into early.adult.crime.count.

everyone who lives in your household and contributes to the household budget, what was the total household income before taxes and deductions in {2006/2007/2008}? Include all sources of income, including non-legal sources". Categories ranged from 1 (less than $5,000) to 12 (150,000 or more).

Subjective poverty is measured with the summed score for six survey items. The respondents were asked if there was a time in the past 12 months that they or their household was 1) without phone services because you didn't have enough money, 2) didn't pay the full amount of the rent or mortgage because you didn't have enough money, 3) were evicted from your house or apartment for not paying the rent or mortgage, 4) didn't pay the full amount of a gas, electricity, or oil bill because you didn't have enough money, 5) had the service turned off by the gas or electric company, or the oil company wouldn't deliver, because payments were not made, and 6) worried whether food would run out before you would get money to buy more. Answer choices summed 0 no and yes 1. Subjected poverty was recoded so that a high value would convey low subjected poverty. The combined measure will increase the content validity of adult socioeconomic status by capturing education, objective income in dollars as well as the ability to run a standard household.

Controls/moderators

In the analyses in part 2, I control for number of characteristics that are theoretically related to the dependent variables (adult crime and adult SES). These control variables are in line with previous research testing labeling effects (e.g. Bernburg and Krohn, 2003; Chiricos et al, 2007; Lopes et al., 2012), delinquency, youth violent offending and drug use, low self-control, academic aptitude in high school, parental poverty, age, race/ethnicity, and gender.

Self-reported delinquency, violence, and drug use come from Waves 1 and 2 and are described in the section above. Low self-control, age, race/ethincity and gender measures

come from Wave 1 and are likewise described in the previous chapter. I use the average grades in English, Math, History, and Science in Waves 1 ($\alpha = 0.75$) and 2 ($\alpha = 0.74$) to measure *low grades* (lack of academic aptitude in high school). Public assistance is used as a proxy for *parental poverty*, the measure comes directly from interviews with the primary caretaker at Wave 1. The respondent's primary caretakers were asked 1) "are you receiving public assistance, such as welfare?", 2) "last month, did you or any member of your household receive supplemental security income (SSI)" 3) "food stamps?", 4) "unemployment or worker´s compensations?" and 5) "a housing subsidy or public housing?". If parents answered any of the five questions "yes" if they were coded "1" on the dichotomous variable for parental poverty. About 27% of the final sample has parents that received public assistance while they were in high school. Descriptive statistics for all measures are shown in table 8.

6.4. Statistical Strategy

6.4.1. Statistical Strategy: The contextual effects of Racial Profiling

The hypotheses involve a hierarchical structure; individuals are nested within neighborhoods. Appropriate multilevel models are used to test the hypotheses. These models handle data where the observations are not independent, correctly modeling error (because individuals are not randomly assigned to the neighborhood in which they live). Having uncorrelated errors is an important but often violated assumption of statistical procedures in general linear models, such as OLS. Violations occur when error terms are not independent but instead cluster by one or more grouping variables (Bryk and Raudenbush, 1992; Garson, 2013). The standard errors computed for prediction parameters will be wrong when there is some grouping in the data that is not accounted for (Garson, 2003).

Nonlinear Bernoulli models in STATA (melogit) were conducted to test the hypotheses. Bernoulli models are appropriate when the outcome is binomial, which at two-level models is similar to logistic regression at one level (Raudenbush, Bryk, Cheong, Congodon, and du Toit, 2004).

To test hypotheses 1 through 3, the analyses were conducted in several steps. *First*, an unconditional (intercept-only model): $\eta_{ij} = \gamma_{00} + u_{0j}$ was conducted for both dependent variables to determine if the mean rate of police intervention varied across neighborhoods. While the interclass correlation (ICC) is less formative for Bernoulli models than for hierarchal linear models, it does give an indication of the proportion of the overall variance in the dependent variable that can be explained by neighborhoods (level 2 units) (Raudenbush and Bryk, 2002: 298). The ICC is calculated with the following formula: $\rho = \tau_{00}/(\tau_{00} + \pi^2/3)$[11]. The ICC for police stops was 0.073, indicating that about 7.3 percent of the variance in police stops can be attributed to neighborhoods. The ICC for arrests was 0.079, and hence 7.9 percent of the variance in arrest can be explained by neighborhood.

Second, models with only individual level predictors was estimated allowing the intercept to vary randomly across neighborhoods (Model 1 in table 4 and table 6). Formally, the models for that estimation is represented in equation 2.

Equation 2 (estimated in Model 1, tables 3 and 6):

$$\eta_{ij} = \beta_{0j} + \beta_{1\text{-}4}\,(race) + \beta_5(crime) + \beta_6(violence) + \beta_7(marijuana\ use) + \beta_8(other\ illegal\ drug\ use) + \beta_9(low\ self\text{-}control) + \beta_{10}(male) + \beta_{11}(age) + u_{0j}$$

In the models, represented in equation 2, the effects of race on police intervention are estimated, net of other variables in the equation (problem behavior as well as gender and age)

[11] The individual-level variance in a standard logistic distribution is $\pi^2/3$ (Guo and Zhao, 2000: 451).

and standard errors that account for the similarities between individuals living in the same neighborhood. The intercept is allowed to vary across neighborhoods in Model 1, but all coefficients are assumed to be fixed.

Third, in Model 2 (estimating the effects of proportion Black residents) and 4 (estimating proportion Hispanic residents) (in table 4 and table 6) the effects of the neighborhood context on police interventions are explored. Thus, the model estimates the effects of the neighborhood characteristics on the intercept from the model in equation 2. The model for the intercept is shown in equation 3:

Equation 3 (estimated in Model 2, tables 4 and 6):

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\textit{concentrated disadvantage}) + \gamma_{02}(\textit{proportion Black/Hispanic}) + \gamma_{03}(\textit{population density}) + \gamma_{04}(\textit{urban}) + \gamma_{05}(\textit{average self-reported crime and delinquency}) + u_{0j}$$

In Models 3 and 5 (table 4 and 6), the curvilinear relationship between the relative size of the minority population and police interventions is tested. Models 3 and 4 are thus the same as in equation 3 but with an additional quadric term in which the percept Black/Hispanic is squared[12].

In these models I am testing the proposition that the police are more likely to stop and arrest residents who live in a neighborhood with high minority population, but that the probability decreases as the minority population eclipses the size of the white population (Blalock, 1967; Stolzenberg et al., 2004). If the curve of the relationship between the relative size of the Black/Hispanic population and police interventions is in fact curvilinear (and concave), the

[12] In the models testing the curvilinear relationships, I use the original (not using the log transformation) variable for percent Black/Hispanic population.

coefficient for proportion black/Hispanic should be positive but the squared term should be negative.

The *final* step of the analyses is testing the cross-level interaction between minority status (Black and Hispanic) and both concentrated disadvantage and the racial composition in the neighborhood. The results from this step is shown in tables 5 and 7. In addition to the same level 1 equation (equation 4) above, the following addition is made to the level 2 equation:

Level 2 equation for cross-level interaction:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\textit{concentrated disadvantage}) + \gamma_{02}(\textit{proportion Black/Hispanic}) + \gamma_{03}(\textit{population density}) + \gamma_{04}(\textit{urban}) + \gamma_{05}(\textit{average self-reported crime and delinquency}) + u_{0j}$$

$$\beta_{1\text{-}Black\,j} = \gamma_{10j} + \gamma_{01}(\textit{concentrated disadvantage}) + \gamma_{02}(\textit{proportion Black}) + u_{1j}$$

$$\beta_{2\text{-}Hispanic\,j} = \gamma_{20j} + \gamma_{01}(\textit{concentrated disadvantage}) + \gamma_{02}(\textit{proportion Hispanic}) + u_{2j}$$

All models are estimated with the default-unit specific model and robust standard errors. Robust standard errors have the advantage of being consistent even if some of the model's assumptions are violated. In the below models the two sets of standard errors did not differ substantially which is and indicator that the assumptions are met (Raudenbush & Bryk, 2004).

All continues variables at both the individual and neighborhood level are grand mean centered. While grand mean centering is the most common form of centering variables in multilevel models (Garson, 2013: 38), centering individual level variables around the group mean (using the mean within each neighborhood instead of using the overall mean) can sometimes be useful. In the current study, main individual level variables of interests

(race/ethnicity) are however dichotomous dummy variables that are not centered. Thus, the continues variables that are used as controls at level 1 are grand mean centered.

Participants for the Wave 1 in-home survey were selected from enrollment rosters of the 132 schools that participated in the survey with unequal probability of selection. Several groups were also over-sampled for participation in the first Wave, most relevant for the current study is an over-sample of Black adolescents whose parents were college graduates (see Chen and Chantala, 2014). Thus, any study using the Add Health data and examining racial differences in any factor that is related to socioeconomic status will produce biased estimates unless the research uses appropriate weight components. All analyses below use the appropriate individual level weights.

The efficiency and power of multilevel tests rests not only on the total sample size, but also on the number of level 2 clusters (i.e. neighborhoods/tracts) and the number of individuals within each cluster. The Add Health sample had respondents living in 37 states, 267 counties and 2,449 tracts. The majority of the tracts, however, had only 1 respondent. In general, studies have showed that with increased number of clusters, fewer observations within each cluster is needed (Cheung and Au, 2005; Maas and Hox, 2005). Specifically, a study by Kreft (1996) found that when studies use over 150 clusters, 5 observations (i.e. individuals) within cluster is enough for adequate statistical power. But as Hox (1998) points out when the focus is on cross-level interactions, or other random effects, 10 observations per group may be needed (when using a large level 2 sample) for accurate estimates and their standard errors. In the current study, 1,848 individuals were omitted because they live in a tract with fewer than 10 individuals. Individuals who did not have a valid case on the outcome or the weight variable were also excluded from the analysis[13].

[13] Results based on additional analysis were these individuals were not omitted are essentially the same as the results reported below.

Multiple imputation techniques were used for all independent variables used in the analyses. The measure for low self-control had almost 17% missing cases, but all other variables had under 5%. After examining missing values in SPSS, it was concluded that cases on the low self-control measure were missing at random, and therefore multiple imputations is appropriate. Even when the missing at random assumption is violated, imputations are still as good as listwise deletion (Garson, 2015). The final sample size in the models examining police stops is 10,612 individuals living in 368 neighborhoods, and for the models examining arrests 12,450 individuals in 368 neighborhoods.

6.4.2. Statistical Strategy: Testing the Long-Term Impact of Punitive Interventions.

The analysis plan for part 2 is guided by hypotheses 4 through 8. Different analytical strategy is used in tables 10 through 12 depending on the outcome variable. The model presented in figure 2 implies that the impact of punitive interventions in adolescence is associated with subsequent early adult crime as well as adult SES and adult crime. Further, it is hypothesized that a part of the impact of punitive interventions on adult crime is mediated by adult SES. Hypotheses 4 through 8 are tested in several steps.

The first step tests hypothesize 4a and thus examines if punitive interventions are related to early adult crime (Model 1, in Table 10), when participants were aged 18 through 26 years old. Early adult crime is continuous but highly skewed and with high number of zeros. A count variable was created from the continuous outcome where those receiving a score above zero were divided into somewhat equal groups, resulting in a variable with a minimum of 0 and a maximum of 4. The unconditional mean of early adult crime is 0.57 with a much larger variance (st. dev. = 1.14), Negative binomial regression is therefore the appropriate method (Gardner, Mulvey and Shaw, 1995; Hilbe, 2011) to estimate the models in Table 10.

The form of the model equation for Negative binomial regression is the same as that for Poisson regression but has an additional parameter to model the over-dispersion. If the conditional distribution of the outcome variable is over-dispersed, the confidence intervals from Negative binomial regression are likely to be narrower compared to those from a Poisson regression model (Hilbe, 2011). The log of the outcome is predicted with a linear combination of the predictors. This statistical strategy is in line with previous research in criminology (Demuth and Brown, 2004; Kavish, et al., 2016; Dennison, 2019). The models in table 10 were estimated using the Genlin function in SPSS.

The second step examines if punitive interventions are related to adult SES (Model 1, in Table 11) and consequently testing hypothesis 4c. The models in table 11 are estimated using Ordinary Least Square (OLS) regression. All models in Table 11 met the assumptions of OLS regression (e.g. with a normally distributed residuals). In Table 12 (*step 3*) the impact of punitive interventions on adult crime is examined (testing hypothesis 4b). In table 12 the outcome measures criminal and violent behavior when participants were between 24 and 32 years old. Just under 84% of the sample had a zero on that measure (had not committed any criminal or violence offense in the previous 12 months) and thus a dichotomous variable was created for adult offending and Logistic regression used to estimate the models in table 12.

In step four, the impact of adult SES on adult crime, while controlling for punitive interventions, is examined (Model 2, in Table 12). *Finally*, the drop in the coefficients for the relationship between punitive intervention and adult crime when controlling for adult SES is examined (Model 2, in Table 12). Furthermore, Sobel´s test of the significance of indirect effects of punitive intervention on adult crime via adult SES was used. The exact formula for the standard errors of the indirect effects is: $SQRT\ (Z^2S_x^2 + X^2S_z^2 + S_x^2S_z^2)$, where X is the unstandardized effect of the independent variable (punitive intervention) on the mediator

(adult SES) and *Z* the effect of the mediator on the dependent variable (adult crime) (Baron and Kenny, 1986).

7. RESULTS

7.1. Results: Contextual Effects of Racial Profiling

Table 2 presents descriptive statistics for all measures used in the analyses of the contextual effects of racial profiling. The table shows that before turning 21, 16 percent of the sample had been stopped for questioning by the police at least once. Before the age 21, 17 percent of the sample had experienced being arrested or taken into custody by the police. It may seem counterintuitive that a higher percentage of participants had experienced being arrested by the police than being stopped for questioning. The measure for police stops comes from Wave 3 only, when some respondents had not reached 21. The arrest measure is derived from Wave 3 as well as from Wave 4 when the youngest respondents were 24 years old. Thus, fewer respondents will have had the chance of experiencing police stops by Wave 3 than arrest by wave 4 because of a younger age in wave 3. Ideally the two outcomes would come from the same waves but Add Health did not include survey questions about police stops in wave 4. This difference will, however, not bias any of the relationships being tested.

Table 2 shows that the racial composition of the weighted sample resembles the racial composition in the population of the nation, although a somewhat higher percentage of the sample is identified as being Black than in the population and somewhat lower as Hispanic[14].

[14] An analysis of several time stable demographic variables in the unweighted data at different waves revealed that attrition rates were different for different groups. At wave 1, females were 50.5% of the total sample, but 52.8% at Wave 3 and 53.2% at Wave 4. At Wave 1, 61.5% of the sample identified as being White but that group had increased to 66.3% by Wave 3. The proportion of the sample that identified as being either Black or Hispanic only decreased by 0.25% and 0.69% respectively. Respondents were not asked about race in Wave 4, but the interviewer observation measures showed that at Wave 1 62.1% of the sample was White at Wave 1 but 69.7% at Wave 4. The interviewers did, however, identify the same proportion of the sample as being African American at Waves 1 and 4 (23%). Proportion of the sample not born a US citizen had decreased by 2 percentage points from Wave 1 to Wave 4. As has been discussed before, after including sampling weight biases due to attrition are small and the samples at subsequent wave adequately represents the same population as in Wave 1 (Harris, 2013; Chantala, Kalsbeek and Andraca, 2005).

Most of the individuals who are categorized as being in other racial groups, were identified as Native Americans, but some of them were marked as unknown to the interviewer. Age is used as a control variable in all models below. At the time of Wave 1 the average age of the sample was just over 16. By Wave 3 and Wave 4 (when police intervention is measured), the sample had however reached the age 18 to 26 and 24 to 32, respectively. There is considerable variation in the types of neighborhoods that the participants lived in in their adolescence, some in extremely disadvantaged neighborhoods others in very well-off neighborhoods (the factor score ranges from -1.27 to 3.99). Some participants lived in almost all Black neighborhoods or all Hispanic neighborhoods, while others lived in neighborhood that had no Black resident according to the Census information.

Table 2. Descriptive Statistics (weighted sample)

		Mean	St. Dev.	Min	Max
Individual-Level N=10.612-12.450	Early Police Stop (before 21)	.16	.37	0	1
	Early Arrest (before 21)	.17	.38	0	1
	White (reference group)	.73	.57	0	1
	Black	.15	.38	0	1
	Hispanic (non-white)	.06	.25	0	1
	Asian American	.05	.22	0	1
	Other Racial Groups	.01	.11	0	1
	Delinquency (ln)	-1.47	.77	-2.30	1.13
	Delinquency	.22	.31	.00	3.00
	Violence (ln)	-1.65	.76	-2.30	1.05
	Violence (raw score)	.17	.29	.00	2.75
	Low Self-Control (factor score)	.02	1.02	-3.02	5.60
	Marijuana Use (ln)	-.96	1.92	-2.30	2.57
	Marijuana Use (raw score)	2.34	4.19	.00	13.00
	Other Ill. Drug Use	.11	.32	0	1
	Male	.51	.45	0	1
	Age	16.20	1.70	12.00	21.00
Neighborhood-Level N = 368	Conc. Disadvantage (factor score)	-.08	.94	-1.27	3.99
	Proportion Black (ln)	-1.70	.68	-2.30	.08
	Proportion Black (raw score)	.14	.23	.00	.99
	Proportion Hispanic (ln)	-1.76	.65	-2.30	.06
	Proportion Hispanic (raw score)	.12	.22	.00	.96
	Population Density (ln)	-.19	1.35	-2.28	3.31
	Population Density (raw score)	1.69	2.40	.00	27.35
	Urban Area	.61	.47	0	1
	Average Crime and Violence	.38	.14	.05	.94

Correlation matrix for neighborhood level variables is shown in Table 3, but also including proportion White. The table shows that concentrated disadvantage has a strong negative association with the relative size of the White population in the neighborhood and a strong positive association with the relative size of the Black population. These bivariate correlations support what has previously been noted about race being related to the concentration of poverty and other disadvantage in the neighborhood (Krisberg, 2005; Sampson and Laub, 1993b). The relative size of the Hispanic population has a positive bivariate association with concentrated disadvantage, but the relationship is substantially weaker than the one with proportion Black. The aggregated measure of self-reported youth crime and violence is not significantly related to concentrated disadvantage but has a negative correlation with proportion White and a positive relationship with proportion Black. Majority Black neighborhoods tend to have higher levels of population density than majority White neighborhoods.

Table 3. Correlation Matrix for Neighborhood Level Variables

N = 368	1	2	3	4	5	6
1. Conc. Disadvantage (fc)	1					
2. Proportion White (ln)	-.54**	1				
3. Proportion Black (ln)	.59**	-.78**	1			
4. Proportion Hispanic (ln)	.18**	-.13*	.06	1		
5. Population Density (ln)	.14**	-.26**	.13*	.53**	1	
6. Average Crime and Violence	.04	-.13*	.14**	.10^{+}	.26**	1

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

In Table 4, I turn to the multilevel logistic regression analyses estimating having experienced being stopped by the police. The exponentiated coefficients are provided in the table to ease interpretation of results. The first model, in Table 4, includes only the individual level characteristics, allowing the intercept to vary randomly by neighborhoods. The results in Model 1 show that race/ethnicity is not significantly related to the probability of being

stopped by the police, after controlling for deviant behavior, low self-control, age and gender. In contrast to hypothesis 1c, the coefficient for Hispanics youth is negative (the exp(b) is larger than 1), indicating that these minorities are less likely than White individuals to be stopped by the police. But again, this difference is not statistically significant. All of the control variables are related to the risk of being stopped by the police in the expected direction. For example, those who reported having used any illegal drugs (other than Marijuana) in the last 12 months in Waves 1 or 2, are about 68 percent (OR = 1.676**) more likely to have been stopped by the police than adolescents who did not report illegal drug use. The greatest difference is between males and females. Male's odds of being stopped by the police are 4 times the odds of females (OR = 4.047***).

In Model 2, the variables for neighborhood characteristics have been added to the model. In contrast to the proposed hypotheses (H2a & H2c), none of these variables are significantly associated with the risk of being stopped for questioning by the police. The individual level relationships did not change when neighborhood characteristics were added to the model. Although not formally put forth in the hypotheses, the next step was to examine if the relationship between proportion Black residents and police stops is curvilinear. According to Blalock's (1967) racial threat theory, the relative size of the minority population in an area should be associated with increased formal social control mechanisms, but only up to a certain point. When minorities become the majority of residents in the neighborhood, the relationship is expected to become negative because of benign neglect (Liska and Chamlin, 1984).

Thus, in Model 3 (in Table 4), I introduce the squared term for proportion Black residents. Again, in contrast to expectations, the coefficient for proportion Black is negative (the exp(b) is smaller than 1) and its squared term is positive (the exp(b) is larger than 1) indicating a U-shaped relationship. Both coefficients, however, only reach significance with a 90% confidence level. Although the findings in Model 3 do not support the proposition of

benign neglect, they are consistent with recent study focusing on intake, adjudication and disposition[15] (Leiber et al., 2016).

Models 4 and 5 are identical to Models 3 and 4 but instead of proportion Black residents, Model 4 includes a variable for proportion Hispanic (logged) and Model 5 for the proportion Hispanic (raw score) and a variable for its square. Neither of these two variables are significantly related to the probability of being stopped by the police. Consequently, Hypothesis 2f is not supported. Other relationships remain relatively stable across all models in Table 4. The coefficients for the neighborhood level control variables are insignificant in all models.

In table 5, the hypothesized (H3) cross-level interactions are tested. None of the cross-level interactions in table 5 reach statistical significance. The exponential of the coefficient for Black by proportion Black is above 1, indicating that the difference of the probability of being stopped by the police for Black youth compared to White is greater as the relative size of the Black population increases. This result is opposite to the hypothesized "race out of place" effects (H3c), but again the cross-level interaction is not significant.

[15] Leiber et al (2016) examined almost an identical model to the one in the current study (using both %Black and % Black^2 and HGLM) but different outcomes.

Table 4. Hierarchical Binomial Regression of Early Police Stops (Random-Intercept Models)

Neighborhood-Level N= 10.612	Model 1	Model 2	Model 3	Model 4	Model 5
	Exp(b)	Exp(b)	Exp(b)	Exp(b)	Exp(b)
Black	1.090	1.117	1.111	1.098	1.098
Hispanic	0.933	0.935	0.935	0.938	0.938
Asian	0.855	0.855	0.856	0.857	0.857
Other	1.162	1.172	1.171	1.169	1.169
Delinquency (ln)	1.524***	1.523***	1.523***	1.524***	1.524***
Violence (ln)	1.294***	1.294***	1.294***	1.294***	1.294***
Marijuana Use (ln)	1.164***	1.164***	1.164***	1.164***	1.164***
Other Ill. Drug Use	1.676**	1.675**	1.675**	1.675**	1.675**
Low Self-Control	1.102+	1.101+	1.101+	1.101+	1.101+
Male	4.047***	4.050***	4.050***	4.049***	4.049***
Age	0.724***	0.724***	0.724***	0.724***	0.724***
Neighborhood-Level N= 368					
Conc. Disadvantage		0.987	0.961	0.931	0.930
Proportion Black (ln)		0.847	0.186+	---	---
Proportion Black^2		---	6.398+	---	---
Proportion Hispanic (ln)		---	---	0.904	0.568
Proportion Hispanic^2		---	---		1.499
Population Density (ln)		0.944	0.937	0.966	0.963
Urban Area		1.086	1.089	1.084	1084
Average Crime & Violence		2.555	2730	2.125	2.138
Intercept γ_{00}	29.02***	21.014***	29.757***	22.669***	28.369***
Random Effects (variance component)					
μ_0(SE)	1.17(0.15)	1.16(0.15)	1.15(0.15)	1.16(0.15)	1.16(0.15)
χ^2	549.38***	553.15***	552.47***	553.33***	552.91***

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 5. HGLM Logistic Regression Predicting Police Stops-Cross Level Interactions

	Model 1	Model 2
	Exp(b)	Exp(b)
Black by Conc. Disadvantage	0.949	---
Black by Proportion Black	1.175	---
Hispanic by Conc. Disadvantage	--	0.855
Hispanic by Proportion Hispanic	--	0.828

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10
The models in table 5 control for all variables shown in table 4.

Tables 6 and 7 are identical to previous tables except the outcome is having been arrested by the police. The first model in Table 6 shows that, at the grand mean of other explanatory variables, being Black has a statistically discernible effect on the likelihood of

arrest (OR = 1.515**) offering support for Hypothesis 1b. The difference between the probability of arrest for Hispanic and White is not statistically significant. While this finding is opposite to Hypothesis 1d, it is consistent with recent research (Anderson, 2015; Case et al., 2016). Asian youth are significantly less likely to have been arrested than White youth (OR = 0.540*). The impact of other variables in the model are in line with expectations.

In Model 2 (Table 6), the neighborhood level variables have been added to the equation. After controlling for individual characteristics, as well as population density, if the neighborhood is in an urban area and the aggregate measure of youth crime and violence, neither the coefficients for concentrated disadvantage nor proportion Black reach significance. The bivariate correlation between the measures for concentrated disadvantage and the relative size of the Black population is strong (r = 0.59**). In a model omitting proportion Black, the coefficient for concentrated disadvantage is significant (OR = 1.138* in Model 4), but not the coefficient for proportion Black when concentrated disadvantage is omitted (results not shown in table)[16].

Thus, the results in Model 2 suggest that after accounting for the race/ethnicity and the behavior of the individual involved, the proportion of Black residence in the neighborhood has does not impact the probability of arrest. Hence, Hypothesis 2d is not supported. In Model 3, a non-linear relationship between proportion Black and arrest is examined. The coefficient for the squared term for proportion Black residents is negative, but not significant (OR = 0.363). The coefficient is in the direction expected, as a negative coefficient suggests a concave relationship between proportion Black and arrest (beginning as a positive relationship but becoming negative as the values on the independent variable increases).

Table 6 also reports the impact of proportion Hispanic residents on the probability of having been arrested. Model 4 shows that the relative size of the Hispanic population in the

[16] In a model without individual covariates, proportion Black residents significantly increases the probability of arrest.

neighborhood does not significantly impact arrest (thus not supporting Hypothesis 2f). Further, as was observed in previous model, the coefficient for squared term of proportion Hispanic is only significant at the 90% confidence level. The coefficient for proportion Hispanic squared is also negative, indicating a concave relationship (OR = 0.140^{+})[17] [18].

Finally, in Table 7 cross-level interactions are analyzed to test if the difference in the probability of arrest is contingent on neighborhood concentrated disadvantage or the relative size of minority population. None of the cross-level interactions in Table 7 are significant. But the direction of the coefficient for Black by proportion Black, do indicate that the relative risk of arrest for Black youth compared to White is particularly high in majority White neighborhoods. The findings in Table 7 are thus consistent with the "race out of place" hypothesis (H3f). Summary of findings are presented at the end of this chapter.

[17] As social control mechanisms are theorized to increase with the relative size of minority population, I ran additional models with proportion White population instead of proportion Black and proportion Hispanic (thus combining the relative size of all minority racial or ethnic groups). The findings from these models were substantially same as models presented in tables 4 through 9.

[18] I ran additional three level models with individuals, clustered in 362 tracts that were clustered in 67 counties. An unconditional model revealed that the proportion of variance in police interventions that could be attributed to counties was small, or 1.6 percent for police stops ($P < .05$) and 1.8 percent for arrests ($P < .01$). Neither the neighborhood racial composition nor concentrated disadvantage varied randomly across counties (i.e. the effects of these characteristics are not different in different counties). I also ran the models above but additionally including unemployment rates, income inequality, racial composition and official violent arrest rates at the county level but none of those variables at the county level were significantly associated with police interventions. The rational for these additional models is the proposition that economic stratification and competition for scarce economic resources (or jobs) will increase the amount of social control imposed on blacks (Blalock, 1967).

Table 6. Hierarchical Binomial Regression of Early Arrest (Random-Intercept Models)

Neighborhood-Level N= 12.450	Model 1	Model 2	Model 3	Model 4	Model 5
	Exp(b)	Exp(b)	Exp(b)	Exp(b)	Exp(b)
Black	1.515**	1.500**	1.502**	1.502**	1.495**
Hispanic	0.911	0.913	0.913	0.913	0.910
Asian	0.540*	0.541*	0.541*	0.541*	0.537*
Other	0.924	0.924	0.925	0.924	0.920
Delinquency (ln)	1.389***	1.390***	1.390***	1.390***	1.391***
Violence (ln)	1.480***	1.477***	1.477***	1.477***	1.477***
Marijuana Use (ln)	1.278***	1.277***	1.277***	1.277***	1.277***
Other Ill. Drug Use	1.349+	1.348+	1.348+	1.348+	1.348+
Low Self-Control	1.107*	1.107*	1.107*	1.107*	1.107*
Male	4.000***	4.002***	4.002***	4.002***	4.001***
Age	0.838***	0.838***	0.838***	0.838***	0.838***
Neighborhood-Level N= 368					
Conc. Disadvantage		1.130	1.144+	1.138*	1.168*
Proportion Black (ln)		1.020	2.074	---	---
Proportion Black^2		---	0.363	---	---
Proportion Hispanic (ln)		---	---	1.003	3.711
Proportion Hispanic^2		---	---		0.140+
Population Density (ln)		0.855+	0.859+	0.854+	0.857+
Urban Area		1.112	1.109	1.112	1.109
Average Crime & Violence		10.142**	9.559**	10.342**	7.244*
Intercept γ_{00}	3.656**	3.679**	3.212**	3.319*	3.215**
Random Effects (variance component)					
μ_0(SE)	0.950(.112)	0.930(.107)	0.923(.107)	0.930(.108)	0.914(.104)
χ^2	642.28***	673.04***	676.56***	672.18***	673.10***

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 7. HGLM Logistic Regression Predicting Arrest-Cross Level Interactions

	Model 1	Model 2
	Exp(b)	Exp(b)
Black by Conc. Disadvantage	1.033	---
Black by Proportion Black	0.868	---
Hispanic by Conc. Disadvantage	--	1.028
Hispanic by Proportion Hispanic	--	1.126

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10
The models in table 5 control for all variables shown in table 6.

7.2. Results: The Long-Term Impact of Punitive Interventions.

Table 8 shows descriptive statistics for all variables in the analyses testing the hypotheses shown in figure 2. The mean for the dichotomous variables in the table are group proportions. Approximately 9% of the sample had been arrested by the police before turning 19 years old and 31% were either expelled or suspended from high school. Several measures needed to be logged due to skewness and Table 8 shows statistics for both the raw and the transformed measures. Table 9 shows a correlation matrix for the main continuous variables used in the tables below. Early adult crime is associated with previous problem behavior in the direction expected.

Table 8. Descriptive statistics (weighted sample)

N = 12.013-14.531		Mean	St. Dev.	Min	Max
Punitive interventions	By police (arrested before 19)	0.09	0.28	0	1
	By school authorities (expelled/suspended from high school)	0.31	0.46	0	1
Dependent /intervening variables	Early adult crime (W3)	0.57	1.14	0	4
	Adult crime (W4)	0.16	0.37	0	1
	Adult SES (W4)	6.74	1.45	1.33	13.00
Controls/moderators	Delinquency (ln) (W1 & W2)	-1.47	0.77	-2.30	1.13
	Delinquency (raw score)	0.22	0.31	0	3.00
	Violence (ln) (W1&W2)	-1.65	0.76	-2.30	1.05
	Violence (raw score)	0.17	0.29	0	2.75
	Marijuana Use (ln) (W1 & W2)	-1.84	1.84	-2.30	2.57
	Marijuana Use (raw score)	2.34	4.19	0	13.00
	Other Ill. Drug Use (W1 & W2)	0.11	0.32	0	1
	Low Self-Control (factor score) (W1)	0.02	1.02	-3.02	5.60
	Low Grades in High school (W1 & W2)	2.25	0.78	1	4
	White (reference group)	0.57	0.46	0	1
	Black	0.17	0.38	0	1
	Hispanic	0.18	0.49		
	Other	0.08	0.34	0	1
	Parental poverty (on welfare) (W1)	0.27	0.44	0	1
	Male	0.51	0.45	0	1
	Age (W1)	16.20	1.70	12.00	21.00

Table 9. Correlation Matrix for selected Continuous Variables

N = 12.013-14.531	1	2	3	4	5	6	7
1. Early adult crime (W3)	1						
2. Adult SES (W4)	-.05**	1					
3. Delinquency (ln) (W1&W2)	.28**	-.06**	1				
4. Violence (ln) (W1&W2)	.23**	-.24*	.50**	1			
5. Marijuana Use (ln) (W1&W2)	.13**	-.26**	.39**	.29**	1		
6. Low Self-Control (W1)	.12**	-.13**	.40**	.26**	.26**	1	
7. Low Grades in HS (W1&W2)	.07**	-.42**	.21**	.30**	.20**	.28**	1

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

In Table 10 results from a negative binomial regression predicting early adult crime is presented. Exponentiated coefficients are provided in the table to ease interpretation of results. Specifically, the proposition that punitive interventions in adolescence (i.e. early labeling) increases the probability of early adult crime is tested (hypothesis 4a, in figure 2) and that the relationship between punitive interventions and subsequent criminal behavior is contingent on gender and race (hypothesis 6, in figure 2).

As predicted, both types of punitive interventions in adolescence significantly and independently increase the odds of later early adult offending, net of other variables in the model. Experiencing police intervention has a stronger impact on early adult crime (exp(b) = 1.520***) than experiencing school intervention (exp(b) = 1.128***). Police intervention in adolescence is associated with about 52% increase in the early adult crime score. In line with expectation, Model 1 also shows that self-reported delinquency and violence are significantly associated with later offending. Neither marijuana nor other drug use in adolescence is significantly associated with early adult crime. Low self-control is not significantly associated with early adult crime. Having received low grades in high school (Waves 1 and 2) is surprisingly associated with *decreased* odds of early adult crime[19].

[19] As can be seen in Table 9, a bivariate correlation between these two measures is positive and significant.

The largest exponentiated coefficient in Model 1 is for biological sex, males being much more likely than females to have committed crime in early adulthood (exp(b) = 2.299***). Black individuals got a significantly higher score on the early adult crime measure than the reference group (Whites) (exp(b) = 1.216***), but Hispanic participants got a lower score (exp(b) = 0.909*). The difference between White and other racial groups (e.g. Asians) is not statistically significant.

In Model 2, in Table 10, an interaction term for biological sex and police intervention has been added to the equation. The coefficient for the interaction term is not statistically significant. This result indicates that the impact of having experienced police intervention in adolescence is similar for males and females. The interaction term for sex and school intervention is, however, significant (in Model 3). The exponentiated coefficient for the moderation effect is below zero (0.819*) which suggests that having been expelled or suspended from school has a stronger association with early adult crime for young women than it does for young men[20].

In Models 4 and 5, the interaction between race/ethnicity and punitive interventions is examined. None of the interaction terms for police intervention and race/ethnicity (being Black, Hispanic or other racial/ethnic group compared to White individuals) are statistically significant. Offering support for hypothesis 6, the interaction terms for Black and school intervention as well as for Hispanic and school intervention are, however, significant.

The results in Model 5 (Table 10), indicate that the impact of school intervention on subsequent early adult crime is significantly stronger for both Black and Hispanic individuals than for White. In sum, the results in Table 10 partially support the hypotheses. Experiencing punitive intervention in adolescence predicts subsequent criminal behavior in early adulthood.

[20] When model 1 in table 10 is examined separately for males and females (in a split file), the coefficient for school intervention is statistically significant for both. The exponential coefficient for the effects of school intervention on early adult crime is 1.088* for males and 1.216** for females.

The impact of police intervention is, however, not contingent on gender or race/ethnicity. The impact of school intervention on early adult crime is stronger for females than for males, and for Black individuals and those with a Hispanic background than it is for White young adults.

Table 10. Negative Binomial Regression predicting Early Adult Crime (18-26 years old)

N= 14,531	Model 1	Model 2	Model 3	Model 4	Model 5
	Exp(b)	Exp(b)	Exp(b)	Exp(b)	Exp(b)
Police intervention	1.520***	1.612***	1.529***	1.715***	1.510***
School intervention	1.128***	1.128**	1.301***	1.128**	1.358***
Controls					
Youth Delinq. (ln)	1.526***	1.525***	1.522***	1.529***	1.525***
Youth Violence (ln)	1.070***	1.070***	1.068**	1.068**	1.070***
Youth Marij. Use (ln)	1.001	1.000	1.001	1.002	1.001
Youth Ill. Drug Use	1.104	1.105	1.099	1.102	1.139*
Low Self-control	1.029	1.029	1.029	1.031	1.031
Low Grades in HS	0.948*	0.948*	0.948*	0.947**	0.958*
Parental poverty	0.942	0.942	0.941	0.942	0.937
Male	2.299***	2.314***	2.454***	2.299***	2.312***
Age	0.875***	0.875***	0.876***	0.875***	0.875***
Black	1.216***	1.216***	1.220***	1.225***	1.168****
Hispanic	0.909*	0.909*	0.910*	0.906*	0.806***
Other	1.148	1.145	1.153*	1.144	1.213*
Interactions					
Male*Police intervention		0.930			
Male*School intervention			0.814**		
Black*Police intervention				1.140	
Hispanic*Police intervention				1.250	
Other*Police intervention				1.243	
Black*School intervention					1.424***
Hispanic*School intervention					1.385***
Other*School intervention					1.250
χ^2	2843.307***	2843.744***	2852.926***	2847.391***	2869.198***

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10
Exp(b)=Odds Ratio.

Hypothesis 4c is tested in Model 1 in Table 11. In other words, I examine whether punitive interventions in adolescence affects socioeconomic status in adulthood (adult SES). The results of the OLS regression support the hypothesis. Both interventions by the police and by school authorities are significantly associated with decreased adult SES. The unstandardized coefficient for school intervention (b = -0.331***) is substantially larger than for police intervention (b = -0.101*). This finding indicates that, after accounting for early

problem behavior, the impact of having been expelled or suspended from school is more detrimental on future SES than having been arrested by the police. The effects are however not strong. The range for adult SES is 11.67. The average score on adult SES is only 0.331 lower for individuals who experienced school interventions than for those who did not, and the mean difference is only 0.101 for arrestees and for those who were not arrested by the police in adolescence.

Not all the control variables in Table 11 are in line with expectations. Specifically, youth delinquency is positively associated with adult SES (b = 0.155***)[21] and youth drug use and low self-control are not significantly associated with adult SES. Low grades in high school and parental poverty are however associated with the adult SES in the direction expected. Black individuals have a significantly lower adult SES than White (b = -0,190***), and other racial groups a significantly higher adult SES than the reference group (b = 0.238*). The difference between the adult SES of Hispanics and Whites is small and not statistically significant.

In Models 2 through 5 (Table 11), hypothesis 8 is tested. Neither the interaction term for biological sex and police intervention, nor sex and school intervention are statistically significant. The results in Model 2 and Model 3 do not support the hypotheses. Similarly, the findings in Model 3 indicate that having experienced police intervention in adolescence has a similar (or not statistically different) impact on Black and White individuals.

[21] A bivariate correlation between youth delinquency and adult SES is negative and significant. The results in model 1 (table 11), that youth delinquency is positively related to adult SES is consistent with previous research using the same data (Kavish et al., 2016).

Table 11. OLS Regression predicting Adult SES (26-32 years old)

N= 13,844	Model 1	Model 2	Model 3	Model 4	Model 5
	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)
Police intervention	-0.103(.039)**	-0.111(.077)**	-0.103(.039)**	-0.150(.049)**	-0.108(.039)**
School intervention	-0.330(.027)***	-0.330(.027)***	-0.354(.039)***	-0.331(.027)***	-0.258(.047)***
Controls					
Youth Delinq. (ln)	0.152(.014)***	0.155(.014)***	0.156(.014)***	0.152(.014)***	0.154(.014)***
Youth Violence (ln)	-0.229(.013)***	-0.229(.013)***	-0.229(.013)***	-0.229(.013)***	-0.229(.032)***
Youth Marij. Use (ln)	0.010(.007)*	0.009(.007)	0.009(.007)	0.009(.007)	0.008(.007)
Youth Ill. Drug Use	0.089(.046)*	0.099(.046)	0.088(.046)	0.092(.046)*	0.082(.046)
Low Self-control	-0.015(.012)	-0.019(.012)	-0.019(.012)	-0.015(.012)	-0.018(.012)
Low Grades in HS	-0.606(.015)***	-0.608(.015)***	-0.608(.015)***	-0.609(.015)***	-0.611(.015)***
Parental poverty	-0.561(.025)***	-0.557(.025)***	-0.556(.025)***	-0.558(.025)***	-0.556(.025)***
Male	0.188(.022)***	0.188(.023)***	0.177(.064)***	0.186(.022)***	0.187(.022)***
Age	0.048(.007)***	0.048(.007)***	0.047(.057)***	0.049(.007)***	0.048(.007)***
Black	-0.159(.031)***	-0.190(.037)***	-0.190(.037)***	-0.184(.039)***	-0.203(.037)***
Hispanic	0.031(.030)	0.031(.030)	0.032(.030)	0.012(.031)	-0.081(.033)
Other (race/ethnicity)	0.269(.043)***	0.238(.052)*	0.238(.052)*	0.277(.054)***	0.289(.058)***
Interactions					
Male*Police intervention		0.010(.088)			
Male*School intervention			0.045(.048)		
Black*Police intervention				0.146(.103)	
Hispanic*Police intervention				0.215(.103)*	
Other*Police intervention				-0.229(.163)	
Black*School intervention					0.057(.048)
Hispanic*School intervention					0.365(.061)***
Other*School intervention					0.015(.108)
Adj. R^2	0.26	0.26	0.26	0.26	0.26
F-value	342.437***	319.053***	319.547***	282.532***	283.086***

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10
b=unstandardized coefficient SE=std.error

The moderation between Hispanics and arrest (b = 0.215*) is significant. The interaction term is positive, indicating that the effects of having been arrested has a stronger negative impact on adult SES for Whites than it does on Hispanics (which is opposite to hypothesis 7). The results in Model 5 also show that only the interaction between Hispanic and school intervention is significant (b = 0.365***). Again, the interaction term is positive indicating that school intervention reduces adult SES less for Hispanics than it does for White individuals.

Finally, in Table 12 logistic regression is used to examine whether punitive intervention impacts subsequent crime in adulthood. The results in Model 1 support hypothesis 4b that punitive intervention in adolescence is associated with increased probability of adult crime. The results indicate that this effect is substantial, especially police interventions. Individuals who report having been arrested by the police before turning 19, are 64% (exp(b) = 1.641***) more likely to report having committed crime in adulthood (ages 26 to 32). Likewise, having been expelled or suspended from high school increases the odds of adult crime by a factor of 1.37 (1.370***). Youth delinquency, violence and marijuana use also increase the probability of adult crime.

As has been hypothesized (hypothesis 5), adult SES may mediate some of the effects of punitive intervention on adult crime. This possibility is examined in Model 2 by adding adult SES. Adult SES has a somewhat sizeable and significant effect on adult crime (exp(b) = 0.791***). A one unit increase in adult SES is associated with about 21% decreased odds of having committed a criminal offence in adulthood. The exponentiated coefficient for police intervention does however only decrease by about 1.3% (from 1.641 to 1.619). Further, Sobel´s (1982) test of the significance of indirect effects is not significant (t = 1.67, p = 0.091). The exponentiated coefficient for school intervention decreases by about 7% (from 1.370 to 1.275), and Sobel´s test of the indirect effects of school intervention through adult

SES is significant (t = 8.73, p = 0.015). The results in Model 2 do not therefore support the proposition that police intervention increases the probability of adult crime because of its effects on adult SES (hypothesis 5). Moreover, the results show that adult SES only partially mediates the effects of school intervention on adult crime.

The results in Model 3 (Table 12) show that the moderation effects of biological sex and police intervention on adult crime is significant. The exponentiated coefficient for the moderation effect is below zero (Exp(b) = 0.647**) indicating that having been arrested in adolescence has a stronger association with adult crime for women than for young men. Similar results are presented in Model 4, which analyses the moderation effects of biological sex and school intervention on adult crime (Exp(b) = 0.724**).

No interaction term is significant in Model 5 (Table 12), thus the hypothesis that the impact of police interventions is particularly detrimental on racial/ethnic minorities with the consequences of crime continuity is not supported. Model 6, however, supports Hypothesis 8 that school interventions is more likely to be associated with adult crime for Black individuals than for Whites (Exp(b) = 1.366**). The interaction term for Hispanic and school interventions is also significant, but the exponentiated coefficient is below zero (Exp(b) = 0.736**). Accordingly, the results in Model 6 (Table 12) indicate that school intervention has a weaker impact on adult crime for Hispanics than it does for Whites.

Table 12. Logistic Regression predicting Adult Crime (24-32 years old)

N= 12,313	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Exp(b)	Exp(b)	Exp(b)	Exp(b)	Exp(b)	Exp(b)
Police intervention	1.641***	1.619***	2.312***	1.632***	1.822***	1.621***
School intervention	1.370***	1.275***	1.272***	1.670***	1.278***	1.308**
Controls						
Youth Delinq. (ln)	1.386***	1.425***	1.436***	1.371***	1.371***	1.440***
Youth Violence (ln)	1.075**	1.039	1.024	1.092**	1.021	1.019
Youth Marij. Use (ln)	1.075***	1.080***	1.079***	1.079***	1.079***	1.080***
Youth Ill. Drug Use	0.803**	0.784*	0.811*	0.812*	0.807*	0.812*
Low Self-control	1.040	1.128	1.039	1.042***	1.141	1.041
Low Grades in HS	1.043	0.907**	0.907**	0.907**	0.908**	0.905**
Parental poverty	1.008	0.879*	0.878*	0.875*	0.879*	0.880*
Male	2.078***	2.211***	2.311***	2.480***	2.220***	2.208***
Age	0.864***	0.870***	0.872***	0.873***	0.872***	0.871***
Black	1.314***	1.402***	1.400***	1.399***	1.338***	1.131
Hispanic	0.878	1.103	1.100	1.109	0.945	1.043
Other (race)	0.712**	0.837	0.826	0.836	0.764*	0.791
Adult SES	---	-0.791***	0.791**	0.791**	0.791	0.792***
Interactions						
Male*Police intervention			0.636**			
Male*School intervention				0.724**		
Black*Police intervention					0.862	
Hispanic*Police intervention					0.732	
Other*Police intervention					0.989	
Black*School intervention						1.366**
Hispanic*School intervention						0.736**
Other*School intervention						0.700
χ^2	11253.58***	11094.60***	11112.57***	11569.95***	11271.31***	11093.31***

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10
Exp(b)=Odds Ratio.

7.3 Summary of results

The results of all hypotheses are summarized in tables 13 and 14. The hypotheses are only considered supported if the coefficients were statistically significant ($p < 0.05$). The results of the present study do not lend a strong support for the hypotheses testing the contextual effects of racial profiling. After accounting for differences in behavior, Black and Hispanic youth are not significantly more likely than White youth to be stopped by the police. Black youth are, however, more likely to have been arrested than White youth. After controlling for individual-level characteristics, population density, urban location and the aggregated levels of youth crime and violence, concentrated disadvantage in the neighborhood does increase the probability of arrest. The size of the minority population does, however, not. While the findings presented above do indicate that the impact of race and ethnicity varies across neighborhoods, none of the cross-level interactions tested in this research was statistically significant.

Overall, there is much more support for the hypotheses testing the long-term impact of punitive interventions on subsequent crime (see table 14). Having experienced arrest and school interventions in adolescence are both strongly related to increased crime in early adulthood (18-26 years old) and adulthood (24-32 years old), which is independent of problem behavior in youth. While punitive interventions in adolescence are associated with decreased adult SES, the impact of punitive interventions on adult crime are only partially mediated by adult SES.

The relationship between arrest in adolescence and future outcomes is similar across groups (no moderation). The only exception is that the impact of arrest on adult crime is somewhat stronger for females than for males. However, the impact of school suspension/expulsion on subsequent crime is contingent on race/ethnicity and gender. Punitive interventions by school authority have a stronger impact on early adult crime for

Black and Hispanic youth than for White youth. The impact of punitive interventions by school authorities on adult crime is also stronger for Black individuals than White, but no such moderation effects was found for Hispanics. The impact of school interventions on early adult crime and adult crime is stronger for females than for males.

Table 13. Results of Hypotheses testing the Contextual Effects of Racial Profiling

			Supported	**Not Supported**
H1: After accounting for differences in problem behavior, minority youth have a higher probability of police intervention than White youth	H1a	*Black* youth are more likely than White youth to have been stopped		X
	H1b	*Black* youth are more likely than White youth to have been arrested	X	
	H1c	*Hispanic* youth are more likely than White youth to have been stopped		X
	H1d	*Hispanic* youth are more likely than White youth to have been arrested		X
H2: Youth living in neighborhoods characterized by concentrated disadvantage and high proportion of minorities are more likely to encounter police intervention, than youths living in other types of neighborhoods	H2a	*Concentrated disadvantage* increases the probability of youth having been stopped		X
	H2b	*Concentrated disadvantage* increases the probability of youth having been arrested	X	
	H2c	*% Black* increases probability of youth having been stopped		X
	H2d	*% Black* increases probability of youth having been arrested		X
	H2e	*% Hispanic* increases probability of youth having been stopped		X
	H2f	*% Hispanic* increases probability of youth having been stopped		X

Table 14. Continue

H3: Young racial minorities are expected to have a disproportionate probability of police intervention in majority White, affluent neighborhoods	H3a	The probability of police stops for Black youth compared to White, *increases* as the concentrated disadvantage *decrease* in the neighborhood		X
	H3b	The probability of arrest for Black youth, compared to White, *increases* as the concentrated disadvantage *decrease* in the neighborhood		X
	H3c	The probability of police stops for Hispanic youth, compared to White, *increases* as the concentrated disadvantage *decrease* in the neighborhood		X
	H3d	The probability of arrest for Hispanic youth, compared to White, *increases* as the concentrated disadvantage *decrease* in the neighborhood		X
	H3e	The probability of police stops for Black youth, compared to White, *increases* as the % Black residents *decrease*		X
	H3f	The probability of arrest for Black youth, compared to White, *increases* as the % of Black residents *decrease*		X
	H3g	The probability of police stops for Hispanic youth, compared to White, *increases* as the % of Hispanic residents *decrease*		X
	H3h	The probability of arrest for Hispanic youth, compared to White, *increases* as the % of Hispanic residents *decrease*		X

Table 15. Results of Hypotheses testing the Long-Term Impact of Punitive interventions

			Supported	**Not supported**
H4: Punitive interventions in adolescence are associated with increased crime in early adulthood have negative impact on adulthood SES and increased probability of adult crime, net of early problem behavior	H4a	*Youth arrest* is associated with increased early adult crime	X	
		HS suspension/expulsion is associated with increased early adult crime	X	
	H4b	*Youth arrest* is associated with increased adult SES	X	
		HS suspension/expulsion is associated with increased adult SES	X	
	H4c	*Youth arrest* is associated with increased adult crime	X	
		HS suspension/expulsion is associated with increased adult crime	X	
H5: Punitive interventions in adolescence are hypothesized to increase probability of adult crime through its effects on adult SES (mediation)	H5	The association between youth arrest and adult crime is *mediated* by adult SES		X
		The association between HS suspension/expulsion and adult crime is *mediated* by adult SES	Partially	

			Supported	Not supported
H6: The impact of punitive interventions on early adult crime (18-26 years old) is contingent of the person's race/ethnicity and gender	H6a	The impact of *arrest* on early adult crime is stronger for Black individuals than for White		X
	H6b	The impact of *HS suspension/expulsion* on early adult crime is stronger for Black individuals than for White	X	
	H6c	The impact of *arrest* on early adult crime is stronger for Hispanic individuals than for White		X
	H6d	The impact of *HS suspension/expulsion* on early adult crime is stronger for Hispanic individuals than for White	X	
	H6e	The impact of *arrest* on early adult crime is different for females and males		X
	H6f	The impact of *HS suspension/expulsion* on early adult crime is different for females and males	X Stronger for females	
H7: The impact of punitive interventions on adult SES (24-32 years old) is contingent of the person's race/ethnicity and gender	H7a	The impact of *arrest* on adult SES is stronger for Black individuals than for White		X
	H7b	The impact of *HS suspension/expulsion* on adult SES is stronger for Black individuals than for White		X
	H7c	The impact of *arrest* on adult SES is stronger for Hispanic individuals than for White		X
	H7d	The impact of *HS suspension/expulsion* on adult SES is stronger for Hispanic individuals than for White		X
	H7e	The impact of *arrest* on adult SES is different for females and males		X
	H7f	The impact of *HS suspension/expulsion* on adult SES is different for females and males		X
H8: The impact of punitive interventions on adult crime (24-32 years old) is contingent of the person's race/ethnicity and gender	H8a	The impact of *arrest* on adult crime is stronger for Black individuals than for White		X
	H8b	The impact of *HS suspension/expulsion* on adult crime is stronger for Black individuals than for White	X	
	H8c	The impact of *arrest* on adult crime is stronger for Hispanic individuals than for White		X
	H8d	The impact of *HS suspension/expulsion* on adult crime is stronger for Hispanic individuals than for White		X
	H8e	The impact of *arrest* on adult crime is different for females and males	X Stronger for females	
	H8f	The impact of *HS suspension/expulsion* on adult crime is different for females and males	X Stronger for females	

8. DISCUSSION

Over the past 40 years or so, there has been a dramatic rise in the prison population in the United States. There are more people in prisons in the United States today than in any other country in the world (Travis and Western, 2014). Following an increase in official crime rates in the late 1970s and early 1980s, most states implemented policies (such as "three strikes" laws and mandated sentencing) that substantially increased prison time for minor offenses and offenses related to drugs (Travis and Western, 2014).

While measuring the exact consequences of the high prison rates is extremely difficult, most criminologists today agree that it has resulted in some short term crime reduction but that the increased punitiveness has also had serious social costs that have been disproportionately felt by minorities living in impoverished neighborhoods (Pettit and Wester, 2004; Western, Kling and Weiman, 2001; Travis and Western, 2014). The criminal justice system has traditionally worked under the assumption that punishment deters offenders from reoffending (Gibbs, 1975). One of the major functions of the juvenile justice system has been to rehabilitate young offenders (OJJDP, 2015). Recent empirical research indicates, however, that involvement in the juvenile justice system decreases educational and employment opportunities which in turn increases recidivism (Bernburg and Krohn, 2003; Lopes et al., 2012).

Using labeling theories as the main framework and a large national sample of young people in the U.S., the current research set out to examine potential biases in police practices, as well as the long-term consequences of punitive interventions. The dissertation has been divided into two main parts, on the one hand looking at the contextual effects of police intervention and on the other examining the long-term consequences of punitive interventions. The discussion that follows is also divided into the same two sections.

8.1. Discussion: The contextual effects of racial profiling

8.1.1 Summary of findings

The overrepresentation of minority youth in the juvenile justice system is well documented but more research has been needed on levels of discrimination, particularly on potential biases in the earliest point of contact such as police decisions to stop and arrest young people (Piqeuro, 2008; Bishop, 2005). Furthermore, few researches have examined individual and neighborhood characteristics simultaneously which has limited the understanding of citizens' experiences with the police (Parker et al., 2004). Because of differences in crime rates, citizens' complaints and calls to for services, police presence varies between neighborhoods. Police suspicion is also highly contextual. For example, while the police may be prone to suspect young Black men of crime, a White man may arise suspicion in a predominantly Black neighborhood (Klinger, 1997; Smith, 1986).

The current study represents a needed addition to further understanding of the disproportions of minority youth in the juvenile justice system. Several individual and neighborhood characteristics have been used in an attempt to explain the racial and ethnic differences in having self-reported experience of being stopped by the police and being arrested by police in adolescence. Specifically, it was hypothesized that independent of differences in behavior, young racial and ethnic minorities would more likely than White youth to be stopped and arrested by the police. Further, hypotheses regarding an increased risk of police interventions for youth living in an area of concentrated disadvantage and with a high proportion of racial and ethnic minority populations were also tested. The results in this research lend mixed support for the hypotheses.

Results generated from the multilevel analyses fail to show that racial and ethnic minorities are more likely than White youth to be stopped by the police. Once stopped, Black youth are, however, more likely to be arrested than White adolescents. The majority of studies

in this field have found that Black youth are more likely to be arrested than White youth (e.g. see meta-analysis of previous research in Kocher et al., 2011), but rarely have studies focused on both stops and arrests, as is has been done in the current study. The difference in the probability of arrest for Hispanic and White youth is not significant. Examining specifically race and ethnicity is an important contribution of the current study, as most prior studies have focused exclusively on racial discrimination against Black youth (Krisberg, 2005; Rodriguez, 2013; Stewart, et al., 2015). The current research indicates that potential biases in police practices toward minorities do not extend to Hispanic youth. While this result is opposite to hypothesis tested in the current research, it is still consistent with some previous research (Andersen, 2015; Gase et al., 2016).

A possible explanation for the finding that although Black youth are not more likely to be stopped than White youth but at a higher risk of arrest, is that they tend to feel more discriminated against by the police than other racial and ethnic groups and thus more hostile toward the police (Anderson, 1990; Skogan and Frydl, 2004; Stewart et al., 2009). It is certainly debatable if researchers should attempt to control for attitudes toward the police or demeanor which is defined and shaped by racial experiences (Krisberg, 2005; Kocher et al., 2011). But without doing so, strong conclusions about racial biases in police decisions may be unwarranted. This is surely a challenge that calls for further discussion and empirical research.

Similarly, neighborhood concentrated disadvantage (concentrated poverty, a high proportion of single-parent households and a high proportion of residents without a high school diploma) and the relative size of the Black and Hispanic population in the youth's neighborhood do not impact the probability of being stopped by the police. The probability of arrest, however, increases with increased concentrated disadvantage. The relative size of the

minority population (%Black or %Hispanic) does not significantly impact the probability of arrest in this research.

A cross-level interaction between race/ethnicity and neighborhood concentrated disadvantage was not significant in the current study. This finding indicates that living in a disadvantaged neighborhood increases the risk of arrest for all youth living in such areas, not just minorities, which is consistent with some previous findings (Kirk, 2008; Rodriguez, 2013). The main proposition of social disorganization theory (Shaw and McKay 1942; Sampson and Groves, 1989) is that concentrated disadvantage reduces informal social control in the neighborhood. Lack of informal social control and collective efficacy (Sampson, et al., 1997) among residents in the neighborhood may lead them to rely more on formal state control (i.e. the police) resulting in high arrest rates of young people for incidents that would be resolved differently in other neighborhoods.

8.1.2 Weaknesses and implications for future studies

The study has limitations that should be noted. The examination in the current study on the contextual effects of racial profiling is based on a cross-sectional design and is therefore not able to capture the impact of changes in the racial composition is over time, which may be relevant for racial threat theory (Blalock, 1967; Novak and Chamlin, 2012). This is something that future research need to explore further.

The neighborhood-level variables in the current study are based on the youth's home residents but no information was available about the location where the police intervention (stops and arrest) took place. Hence, a Black adolescent living in a majority Black neighborhood may possibly be stopped by the police when spending time in different types of neighborhoods (because of "race out of place"). However, theories and research focusing on the importance of distance decay and awareness space (Brantingham and Brantingham, 1993)

in criminal behavior strongly suggest that the neighborhood where young people live is the most likely location of any misbehavior.

Third, the self-report measures of problem behavior and police interventions may be affected by social desirability bias as well as underreporting due to participant recall. The self-report method is, however, still considered providing a valid and reliable measures of both delinquency and contact with the justice system (Thornberry and Krohn, 2000). A research on incarcerated women found that retrospective self-report data on the prevalence and frequency of arrest provided valid measures as well as accurate timing of recent arrests (Morris and Slocum, 2010). In the Add-Health data collection, participants were asked about arrest in Waves 3 and 4. In wave 4 the oldest participants were 32 years old. As the current study focuses on police interventions in youth, the study only used arrests occurring before the participants turned 21. Consequently, some participants were recalling an event occurring more than 10 years prior to the interview which may have impacted the accuracy of the arrest measure. As most research on disproportionate minority contact have relied on official data, using self-report still compliments previous research.

As other researchers using the Add-Health data have pointed out (Gase et al., 2016), it is a school-based sample and thus individuals who are disconnected from school may be underrepresented. Because the current study focuses on youths' experiences of police interventions this may be more relevant than other studies using the Add-Health data.

Every researcher has to think carefully about control variables. Omitting variables can produce spurious relationships. But over controlling can likewise depress a real impact of the variables of interests. Following the criticism of number of scholar (Krisberg, 2005; Bishop, 2005, Kochel et al., 2011; Reisig et al., 2004) this study did not control for family structure or other variables related to parental socioeconomic status as these variables are related to race/ethnicity and neighborhood disadvantage when focusing on potential biases in police

practices. However, the literature may benefit from future research including additional controls, particularly variables that capture the routine activities of young people.

Notwithstanding these limitations, the current study goes beyond prior research on disproportional minority contact with the juvenile justice system by examining the contextual effects of racial profiling. These limitations still need to be considered when interpreting the results.

8.2. Discussion: The long-term consequences of punitive intervention

8.2.1 Summary of findings

After falling out of favor in criminology in the 1980s, labeling theory was revived most notably after scholars elaborated on the processes in which labeling is theorized to lead to secondary deviance (Bernburg, 2009a; 2009b; Paternoster and Iovanni, 1989). In recent years, studies have generally supported the proposition that punitive interventions lead to increased rather than decreased future crime (Barrick, 2014, Huizinga and Henry, 2008, Liberman, et al., 2014; Kavish, et al., 2016; Petrosino, et al., 2014). Research indicates that youth on a low-offending trajectory are worse off following an intervention (Ward et al., 2014) which is problematic for scholar and practitioners who emphasize the crime-preventive role of formal sanctions. The current research adds to the literature on the long-term impact of punitive interventions by specifically focusing on the mediating role of adult SES, as well as on examine if these interventions have different consequences for different groups.

Two types of punitive interventions in adolescence were tested, being arrested by the police and being either expelled or suspended from high school. Research testing labeling theory has primarily focused on interventions by the juvenile justice system. Punitive interventions by school authorities have, however, been increasing steadily since the early 1990s and thus potentially have consequences for a much larger group than those affected by the juvenile justice system (Maimon, Antonaccio, and French, 2012; Hirschfield, 2008; Payne

and Welch, 2010). The findings in this study show that while about 9% of the sample had been arrested before turning 19, almost a third had been either expelled or suspended from high school.

It was hypothesized that punitive interventions in adolescence would be associated with increased involvement in early adult offending as well as increasing adult offending. Further, I hypothesized that some of the effects of punitive interventions in adolescence on adult offending would be due to the negative consequences that these interventions have on socioeconomic status in adulthood. The findings presented in this study lend considerable support to the hypotheses. Problem behavior and punitive interventions in adolescence have independent consequences for adult outcomes. After controlling for youth delinquency, violence, drug use, and other theoretically relevant factors, punitive interventions are related to increased early adult offending as well as adult offending. Thus, this study shows that punitive interventions in youth, not only have a short-term crime amplifying effect on further problem behavior but also a long-term impact on offending when the sample had reached young adulthood (between 24 and 32 years old) when most individuals have restrained from criminal behavior (Moffitt, 1993).

The findings in this study indicate that having been arrested has a more serious consequences for subsequent behavior than having been expelled or suspended from high school, which is in line with previous research (Kavish et al., 2016). It was further hypothesized that punitive interventions in youth would increase adult crime because of the negative impact that interventions have on SES. Put more generally, it was proposed that being arrested or expelled/suspended from high school would decrease subsequent educational and job opportunities leading to decreased adult SES, which in turn would increase adult crime. Both types of punitive interventions in adolescence are in fact negatively related to adult SES, which in turn is associated with adult offending.

However, adult SES only significantly mediates the effects of interventions by school authorities on adult involvement in crime, but interventions by the police are not mediated by adult SES. Thus, labeling by school authorities may be particularly prone to increase further crime through decreased educational and job opportunities. The consequences of punitive interventions by the police may be more likely to increase adult crime through its effects on social network (Bernburg, Krohn, and Rivera, 2006), changes in self-image (i.e. deviant identity) (Matsueda, 1992), weakened bonds to conventional others, such as parents (Stewart, Simons, and Conger, 2002) or other processes that were not included in this research. Future research needs to explore further the intervening mechanisms through which interventions lead to increased crime.

Notwithstanding its theoretical importance in labeling theory, there is still limited research on the moderating effects of race and gender. It was hypothesized that punitive interventions would have a stronger impact on racial and ethnic minorities than White youth. Labels may be perceived as confirming a previous negative stereotype, often attached to racial and ethnic minorities (Bernburg, 2009b). The findings in this study provide mixed support for this hypothesis. The impact of police intervention does not significantly differ by race/ethnicity on any outcome examined in this research. In other words, being arrested by the police during adolescence is associated with increased early adult and adult crime as well as decreased adult SES for all racial and ethnic groups. This finding is different from some previous research that found moderating effects of race. It should, however, be noted that many previous researches have faced limitations by using a sample of males and urban youths only (e.g. Bernburg and Krohn, 2003). Punitive interventions by school authorities are however more likely to lead to subsequent early adult crime for Black and Hispanic youth than they are for Whites. Yet, school interventions have weaker effects on adult SES and adult crime for those with a Hispanic background than for White individuals.

Finally, this research tested if the effects of punitive interventions would differ by gender. Although the findings presented in this study are not conclusive, all of the significant interactions for punitive interventions and gender are in favor of young men. In other words, the effects of school interventions on early adult crime are significantly stronger for females than for males. Likewise, both police and school interventions have a stronger impact on adult crime among females than among males. Is has been suggested that because crime and delinquency is more common among young men than young women, a deviant or a criminal label is more harmful to females than to males (Chesney-Lind, 1997; Heimer, 1996; Schur, 1984). Although research is still limited on if the effects of labeling are moderated by gender, the results in the current study are consistent with previous research (Davis and Tanner, 2003; Chiricos et al., 2007).

The findings in this research indicate that punitive interventions in adolescence are more likely to lead to increased subsequent crime among females than among males, but the impact of interventions on adult SES does not differ by gender. This is an interesting finding and perhaps suggests that even though punitive interventions lead to decreased educational and job opportunities for both young men and women, females are possibly pushed further into a criminal career because of other factors related to stigmatization, such as changes in self-identity. Yet a research by Davies and Tanner (2003) found that being suspended or expelled from school had a strong negative impact on later job outcomes among females but not among males. Hence, there may be real moderation effects of school intervention on adult SES that were not detected in the current study. Davis and Tanner (2003) further tested if the stronger impact on girls was related to teen pregnancy or social selection (whether girls who were punished in school were more deviant than their male counterparts) but neither was supported. Davis and Tanner concluded that because of the disadvantage that women face at the job market, labeling is particularly damaging for them.

8.2.2 Weaknesses and implications for future studies

The research focusing on the long-term consequences of punitive interventions also has some limitations. Similar to what was discussed above, it cannot be ruled out that the relationship between interventions in youth and subsequent behavior is due to some unmeasured predisposition to adult crime. The current study did, however, control for multiple variables that should, theoretically, also be related to such predisposition (delinquency, violence, drug use, self-control, grades, parental poverty). Variables related to the peer group and neighborhood characteristics are factors that future research should also include in their study to increase the validity of the result found in the current study.

In the current research, adult SES was the only intervening mechanism between punitive interventions and adult crime. Although prior research has shown that labeling impacts secondary deviance through its effects on educational and job opportunities (Sampson and Laub, 1997), other studies have indicated that changes in social bonds (notably decreased bonds to family and school and increased involvement with deviant peers), decreased future goals and changes in self-identity do matter (e.g. Restivo and Lanier, 2015). Understanding these intervening mechanisms is important because that understanding can guide policy on appropriate ways to disrupt the labeling process.

Exploring the intermediate processes in more depth is also relevant in light of the moderation effects of race and gender found in the current research. Punitive interventions by school authorities are more likely to lead to increased crime among Black youth and young women than among other groups. This finding is interesting because although both females and racial minorities have traditionally been considered disadvantaged when compared to males and Whites, females do not face being criminally stereotyped as Blacks in the US (Quillian and Pager, 2001).

Thus, future research is encouraged to explore this further. Are the labeling processes different for Black men than they are for White women? Research focusing specifically on this question may be able to highlight the role that self-identity and stereotypes play in the mechanisms leading to secondary deviance.

8.3. Conclusion and policy implications

In conclusion, the current research indicates that when it comes to young people across the U.S., problem behavior (such as delinquency, violence, drug use, and low self-control) predicts who is detained and stopped by the police. However, independent of differences in behavior, Black youth and adolescents living in neighborhoods with high levels of concentrated disadvantage face a greater risk of arrest than other youths.

The current research also shows that punitive interventions in adolescence lead to more subsequent crime as late as in adulthood. Thus, instead of "learning a lesson" young people are rather stigmatized into further criminal behavior. The current study shows that this is partly because these interventions have a negative impact on adult SES, particularly interventions by school authorities. The current study also indicates that Black youth and young women are more vulnerable to the negative consequences of interventions than other groups.

The policy implications of these findings are challenging. The results are in line with research that has been accumulating in recent years that are clearly more supportive towards labeling theories than they are toward the theory of specific deterrence, that the negative experience of sanctions deter individuals from further misbehavior. Specific deterrence is, however, not the only purpose of punitive interventions. Other purposes may include deterring others from delinquency (i.e. general deterrence) or protecting potential victims, for example, from violent students (i.e. incapacitation). But the findings presented in this research stress the importance of having young individuals held accountable for their misbehavior in a

more rehabilitative manner, or by creating restorative justice interventions in schools that reduces the likelihood of stigmatization.

It has been argued that in the United States, impoverishment, particularly in the case of a young poor Black man, is used as a proxy for danger and criminality (Garland, 2001; Tonry, 2004). The current study is, overall, consistent with recent empirical research that points to racial and economic disparities in the early stages of the juvenile justice system contact, i.e. arrest. The current research is, however, unable to demonstrate the exact causes of these disparities. The high risk of arrest for Black youth and youth in disadvantaged areas is, at least partly, a consequence of high crime rates and frequent citizen's request for serveries (Engel et al., 2012; Gaston, 2019). Neglecting the need for services from the police in these neighborhoods is not likely in the interest of its residents. Perhaps the best policy response to the findings presented in this study is emphasizing that rigorous proactive policing practices, particularly against young minorities, should no longer be a common practice.

9. REFERENCES

Alpert, G. P., MacDonald, J. M., & Dunham, R. G. (2005). Police suspicion and discretionary decision-making during citizen stops. *Criminology, 43*(2), 407-434.

Anderson, E. (1990). *Streetwise: Race, class, and change in an urban community*. Chicago, IL: University of Chicago Press.

Anderson, E. (1999). *Code of the street: Decency, violence, and the moral life of the inner city*. New York: Norton.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Barrick, K. (2014). A review of prior tests of labeling theory. In D. P. Farrington & J. Murray (Eds.), Labeling theory: Empirical tests, advances in criminological theory, vol. 18 (pp. 89-113). New Brunswick, U.S.A and London U.K.: Transaction Publishers.

Bartusch, D. J. & Matsueda, R. L. (1996). Gender, Reflected Appraisals, and Labeling: A Cross-Group Test of an Interactionist Theory of Delinquency. *Social Forces, 75*(1), 145-177.

Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182).

Beaver, K. M., DeLisi, M., Wright, J. P., Boutwell, B. B., Barnes, J. C., & Vaughn, M. G. (2013). No evidence of racial discrimination in criminal justice processing: Results from the National Longitudinal Study of Adolescent Health. *Personality and Individual Differences, 55*(1), 29-34.

Beaver, K. M., Wright, J. P., DeLisi, M. & Vaughn, M. G. (2008). Genetic influences on the stability of low self-control: Results from a longitudinal sample of twins. *Journal of Criminal Justice, 36*(6), 478-485.

Becker, H. S. (1963). *Outsiders: Studies in the sociology of deviance*. New York, NY: The Free Press.

Bellair, P. E. (2000). Informal surveillance and street crime: A complex relationship. *Criminology, 38*(1), 137-170.

Bernburg, J. G. (2003). State reaction, life-outcomes, and structural disadvantage: A panel study of the impact of formal criminal labeling on the transition to adulthood. Ph.D. Dissertation, Department of Sociology, University at Albany.

Bernburg, Jon G. (2009a). Contemporary retrospective on labeling theories: Labeling and secondary deviance. In H. Copes & V. Topalli (Eds.) *Criminological theory: Readings and retrospective* (340-350). New York, NY: McGraw-Hill Education.

Bernburg, J. G. (2009b). Labeling theory. In M. D. Krohn, A. J. Lizotte, A. J. Hall & G. Penly (Eds.), Handbook on crime and deviance (187-207). New York, NY: Springer.

Bernburg, J. G., & Krohn, M. D. (2003). Labeling, life chances, and adult crime: The direct and indirect effects of official intervention in adolescence on crime in early adulthood. *Criminology, 41*(4), 1287-1318.

Bernburg, J. G., Krohn, M. D., & Rivera, C. J. (2006). Official labeling, criminal embeddedness, and subsequent delinquency a longitudinal test of labeling theory. *Journal of Research in Crime and Delinquency, 43*(1), 67-88.

Bishop, D. M. (2005). *The role of race and ethnicity in juvenile justice processing*. In Our Children, Their Children: Confronting Racial and Ethnic Differences in American Juvenile Justice edited by Darnell F. Hawkins and Kimberly Kempf-Leonard. Chicago, IL: The University of Chicago Press.

Black, D. J. (1973). The mobilization of law. *The Journal of Legal Studies, 2*(1), 125-149.

Blalock, H.M. (1967). Towar*d a theory of minority-group relations.* New York, NY: Wile.

Brownfield, D., Sorenson, A. M., & Thompson, K. M. (2001). Gang membership, race, and social class: A test of the group hazard and master status hypotheses. *Deviant Behavior, 22(*1), 73-89.

Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park, CA: Sage Publications, Inc.

Bushway, S. D. (1988). The Impact of an arrest on the job stability of young white American men. *Journal of Research in Crime and Delinquency, 35*(4), 454-479.

Census. (2015). United States Census Bureau. Retrieved at 08.02. 2015 from https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2015/

Chantala, K., Kalsbeek, W. D., and Andraca, E. (2005). Non-Response in Wave III of the Add Health Study. Retrieved from https://www.cpc.unc.edu/projects/addhealth/documentation/guides/W3nonres.pdf

Chamliss, W. J. (1973). The saints and the roughnecks. *Society, 11*(1), 24-31.

Chamliss, W. J., & Seidman, R. B. (1971). *Law, order, and power*. Boston, MA: Addison-Wesley Pub. Co.

Chen, P., & Chantala, K. (2014). Guidelines for analyzing Add health data. Carolina Population Center. University of North Carolina at Chapel Hill. Retrieved at 05.09. 2018 from https://www.cpc.unc.edu/projects/addhealth/documentation/guides/wt_guidelines_20161213.pdf

Chesney-Lind, M. (1997). *The female offender: Girls, women and crime*. Thousand Oaks, CA: Sage.

Cheung, M. W. L, & Au, K. (2005). Applications of multilevel structural equation modeling to cross-cultural research. *Structural Equation Modeling, 12*(4), 598-619.

Chiricos, T., Barrick, K., Bales, W., & Bontrager, S. (2007). The labeling of convicted felons and its consequences for recidivism. *Criminology, 45*(3), 547-581.

Cooley, C. H. (1998). *On self and social organization*. Chicago, IL: The University of Chicago Press.

Davies, S., & Tanner, J. (2003). The Long Arm of the Law: Effects of Labeling on Employment. *Sociological Quarterly*, *44*(3), 385-404.

Davis, J. & Sorensen, J. R. (2012). Disproportionate Juvenile Minority Confinement: A State-Level Assessment of Racial Threat. *Youth Violence and Juvenile Justice*, *11*(4), 296-312.

De Li, S. (1999). Social control, delinquency, and youth status achievement: A developmental approach. *Sociological Perspectives, 42*(2):305-324.

Demuth, S. & Brown, S. L. (2004). Family structure, family processes, and adolescent delinquency: The significance of parental absence versus parental gender. *Journal of Research in Crime & Delinquency, 41*, 58-81.

Dennison, C. R. (2019). Gender differences in the criminogenic consequences associated with intergenerational educational mobility. *American Journal of Criminal Justice, 44*, 248-276.

Devine, P.G., & Elliot, A. J. (1995). Are racial stereotypes really fading? The Princeton trilogy revisited. *Personality and Social Psychology Bulletin*, 21, 1139-1150.

Empey, L. T., Stafford, M. C. & Hay, C. H. (1982). *American delinquency: Its meaning and construction*. Homewood, IL: Dorsey Press.

Engel, R. S., Calnon, J. M., & Bernard, T. J. (2002). Theory and racial profiling: Shortcomings and future directions in research. *Justice Quarterly, 19*(2), 249-273.

Engen, R. L, Steen, S. & Bridges, G. S. (2002). Racial disparities in the punishment of youth: A theoretical and empirical assessment of the literature. *Social Problems, 49*(2), 194-220.

Erikson, K. T. (1966). *Wayward puritans: A study in the sociology of deviance*. Boston, MA: Prentice Hall.

Evans, D., Maragh, C. & Porter, J. (2014). What do we know about NYC's Stop and Frisk program? A spatial and statistical analysis. *Advances in Social Sciences Research Journal, 1*(2), 130-144.

Fagan, J., & Davis, G. (2000). Street stops and broken windows: Terry, race and disorder in New York City. *Fordham Urban Law Journal, XXVIII*, 457-504.

Fagan, J., & Davies, G. (2012). Crime and enforcement in immigrant neighborhoods: Evidence from New York City. *The Annals of the American Academy of Political and Social Science*, *641*(1), 99-124.

Fagan, J. Davis, G., & Carlis, A. (2012). Race and selective enforcement in public housing. *Journal of Empirical Legal Studies, 9*(4), 697-728.

Farrington, D. P., & Murray, J. (2014). *Empirical tests of labeling theory in criminology*. In Labeling Theory edited by David P. Farrington and Joseph Murray, 1-9. New Brunswick (U.S.A) & London (U.K.): Transaction Publishers.

Franklin, T. W. (2010). The intersection of defendants' race, gender, and age in prosecutorial decision making. *Journal of Criminal Justice, 38*(2), 185-192.

Gardner, W. Mulvey, E. P., & Shaw, E. C. (1995). Regression Analyses of counts and rates: Poisson, overdispersed poisson, and negative binomial models. *Psychological Bulletin, 118*(3), 392-404.

Garland, D. (2001). *The culture of control: Crime and social order in contemporary Society*. Chicago, IL: The University of Chicago Press.

Garson, D. G. (2013). Fundamentals of hierarchical linear and multilevel Modeling. In D. G. Garson (Ed.) *Hierarchical linear modeling: Guide and applications* (3-25). Thousand Oaks, CA: Sage.

Gase, L. N. Glenn, B. A., Gomez, L. M., Kuo, T., Inkelas, M. & Ponce, N. A. (2016). Understanding Racial and Ethnic Disparities in Arrest: The Role of Individual, Home, School, and Community Characteristics. *Race and Social Problems, 8*(4), 296-312.

Gaston, S. (2019). Enforcing race: A neighborhood-level explanation of Black-White differences in drug arrests. *Crime & Delinquency, 65*(4), 499-526.

Gelman, A., Fagan, J. & Kiss, A. (2007). An analysis of the New York city police department's "Stop-and-Frisk" policy in the context of claims of racial bias. *Journal of the American Statistical Association, 102*(479), 813-823.

Cheung, M. W.-L. & Au, K. (2005). Applications of multilevel structural equation models to cross-cultural research. Structural Equation Modeling, 12(4), 598-619.

Gibbs, J. B. (1975). *Crime, punishment and deterrence*. New York, NY: Elsmere.

Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity.* New York, NY: Simon & Schuster, Inc.

Godette, D. C., Mesfin, S., Mulatu, K., Leonard, J., Randoplph, S. M., & Williams, N. (2011). Racial/ethnic disparities in patterns and determinants of criminal justice involvement among youth in substance abuse treatment programs. Journal of Correctional Health Care, 17(4), 294-308.

Gottfredson, M. R. & Hirschi, T. (1990). *A general theory of crime.* Stanford, CA: Stanford University Press.

Graham, S. & Lowery, B. S. (2004). Priming unconscious racial stereotypes about adolescent offenders. *Law and Human Behavior, 28*(5), 483-504.

Greenwalt, K. (2014). Probabilities, perceptions, consequences and "Discrimination": One puzzle about controversial "Stop and Frisk". In *Public Law & Legal Theory* Working Paper Group: Columbia Law School.

Harris, K. M. (2013). *The Add Health Study: Design and Accomplishments*. Carolina Population Center, University of North Carolina at Chapel Hill. Retrieved from https://www.cpc.unc.edu/projects/addhealth/documentation/guides/DesignPaperWIIV.pdf

Harris, K.M., Halpern, C.T., Whitsel, E., Hussey, J., Tabor, J., Entzel, P., & Udry, J. R. (2009). *The national longitudinal study of adolescent to adult health: Research design.* Carolina Population Center, University of North Carolina at Chapel Hill Retrieved from http://www.cpc.unc.edu/projects/addhealth/design.

Heimer, K. (1996). Gender, Interaction, and Delinquency: Testing a Theory of Differential Social Control. *Social Psychology Quarterly, 59*(1), 39-61.

Hilbe, J. M. (2011). *Negative Binomial Regression*. Cambridge, UK: Cambridge University Press.

Hirschfield, P. J. (2008). The declining significance of delinquent labels in disadvantaged urban communities. *Sociological Forum, 23*(3), 575-*601.*

Hirschfield, P. (2009). Another way out: The impact of juvenile arrests on high school dropout. *Sociology of Education, 82*(4), 368-393.

Hirschfield, P. Maschi, T., White, H. R., Traub, L. G., Loeber, R. (2006). Mental health and juvenile arrests: Criminality, criminalization, or compassion? *Criminology, 44*(3), 593-630.

Hirschi, Travis. (1969). *Causes of Delinquency.* Berkley, CA: University of California.

Hox. J. (1998). Multilevel modeling: When and why. In I. Balderjahn, R. Mathar, & M. Schader (eds.). Classification, data analysis, and data highway. New York: Springer Verlag. http://www.joophox.net/publist/whenwhy.pdf

Huizinga, D., & Henry, K. L. (2008). The effect of arrest and justice system sanctions on subsequent behavior: Findings from longitudinal and other studies. In A. M. Liberman (Ed.), *The long view of crime: A synthesis of longitudinal research* (220-254). New York, NY: Springer.

Huiziga, D., Thornberry, T., Knight, K. & Lovegrove, P. (2007). *Disproportionate minority contact in the juvenile justice system: A study of differential minority arrest/referral to court in three cities.* An unpublished report for the U.S. Department of Justice. Retrieved from https://www.ncjrs.gov/pdffiles1/ojjdp/grants/219743.pdf

Jones, N. (2014). "The Regular Routine": Proactive policing and adolescent development among young, poor black men. *New Directions for Child and Adolescent Development, 143,* 33-54.

Kadade, M., Duarte, C. S., Liu, X., Fuller, C. J., Drucker, E., Hoven, C. W., Fan, B. & Wu, P. (2012). Adolescent substance use and other illegal behaviors and racial disparities in criminal justice system involvement: Findings from a US national survey. *American Journal of Public Health*, *102*(7), 1307-1310.

Kavish, D. R., Mullins, C. W., & Soto, D. A. (2016). Interactionist labeling: Formal and informal labeling's effects on juvenile delinquency. *Crime & Delinquency, 62*, 1313–1336.

Kirk, D. S. (2008). The neighborhood context of racial and ethnic disparities in arrest. *Demography, 45*(1), 55-77.

Kirk, D. S., & Sampson, R. J. (2013). Juvenile arrest and collateral educational damage in the transition to adulthood. *Sociology of Education*, 86(1), 36-62.

Klein, M. W. (1986). Labeling theory and delinquency policy an experimental test. *Criminal Justice and Behavior, 13*(1), 47-79.

Klinger, D. A. (1997). Negotiating order in patrol work: An ecological theory of police response to deviance. *Criminology, 35*(2), 277-306.

Klinger, D. A. (2004). Environment and organization: Reviving a perspective on the police. *The ANNALS of the American academy of Political and Social Science, 593*, 119-136.

Kochel, T. R., Wilson, D. B., and Mastrofski, S. D. (2011). Effect of suspect race on officers' arrest decisions. *Criminology, 49*(2), 473-512.

Koita, K. & Triplett, R. A. (1998). An examination of gender and race effects on the parental appraisal process: A reanalysis of Matsueda´s model of the self. *Criminal Justice and Behavior, 25*(3), 382-400.

Kornhauser, R. (1978). *Social sources of delinquency*. Chicago: University of Chicago Press.

Kreft, I. G. G. (1996). Are multilevel techniques necessary? An overview, including simulation studies. Unpublished manuscript, California State University, Los Angeles. → finn ekki thessa, kannski bara I Garson p. 37

Krisberg, B. A. (2005). Forward. In *Our children, their children: Confronting racial and ethnic differences in American juvenile justice*, edited by Darnell F. Hawkins and Kimberly Kempf-Leonard. Chicago, IL.: The University of Chicago Press.

Lanctót, N., Cernkovich, S. A., & Giordano, P. C. (2007). Delinquent behavior, official delinquency, and gender: Consequences for adulthood functioning and well-being. Criminology, 45(1), 131-157.

Langan, P. A., Greenfeld, L. A. Smith, S. K., Durose, M. R., & Levin, D. J. (2001). *Contacts between police and public: Findings from the 1999 national Survey*. United States: U. S. Dept. of Justice, Washington DC.

Lauritsen, J. L. (2005). Racial and ethnic differences in juvenile offending. In *Our Children, Their Children: Confronting Racial and Ethnic Differences in American Juvenile Justice* edited by Darnell F. Hawkins and Kimberly Kempf-Leonard, (83-104). Chicago, IL: The University of Chicago Press.

Leiber, M. J. and Peck, J. H. (2013). Race in Juvenile Justice and Sentencing Policy: An Overview of Research and Police Recommendations. *Law and Inequality, 31*(2), 331-367.

Leiber, M. J., Peck, J. H., and Rodriguez, N. (2016). Minority threat and juvenile court outcomes. *Crime & Delinquency, 62*(1), 54-80.

Leiber, M. J., Johnson, J., Fox, K., & Lacks, R. (2007). Differentiating among racial/ethnic groups and its implications for understanding juvenile justice decision making. *Journal of Criminal Justice, 35*(5), 471-484.

Lemert, E. M. (1972). *Human deviance, Social Problems, and Social Control* (2™" ed). Englewood Cliffs, NJ: Prentice-Hall.

Lersch, K. M., & Hart, T. C. (2011). *Space, time, and crime.* Durham. 3rd ed. Durham, NC: Carolina Academic Press.

Liberman, A. M., Kirk, D. S. & Kim, K. (2014). Labeling effects of first juvenile arrest: secondary deviance and secondary sanctioning. *Criminology, 52*(3), 345-370.

Link, B. (1982). Mental patient status, work, and income: An examination of the effects of a psychiatric label. *American Sociological Review, 47*(2), 202-215.

Liska, A. E., & Tausig, M. (1979). Theoretical interpretations of social class and racial differentials in legal decision-making for juveniles. *The Sociological Quarterly, 20*(2), 197-207.

Liska, A. E., & Chamlin, M. (1984). Social structure and crime control among macro-social units. *American Journal of Sociology, 90*(2), 383-395.

Lopes, G., Krohn, M. D., Lizotte, A. J., Schmidt, N. M., Vásquez, B. E. & Bernburg, J. G. (2012). Labeling and cumulative disadvantage: The impact of formal police intervention on life chances and crime during emerging adulthood. *Crime & Delinquency, 58*(3), 456-488.

Mann, C. R. (1993). *Unequal justice: A question of color*. Bloomington, IN: Indiana University Press.

Maas, C. J. M. & Hox, J. J. (2005). Sufficient sample sizes for multilevel modeling. *Methodology, 1*(3), 86-92.

Matsueda, R. L. (1992). Reflected appraisals, parental labeling, and delinquency: Specifying a symbolic interactionist theory. *American Journal of Sociology, 97*(6), 1577-1611.

McAra, L., & McVie, S. (2007). The impact of system contact on patterns of desistance from offending. *European Journal of Criminology, 4*(3), 315-345.

McGrath, J. (2014). The subjected impact of contact with the criminal justice system: The role of gender and stigmatization. *Crime and Delinquency*, *60,* 884-908.

Mead, G. H. (1934). *Mind, self and society: From the standpoint of a social behaviorist.* Chicago, IL: The University of Chicago Press.

Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*(4), 674-701.

Morris, N. A. & Slocum, L A. (2010). The Validity of Self-reported Prevalence, Frequency, and Timing of Arrest: An Evaluation of Data Collected Using a Life Event Calendar. *Journal of Research in Crime and Delinquency, 47*(2), 210-240.

Myer, A. J., & Chamlin, M. B. (2011). Aggregation bias and the benign neglect hypothesis. Journal of Crime & Justice, 34(2), 124-138.

National Research Council. (2013). *Reforming juvenile justice: A developmental approach.* Washington, DC: The National Academies Press.

Novak, K. J., Paoline III, E. A. & Terrill, E. (2005). The impact of police culture on traffic stop searches: an analysis of attitudes and behavior. *Policing: An International Journal of Police Strategies & Management, 28*(3), 455-472.

Novak, K. J., & Chamlin, M. B. (2012). Racial threat, suspicion, and police behavior: The impact of race and place in traffic enforcement. *Crime & Delinquency, 58*(2), 275-300.

Office of Juvenile Justice and Delinquency Prevention (OJJDP). (2016). Vision and mission. Retrieved from http://www.ojjdp.gov/about/missionstatement.html

Parker, K.F., MacDonald, J. M., Alpert, G. P., Smith, M. R., & Piquero, A. R. (2004). A contextual study of racial profiling: Assessing the theoretical rationale for the study of racial profiling at the local level. *American Behavioral Scientist, 47*(7):943-962.

Paternoster, R., & Iovanni, L. (1989). The labeling perspective and delinquency: An elaboration of the theory and an assessment of the evidence. *Justice Quarterly, 6*(3), 359-394.

Payne, A. A., & Welch, K. (2010). Modeling the effects of racial threat on punitive and restorative school discipline practices. *Criminology, 48*(4), 1019–1061.

Petrocelli, M., Piquero, A. R. & Smith, M. R. (2003). Conflict theory and racial profiling: An empirical analysis of police traffic stop data. *Journal of Criminal Justice, 31*, 1-11.

Petrosino, A., Guckenburg, S. & Turpin-Petrosino, C. (2010). Formal system processing of juveniles: Effects on delinquency. Campbell Systematic Reviews 2010: 1. DOI: 10.4073/csr.2010.1

Petrosino, A., Turpin-Petrosino, C., & Guckenburg, S. (2014). In D. P. Farrington & J. Murray (Eds.), Labeling theory: Empirical tests, advances in criminological theory, vol. 18 (pp. 113-149). New Brunswick, U.S.A and London U.K.: Transaction Publishers.

Pettit, B, & Western, B. (2004). Mass imprisonment and the life course: Race and class inequality in U.S. incarceration. *American Sociological Review, 69*(2), 151-169.

Piquero, A. R. (2008). Disproportionate minority contact. *Future of Children, 18*(2), 59-79.

Preacher, K.J., Zhang, Z. & Zyphur, M. J. (In press). Multilevel structural equation models for assessing moderation within and across levels of analysis. *Psychological Methods, 20*(4).

Puzzanchera, C., & Kang, W. (2013). Easy access to juvenile court statistics: 1985–2010. Retrieved from http://www.ojjdp.gov/ojstatbb/ezajcs/

Quillian, L., & Pager, D. (2001). Black neighbors, higher crime? The role of racial stereotypes in evaluations of neighborhood crime. *American Journal of Sociology, 17*(3), 717-767.

Quinney, R. (1974). *Critique of legal order: Crime control in capitalist society.* Boston, MA: Little, Brown and Company.

Ray, M. C. & Downs, W. (1986). An empirical test of labeling theory using longitudinal data. *Journal of Research in Crime and Delinquency, 23*(2), 169-194.

Raudenbush, S., Bryk, A., Cheong, Y. F., Congdon, R. & du Toit, M. (2004). *HLM 6: Hierarchical linear & nonlinear modeling.* Lincolnwood, IL: Scientific Software Internationl, Inc.

Reiman, J. H. (1984). *The rich get richer and the poor get prison: Ideology, class, and criminal justice*. New York, NY: Wiley.

Reisig, M. D., McCluskey, J. D., Mastrofski, S. D., & Terrill, W. (2004). Suspect disrespect toward the police. *Justice Quarterly, 21*, 241-268.

Renauer, B. C. (2012). Neighborhood variation in police stops and searches: A test of consensus and conflict perspectives. *Police Quarterly, 15*(3), 219-240.

Restivo, E. & Lanier, M. M. (2015). Measuring the contextual effects and mitigating factors of labeling theory. *Justice Quarterly, 32*(1), 116-141.

Rodriguez, N. (2013). Concentrated disadvantage and the incarceration of youth examining how context affects juvenile justice. *Journal of Research in Crime and Delinquency, 50*(2), 189-215.

Rojek, J., Rosenfeld, R. & Decker, S. (2004). The influence of driver's race on traffic stops in Missouri. *Police Quarterly, 7*(1), 126-147.

Rosenfeld, R., & Fornango, R. (2014). The impact of police stops on precinct robbery and burglary rates in New York City, 2003-2010. *Justice Quarterly, 31*(1), 96-122.

Ross, C. E. (2000). Neighborhood disadvantage and adult depression. *Journal of Health and Social Behavior, 41*(2), 177-187.

Sampson, R. J. 1986. Effects of socioeconomic context on official reaction to juvenile delinquency. *The American Sociological Review, 51*(6), 876-885.

Sampson, R. J. & Groves, B. (1989). Community structure and crime: Testing social-disorganization theory. American Journal of Sociology, 94(4), 774-802.

Sampson, R. J. & Laub, J. H. (1993a). *Crime in the making: Pathways and turning points through life*. Cambridge, MA: Harvard University Press.

Sampson, R. J. & Laub, J. H. (1993b). Structural variations in juvenile court processing: Inequality, the underclass, and social control. *Law & Society Review, 27*(2), 285-311.

Sampson, R. J. & Laub, J. H. (1997). A life-course theory of cumulative disadvantage and the stability of delinquency. In T. P. Thornberry (Ed.), *Developmental theories of crime and delinquency* (133-161). New Brunswick, N.J.: Transaction Publishers.

Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing "neighborhood effects": Social processes and new directions in research. *Annual Review of Sociology 28*, 443-478.

Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing "neighborhood effects": Social processes and new directions in research. *Annual Review of Sociology 28*, 443-478.

Sampson, R. J., Raudenbush, S. W. & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*(5328), 918-924.

Sampson, R. J., & Raudenbush, S. W. (1999). Systematic social observation of public spaces: A new look at disorder in urban neighborhoods. *American Journal of Sociology, 105*(3), 603-651.

Schafer, J. A., Carter, D. L, Katz-Bannister, A. J., & Wells, W. M. (2006). Decision making in traffic stop encounters: A multivariate analysis of police behavior. *Police Quarterly, 9*(2), 184-209.

Schur, E. M. (1980). *The politics of deviance: Stigma contests and the uses of power.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Sherman, L. W., Strang, H. & Woods, D. J. (2000). *Recidivism patterns in the Canberra Reintegrative Shaming Experiments (RISE).* Canberra, Australia: Australian Institute of Criminology.

Silver, E. (2000). Extending social disorganization theory: A multilevel approach to the study of violence among persons with mental illness. *Criminology, 38*(4), 1043-1074.

Smith, D. A. (1986). The Neighborhood Context of Police Behavior. *Crime and Justice, 8*, 313-341.

Smith, M. R., & Alpert, G. P. (2007). Explaining police bias: A theory of social conditioning and illusory correlation. *Criminal Justice and Behavior, 34*(10), 1262-1283

Smith, M. R., & Petrocelli, M. (2001). Racial profiling? A multivariate analysis of police traffic stop data. *Police Quarterly, 4*(1), 4-27.

Steenbeek, W., & Hipp, J. R. (2011). A longitudinal test of social disorganization theory: Feedback effects among cohesion, social control, and disorder. *Criminology, 49*(3), 833-871.

Stevens, T., & Morash, M. (2015). Racial/ethnic disparities in boys' probability of arrest and court actions in 1980 and 2000: The disproportionate impact of "getting tough" on crime. *Youth Violence and Juvenile Justice, 13*(1), 77-95.

Stewart, E. A., Simons, R. L., & Conger, R. D. (2002). Beyond the interactional relationship between delinquency and parenting practices: The contribution of legal sanctions. *Journal of Research in Crime and Delinquency, 39*(1), 36-59.

Stewart, E. A., Baumer, E. P., Brunson, R. K., & Simons, R. L. (2009). Neighborhood racial context and perceptions of police-based racial discrimination among black youth. *Criminology, 47*(3), 847-887.

Stewart, E. A., Martinez, Jr. R., Baumer, E. P. & Gertz, M. (2015). The Social Context of Latino Threat and Punitive Latino Sentiment. *Social Problems, 62*(1), 68-92.

Stolzenberg, L., D'Alessio, S. J., & Eitle, D. (2004). A multilevel test of racial threat theory. *Criminology, 42*(3), 673-698.

Tannenbaum, F. (1938). *Crime and community*. London and New York: Columbia University Press.

Tapia, M. (2010). Untangling race and class effects on juvenile arrests. Journal of Criminal Justice, 38(3), 255-265.

Thornberry, T. P., & Krohn, M. D. (2000). The self-report method for measuring delinquency and crime. In D. Duffee, R. D. Crutchfield, S. Mastrofski, L. Mazerolle, D. McDowall, & B. Ostrom (Eds.), CJ 2000: Innovations in measurement and analysis (pp. 33-83). Washington, DC: National Institute of Justice.

Tittle, C. R., & Curran, D. A. (1988). Contingencies for dispositional disparities in juvenile justice. *Social Forces, 67*(1): 23-58.

Tonry, M. (2004). *Thinking about crime: Sense and sensibility in American penal culture*. Oxford, UK: Oxford University Press.

Travis, J., & Western, B. (2014). *The growth of incarceration in the United States: Exploring causes and consequences.* Edited by Jeremy Travis and Bruce Western. Washington, D.C.: National Academies Press.

Turk, A. T. (1969). *Criminality and legal order*. Chicago, IL: Rand McNally.

Walker, S. (1993). *Taming the system: The control of discretion in criminal justice, 1950-1990.* New York, NY: Oxford University Press.

Ward, J. T., Krohn, M. D., and Gibson, C. L. (2014). The effects of police contact on trajectories of violence: A group-based, propensity score matching analysis. *Journal of Interpersonal Violence, 29*(3), 440-475.

Warner, B. D., & Rountree, P. W. (1997). Local social ties in a community and crime model: Questioning the systemic nature of informal social control. *Social Problems, 44*(4), 520-536.

Western, B., Kling, J. R. & Weiman, D. F. (2001). The labor market consequences of incarceration. *Crime & delinquency, 47*(3), 410-427.

Wiley, S. A., & Esbensen, F. A. (2016). The effect of police contact: Does official intervention result in deviance amplification? *Crime & Delinquency, 62*(3), 283-307.

Wiley, S. A, Slocum, L. A., & Esbensen, F. (2014). The unintended consequences of being stopped or arrested: An exploration of the labeling mechanisms through which police contact leads to subsequent delinquency. *Criminology, 51*(4), 927-966.

Withrow, B. L. (2004). Driving while different: A potential theoretical explanation for race-based policing. *Criminal Justice Policy Review, 15*(3), 344-364.

Wooldredge, J. (2007). Neighborhood effects on felony sentencing. *Journal of Research in Crime and Delinquency, 44*(2), 238-263.

Zimring, F. E. (2006). *The great American crime decline*. Oxford, U.K.: Oxford University Press.